DEUTSCH RELAYS, INC. SITE

SUFFOLK COUNTY

EAST NORTHPORT, NEW YORK

SOIL VAPOR INTRUSION EVALUATION AND MITIGATION WORK PLAN

NYSDEC Site Number: 152003

Prepared for:

65 Daly Road LLC

300 Jericho Turnpike, Suite 100

Jericho, NY 11753

Prepared by:

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JUNE 2022

CERTIFICATION STATEMENT

I, KEVIN LOYST certify that I am currently a NYS registered Professional Engineer as defined in 6 NYCRR Part 375 and that this Soil Vapor Intrusion Evaluation and Mitigation Work Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

_____ PE

4-26-22
_____ DATE

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SUFFOLK COUNTY
EAST NORTHPORT, NEW YORK

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LIST OF ACRONYMS

1,1,1-TCA	1,1,1-Trichloroethane
ELAP	Environmental Laboratory Approval Program
MEP	Mechanical, electrical and plumbing
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYCRR	New York Codes, Rules and Regulations
O&M	Operation and Maintenance
PCE	Tetrachloroethene
PE	Professional Engineer
QA/QC	Quality Assurance/Quality Control
QAPP	Quality Assurance Project Plan
QEP	Qualified environmental professional
RAO	Remedial Action Objective
ROD	Record of Decision
ROI	Radius of Influence
SMP	Site Management Plan
SSDS	Sub-slab Depressurization System
SVI	Soil Vapor Intrusion
SVI WP	Soil Vapor Intrusion Work Plan
TCE	Trichloroethene
Ug/l	Micrograms per liter
VOC	Volatile organic compound

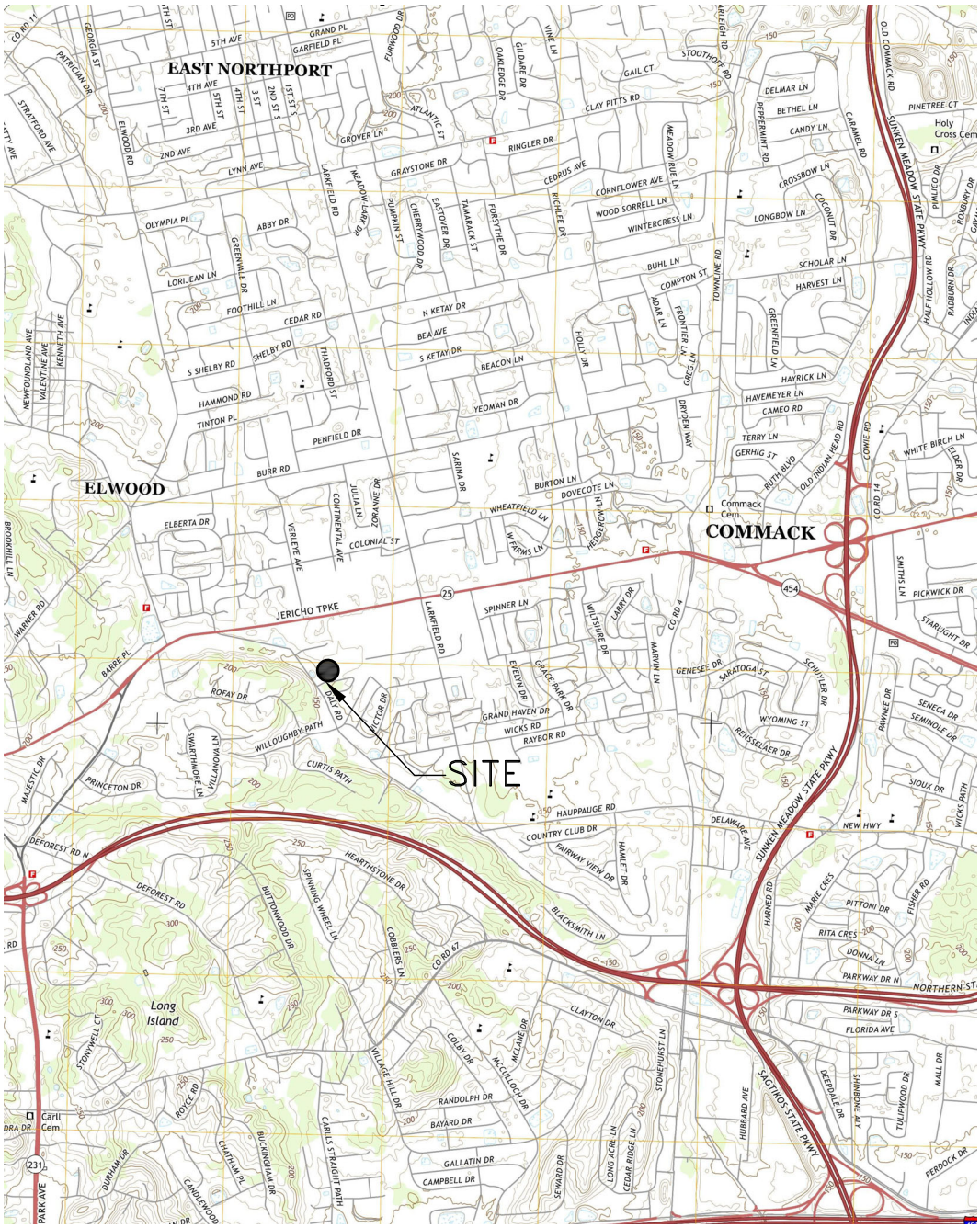
1.0 INTRODUCTION

This Soil Vapor Intrusion Evaluation and Mitigation Work Plan (SVI WP) has been prepared for the Deutsch Relays, Inc. Site located in East Northport, Suffolk County, New York; see Figure 1.1 for the Site location. The 14.31-acre Site is the subject of a 2019 Order on Consent and Administrative Settlement between 65 Daly Road, LLC and the New York State Department of Environmental Conservation (NYSDEC). A 4.23-acre portion of the Site is in the New York State Inactive Hazardous Waste Disposal Site Remedial Program (Site No. 152003), which is administered by the NYSDEC. The Site is presently vacant and will be redeveloped with a restricted residential use. This SVI WP will be applicable to the redeveloped property.

A former owner of the Site, Deutsch Relays, Inc., entered into an Order on Consent on October 5, 1989 (amended Order signed April 30, 1992) with the NYSDEC to remediate the Site. The original Site was approximately 22 acres and included a northern 6.5-acre undeveloped area adjoining Jericho Turnpike, an approximately 10-acre area that included the former manufacturing facility and parking lot, and an approximately four-acre area to the west adjoining Daly Road. The Site boundary was modified in 1997 and the northern parcel was sold and subsequently developed by its new owners; this parcel is not part of the Site. The Site was occupied from 1961 to 2001 by a manufacturing plant for electronics components. The former manufacturing buildings were vacant by 2004 and were removed in 2006. The Site presently includes the former manufacturing area, the former employee parking lot, and the western area and is a 14.31-acre parcel identified on the Suffolk County Tax Map as District 400, Section 215, Block 2, and Lot 55.001. The Site location and boundaries are provided in Figure 1.2.

After completion of the remedial work, some contamination remains at this Site, hereafter referred to as “remaining contamination”. A Site Management Plan (SMP, January 2021) was prepared to manage the remaining contamination at the Site and was approved by the NYSDEC on January 22, 2021.

On March 17, 2022 the NYSDEC was notified of the proposed change of Site use to a restricted residential use and the NYSDEC acknowledged this notification on March 18, 2022. The proposed use includes a condominium development with associated amenities, as discussed in Section 3.1.



1 0.5 0 KILOMETERS 1 2
1000 500 0 METERS 1000 2000
1 0.5 0 1
MILES
1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000
FEET

SOURCE: USGS GREENLAWN TOPOGRAPHIC QUADRANGLE, 2016

FPM GROUP

FIGURE 1.1
SITE LOCATION MAP

DEUTSCH RELAYS, INC. SITE
EAST NORTHPORT, NEW YORK

Drawn By: B.F.	Checked By: S.D.	Date: 4/6/22

SOURCE: SUFFOLK COUNTY TAX MAP, 2017

LEGEND

SITE BOUNDARY

APPROXIMATE SCALE IN FEET

0 200 400

FPM GROUP

FIGURE 1.2
SITE LOCATION AND BOUNDARIES

DEUTSCH RELAYS, INC. SITE
EAST NORTHPORT, NEW YORK

Drawn By:B.F.	Checked By: S.D.	Date: 4/6/22

As per Section 4.2 of the SMP, if the Site is to be redeveloped, it was anticipated that any new buildings will be constructed with a vapor barrier and the sub-slab elements of a sub-slab depressurization system (SSDS). An SVI evaluation would be performed prior to building occupancy to determine if SVI presents a concern such that operation of the SSDS(s) would be necessary. This SVI WP was prepared to provide information about the proposed redevelopment, the proposed mitigation measures for potential SVI, and the procedures for conducting an SVI evaluation as needed for each proposed new habitable building. Any actions taken or to be taken with respect to SVI mitigation will be reflected in an update to the SMP.

2.0 SUMMARY OF REMAINING CONTAMINATION

Multiple investigations of soil, groundwater, and soil vapor have been conducted at the Site, as summarized in the SMP. Remediation has also been conducted, including groundwater remediation, tank removals, and contaminated soil and sediment removal. The following discussion focuses on the remaining contamination relevant to potential SVI.

The detected concentrations of constituents in the soil, groundwater and soil vapor samples from the Site are compared to current regulatory standards and guidance, including the 6NYCRR Part 375 Soil Cleanup Objectives (SCOs), New York State Department of Health (NYSDOH) SVI guidance, and the NYSDEC Class GA Ambient Water Quality Standards (Standards).

2.1 Soil

The data for the soil remaining onsite that contains constituents exceeding applicable regulatory criteria following the completion of remedial measures are summarized on Plate 1 in Appendix C of the SMP. The exceedances noted were for metals, none of which presents a concern for SVI. None of the exceedances noted were for volatile organic compounds (VOCs). Soil conditions are not further considered in this SVI WP.

2.2 Groundwater

As discussed in Section 2.3 of the SMP, a zone of groundwater impacted by VOCs is generally confined within the Upper Glacial Aquifer between two silty clay layers. The depth to groundwater is generally between 70 and 95 feet at the Site. A groundwater remediation system was constructed on the western portion of the Site circa 1994 and operated until 2007, when termination of groundwater treatment was approved by the NYSDEC. The most recent groundwater monitoring data (September 2021) show that the highest concentration noted in shallow onsite groundwater was 8.2 micrograms per liter (ug/l) of tetrachloroethene (PCE) in well MW-10 near the southeast corner of the Site. Groundwater conditions are not further considered in this SVI WP.

2.3 Soil Vapor

Soil vapor sampling was conducted onsite between 2004 and 2008 in the former industrial areas, former tank and chemical storage areas, areas of the property not formerly used for industrial purposes (beneath the parking lot), and in unpaved areas near the property line to the south and southeast of the former Main Building and Machine Shop. Trichloroethene (TCE), PCE, cis-1,2-

dichloroethene (cis-1,2-DCE), and/or 1,1,1-trichloroethane (1,1,1-TCA) were detected at most of the locations. In the unpaved areas near the south property line none of the chlorinated VOCs for which the NYSDOH has guidance were detected at elevated levels. The soil vapor data for the onsite sampling locations were summarized on Plate 3 in Appendix C of the SMP, a copy of which is presented on the next page.

SVI testing performed in 2012 at eight residences near the Site indicated that no further action was needed for any of the residences.

Although no soil vapor Remedial Action Objectives (RAOs) were established in the Record of Decision (ROD), a Site-specific RAO that is applicable for soil vapor was included in the SMP as follows: *Mitigate impacts to public health resulting from existing, or the potential for, soil vapor intrusion into buildings at the Site*. This SVI WP has been prepared to address this RAO.

N

RESIDENTIAL

WOODED

MW-35A

ASPHALT DRIVEWAY

MW-32A

GRAVEL DRIVEWAY

MW-36A

MW-21A

Sample Location	Western Recharge Basin
Sample No.	SV-1
Sample Depth (feet)	6
Sample Date	9/21/04
Chlorinated Volatile Organic Compounds in ug/m³	
Freon-113	366
Tetrachloroethylene	96.6
Trichloroethylene	13.1

MW-30A

RW-3

SS-1

T

FORMER TREATMENT BUILDING

PARKING LOT

Sample Location	Parking Lot
Sample No.	SV-3
Sample Depth (feet)	6
Sample Date	9/21/04
Chlorinated Volatile Organic Compounds in ug/m³	
Freon-113	2,880
Tetrachloroethylene	57.9

SS-3

SV-3

SV-1

DALY ROAD

MW-23A

R-1

DR POND 3

R-2

RECHARGE BASIN

DR POND2

R-3

DR POND1

DR POND 4

R-4

WOODED

SS-2

MW-31A

MW-22A

ROOF DRAINS & FORMER ORNAMENTAL POOL DISCHARGE

LP-CC

DD

MW-8

MW-11C

RW-1

MW-11A

MW-29

MW-11B

RW-2

MW-11

ASPHALT DRIVEWAY

WOODED

SS-13

TO RECHARGE BASIN

LP-BB

LP-AA

LP-Z

SVMW-5

SVMW-4

SVMW-3

SVMW-2

SVMW-1

ROOF DRAINS & ORNAMENTAL POOL DISCHARGE

10,000-GALLON WATER HOLDING TANK (UNDERGROUND)

Sample Location	SVMW-5		
Sample Depth (feet)	8 to 10		
Sample Date	8/7/07	6/19/08	9/4/08
Chlorinated Volatile Organic Compounds in ug/m³			
Trichloroethylene	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND
Tetrachloroethene	ND	ND	15
Freon-113	3,400	5,000	2,670

Sample Location	SVMW-4		
Sample Depth (feet)	8 to 10		
Sample Date	8/7/07	6/19/08	9/4/08
Chlorinated Volatile Organic Compounds in ug/m³			
Trichloroethylene	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND
Tetrachloroethene	5.6	2.8	19
Freon-113	210	92	524

Sample Location	SVMW-3		
Sample Depth (feet)	8 to 10		
Sample Date	8/7/07	6/19/08	9/4/08
Chlorinated Volatile Organic Compounds in ug/m³			
Trichloroethylene	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND
Tetrachloroethene	41	54	88
Freon-113	4,400	7,000	4,500

Sample Location	SVMW-2		
Sample Depth (feet)	8 to 10		
Sample Date	8/7/07	6/19/08	9/4/08
Chlorinated Volatile Organic Compounds in ug/m³			
Trichloroethylene	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND
Tetrachloroethene	23	30	69
Freon-113	360	840	1,720

Sample Location	SVMW-1		
Sample Depth (feet)	8 to 10		
Sample Date	8/7/07	6/19/08	9/4/08
Chlorinated Volatile Organic Compounds in ug/m³			
Trichloroethylene	4.5	13	4.7
1,1,1-Trichloroethane	7.1	7.6	11
Tetrachloroethene	35	62	75
Freon-113	83	270	180

ALISTER CIRCLE

MW-24

MW-33A

MW-24A

Sample Location	S/SE of Machine Shop
Sample No.	44
Sample Date	5/1/90
Chlorinated Volatile Organic Compounds in ug/m³	
Trichloroethene	623
Tetrachloroethene	543

Sample Location	S/SE of Machine Shop
Sample No.	45
Sample Date	5/1/90
Chlorinated Volatile Organic Compounds in ug/m³	
Freon 113	4,453
Trichloroethene	4,606
Tetrachloroethene	4,884

Sample Location	S/SE of Machine Shop
Sample No.	46
Sample Date	5/1/90
Chlorinated Volatile Organic Compounds in ug/m³	
Freon 113	3,663
Trichloroethene	4,993
Tetrachloroethene	1,831

Sample Location	S/SE of Machine Shop
Sample No.	47
Sample Date	5/1/90
Chlorinated Volatile Organic Compounds in ug/m³	
Trichloroethene	172

Sample Location	North of Main Bldg.
Sample No.	19
Sample Date	5/1/90
Chlorinated Volatile Organic Compounds in ug/m³	
Freon 113	30,655

Sample Location	North of Main Bldg.
Sample No.	21
Sample Date	5/1/90
Chlorinated Volatile Organic Compounds in ug/m³	
Freon 113	9,963

Sample Location	North of Main Bldg.
Sample No.	25
Sample Date	5/1/90
Chlorinated Volatile Organic Compounds in ug/m³	
Freon 113	7,664

Sample Location	Waste Treatment System
Sample No.	SV-6
Sample Depth (feet)	6
Sample Date	9/21/04
Chlorinated Volatile Organic Compounds in ug/m³	
Freon-113	35,000
Tetrachloroethylene	3,170
Trichloroethylene	4,700

Sample Location	NW of Main Bldg.
Sample No.	5
Sample Date	5/1/90
Chlorinated Volatile Organic Compounds in ug/m³	
Tetrachloroethene	1,153

Sample Location	NW of Main Bldg.
Sample No.	4
Sample Date	5/1/90
Chlorinated Volatile Organic Compounds in ug/m³	
Tetrachloroethene	366

Sample Location	Western Sanitary System
Sample No.	SV-4
Sample Depth (feet)	6
Sample Date	9/21/04
Chlorinated Volatile Organic Compounds in ug/m³	
Freon-113	5,610
Tetrachloroethylene	3,040
Trichloroethylene	98.4

WEST SANITARY SYSTEM (001)

SS-4

MW-6

LP-9

SV-4

LP-7

LP-8

B-1

B-2

Sample Location	North Industrial Pools
Sample No.	SV-5
Sample Depth (feet)	6
Sample Date	9/21/04
Chlorinated Volatile Organic Compounds in ug/m³	
Freon-113	9,350
Tetrachloroethylene	1,240
Trichloroethylene	600

INDUSTRIAL POOLS (003)

SV-5

P,B-3

LP-N

MOLDING MACHINE WATER POOLS (004)

LP-4

SUMP (SPDES MONITORING)

LAWN

HERMETICS AREA

B-23

FORMER PLATING SHOP

B-11

S-2

SV-7

S-3

S-4

LAB

S-1

SUMP-1

48,49

T

SS-6

B-10

BERMED DRUM STORAGE AREA

S-7

LP-S

Sample Location	North Plating Shop
Sample No.	SV-7
Sample Depth (feet)	6
Sample Date	9/21/04
Chlorinated Volatile Organic Compounds in ug/m³	
1,1,1-Trichloroethane	1,640
cis-1,2-Dichloroethylene	1,290
Freon-113	39,800
Tetrachloroethylene	5,730
Trichloroethylene	1,040

DRUM STORAGE AREA

N2 TANK PAD

AMMONIA STORAGE AREA

Sample Location	Clean Room
Sample No.	SV-8
Sample Depth (feet)	6
Sample Date	9/22/04
Chlorinated Volatile Organic Compounds in ug/m³	
1,1,1-Trichloroethane	88.8
Freon-113	14,800
Tetrachloroethylene	4,830
Trichloroethylene	508

B-9

B-18

S-9/SS-8

HB-1

HB-2

S CYLINDER STORAGE

SV-8

CLEAN RM. SAMPLE

FORMER MACHINE SHOP

HB-13

ROOF DRAIN

SS-15

SV-13

B-16

S-12

Sample Location	Machine Shop
Sample No.	SV-13
Sample Depth (feet)	6
Sample Date	9/20/04
Chlorinated Volatile Organic Compounds in ug/m³	
Freon-113	857
Tetrachloroethylene	3,380
Trichloroethylene	92.9
Trichlorofluoromethane (Freon 11)	160

B-13

BOILER RM.

SINTER AREA

B-12

SV-9

S-9

S-10

B-14

HB-3

CHEMICAL STORAGE SHED

HB-4

HB-5

HB-6

LP-T

FORMER MAIN BUILDING

Sample Location	South Plating Shop
Sample No.	SV-11
Sample Depth (feet)	6
Sample Date	9/22/04
Chlorinated Volatile Organic Compounds in ug/m³	
1,1,1-Trichloroethane	555
cis-1,2-Dichloroethylene	1,150
Freon-113	24,200
Tetrachloroethylene	1,720
Trichloroethylene	765

MATERIAL EVALUATION RM.

HB-8

SV-10

FORMER ELECTRIC

E-1

E-2

FORMER PLATING SHOP

Sample Location	Material Evaluation Room
Sample No.	SV-10
Sample Depth (feet)	6
Sample Date	9/22/04
Chlorinated Volatile Organic Compounds in ug/m³	
Freon-113	24,900
Tetrachloroethene	2,900
Trichloroethene	415
Trichlorofluoromethane (Freon 11)	274

100,000-GALLON FUEL OIL UST (ABANDONED)

HB-11

B-1

B-2

B-4

SHIPPING

S-6

HB-9

HB-10

BOILER RM.

B-3

S-5

SV-11

B-7

B-5

LP-3

LP-1

LP-2

SOUTH SUPPLY WELL

HB-12

ELECTRIC SWITCHES

CONC. PAD

GARAGE

S-11

B-8

FORMER INDUSTRIAL POOLS

STORMWATER DRAINS

UST-1,2

PLATING TANK

SS-10

STOCK/TOOLS

44-47

SS-12

SV-12

MW-3

S-13

S-14

FORMER SLUDGE BEDS

S-15

S-16

SV-14

MW-10A

MW-10

WOODED

SVMW-1

SVMW-2

SVMW-3

10,000-GALLON WATER HOLDING TANK (UNDERGROUND)

ORNAMENTAL POOL

SS-13

UST-1

UST-2

Sample Location	Former Plating Waste Lagoon
Sample No.	SV-2
Sample Depth (feet)	6
Sample Date	9/20/04
Chlorinated Volatile Organic Compounds in ug/m³	
Dichlorodifluoromethane (Freon 12)	3.02
Freon-113	66.5
Tetrachloroethylene	6.21
Trichloroethylene	2.73
Trichlorofluoromethane (Freon 11)	12.0

B-6

FORMER INDUSTRIAL LAGOON

SV-2

Sample Location	South of Machine Shop
Sample No.	SV-12
Sample Depth (feet)	6
Sample Date	9/20/04
Chlorinated Volatile Organic Compounds in ug/m³	
1,1,1-Trichloroethane	33.9
cis-1,2-Dichloroethylene	48.4
Freon-113	2,650
Tetrachloroethylene	407
Trichloroethylene	273

IN WELL AREA

Sample Location	Sludge Drying Beds
Sample No.	SV-14
Sample Depth (feet)	6
Sample Date	9/20/04
Chlorinated Volatile Organic Compounds in ug/m³	
1,1,1-Trichloroethane	8.32
Dichlorodifluoromethane (Freon 12)	3.52
Freon-113	935
Tetrachloroethylene	435
Trichloroethylene	9.84
Trichlorofluoromethane (Freon 11)	15.4

Sample Location	NE of Main Bldg.
Sample No.	49
Sample Date	5/1/90
Chlorinated Volatile Organic Compounds in ug/m³	
Freon 113	26,823

Sample Location	NE of Main Bldg.
Sample No.	48
Sample Date	5/1/90
Chlorinated Volatile Organic Compounds in ug/m³	
Tetrachloroethene	733

Sample Location	Chemical Storage Shed
Sample No.	SV-9
Sample Depth (feet)	6
Sample Date	9/21/04
Chlorinated Volatile Organic Compounds in ug/m³	
1,1,1-Trichloroethane	128
cis-1,2-Dichloroethylene	8,870
Freon-113	13,300
Tetrachloroethylene	3,380
Trichloroethylene	820

MACHINE SHOP SANITARY SYSTEM (002)

SS-11

U

V

DOYLE COURT

B-21

LP-W

WOODED

NERB

STORMWATER RECHARGE BASIN

SS-7

NORTH SUPPLY WELL

SUSPECTED LOCATION 4,000-GALLON WASTEWATER TANK

LP-R

LP-Q

SLUDGE HOLDING TANK

MW-5

MW-7

SS-5

SB-1

SB-2

SB-3

SB-4

SB-5

SB-6

19, 21, 25

SPENT NITRIC ACID HOLDING TANK

CLEARWELL

CLARIFIER

LEGEND:

- T — PAD-MOUNTED TRANSFORMER
- PROPERTY BOUNDARY
- CATCH BASIN/LEACHING POOL
- LP-1 — SAMPLED CATCH BASIN/LEACHING POOL
- SUPPLY WELL
- FLOOR DRAIN
- SEPTIC SYSTEM COMPONENTS SHOWING SAMPLING LOCATION
- CLOSED INDUSTRIAL LEACHING POOL
- FORMER WASTEWATER TREATMENT SYSTEM
- MONITORING WELL (OPEN)
- MONITORING WELL (ABANDONED)
- RECOVERY WELL
- GAS SERVICE CONNECTION
- CHAIN LINK FENCE
- E — OVERHEAD ELECTRIC TRANSMISSION LINES
- B-23 — PREVIOUS SOIL SAMPLING LOCATION
- S-1 — 2004 SOIL BORINGS
- SS-1 — 2004 SHALLOW SOIL SAMPLES
- SVMW-1 — 2007-2008 SOIL VAPOR SAMPLES
- SV-1 — 2004 SOIL VAPOR SAMPLES
- 4 — 1990 SOIL VAPOR SAMPLES (APPROXIMATE)
- SVI MITIGATION MAY BE NEEDED
- SVI MONITORING MAY BE NEEDED

APPROXIMATE SCALE: 0 20' 40' 80'

PLATE 3
SOIL VAPOR SAMPLING LOCATIONS

FORMER DEUTSCH RELAYS FACILITY
65 DALY ROAD
EAST NORTHPORT, NEW YORK

FPM GROUP, LTD.
RONKONKOMA, NEW YORK

Drawn By: H.C.

Checked By: S.D.

Scale: AS NOTED

Date: 5/1/19

File Name:
Drawing No.

Sheet

Z:\EB of DALY RD\SITE MANAGEMENT\SOIL VAPOR SAMP.dwg, 5/14/2019 10:05:13 AM, DWG To PDF.pc3

3.0 MITIGATION MEASURES FOR POTENTIAL SVI

As the Site is not presently developed with buildings, an SVI evaluation to determine if SVI mitigation is necessary cannot be performed prior to redevelopment. Therefore, the habitable buildings to be constructed during redevelopment will be equipped with mitigation measures for potential SVI. These mitigation measures will include vapor barriers, sub-slab and through-slab components of SSDSs, SSDS operating equipment, and monitoring points. Any pipes or other penetrations through the slab will be sealed.

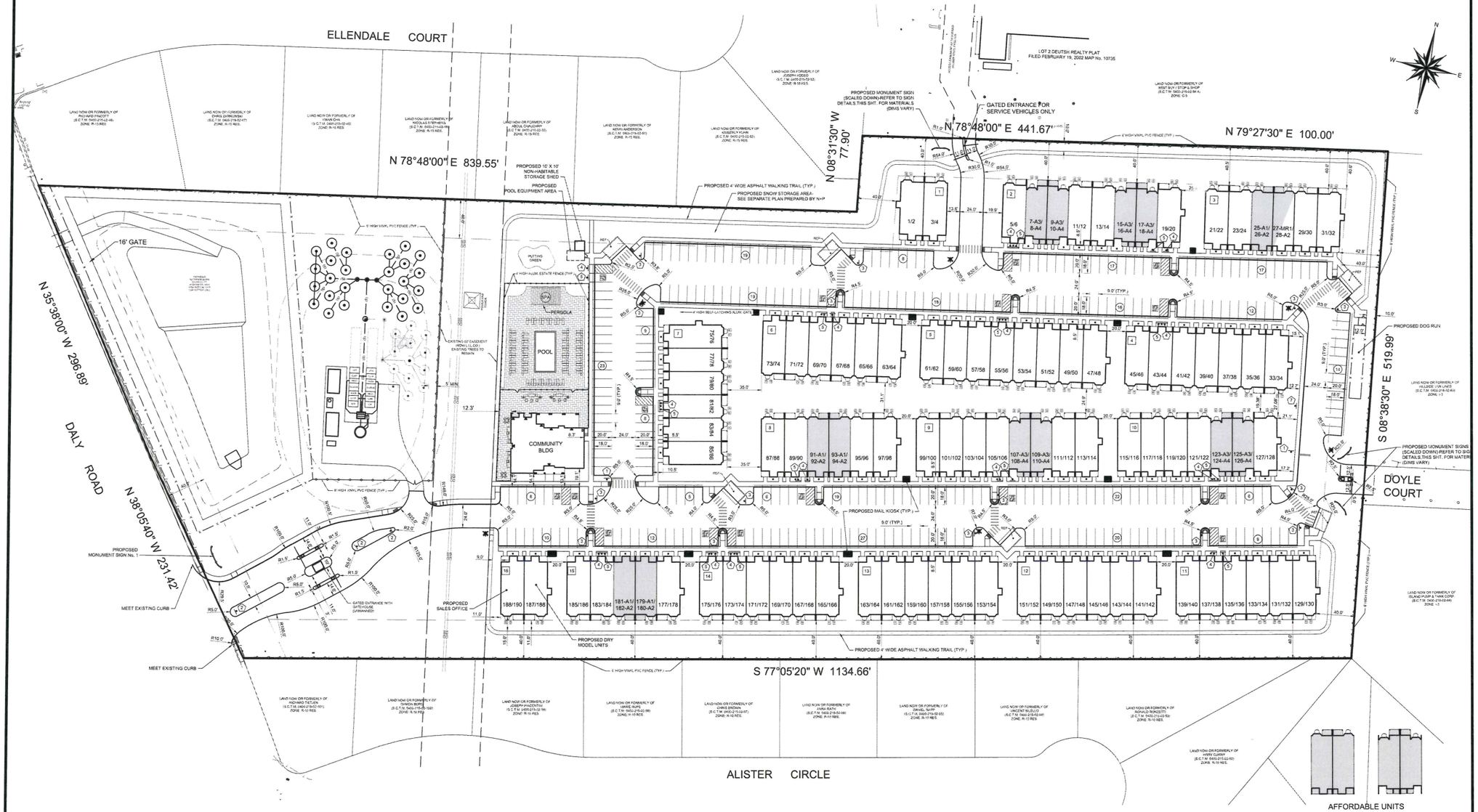
If the construction and occupancy schedule permits, SVI testing will be performed for each building following construction and activation of the building's HVAC systems and before occupancy. In this case, the SSDSs will be activated as needed for potential SVI mitigation, as described in the following sections.

Alternatively, the SSDSs may be operated following completion of buildings as a precautionary measure for potential SVI; this approach would allow for building occupancy prior to SVI testing. In this case, SSDS performance evaluations will be performed to confirm that SSDS operation results in a net downward pressure across the slab.

SVI mitigation measures construction will be observed and documented by a New York State-licensed Professional Engineer (PE) or a Qualified Environmental Professional (QEP) under supervision of a NYS-licensed PE.

3.1 Mitigation Areas

The proposed redevelopment includes 16 multi-unit condominium buildings collectively including 190 residential units, as shown on the site plan in Figure 3.1. Most of the condominium buildings will have a basement beneath each first-floor unit. However, 13 of the first floor units (noted by shading on Figure 3.1) will be constructed with the slab on grade. A habitable recreational building partially underlain by a basement and partially underlain by a slab on grade will also be constructed. Mitigation measures for potential SVI will be constructed for all these habitable buildings. Additional structures will also be present, including a storage shed, sewage treatment plant facilities, and a gatehouse that will not be staffed. These additional structures will not be occupied and potential SVI mitigation measures are not planned for these structures.



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CLIENT:

ENGEL BURMAN

THE SEASONS
AT EAST NORTHPORT

3 INCHES WHEN PLOTTED TO SCALE

NO.	DATE	DESCRIPTION
-	-	-

DESIGN CONSULTANT:

FPM GROUP, LTD.
BOHEMIA, NEW YORK
640 JOHNSON AVENUE, SUITE 101
BOHEMIA, N.Y. 11716
631-737-6200

PROJECT TITLE AND LOCATION:

THE SEASONS AT EAST NORTHPORT
65 DALY ROAD

PROJECT NO:
977-22-106 (01)

SHEET TITLE:

FIGURE 3.1 REDEVELOPMENT SITE PLAN

DESIGN BY: FPM	DRAWING NO.
DRAWN BY: -	T-MEP-1
CHECK BY: CMS	
SCALE: AS NOTED	
DATE: -	SHEET X of X

Redevelopment will be phased, with Buildings 7 through 16 and a community recreation building to be constructed during Phase I (see Figure 3.2), and Buildings 1 through 6 to be constructed during Phase II. Within each Phase construction will generally proceed from west to east, with occupancy for each building beginning only after the building construction and associated landscaping and appurtenances are complete. Completed areas will be physically separated from areas still under construction by fencing, barricades, and other physical barriers as needed. The entry for property occupants will be from Daly Road and the entry for construction activities will be from Doyle Court.

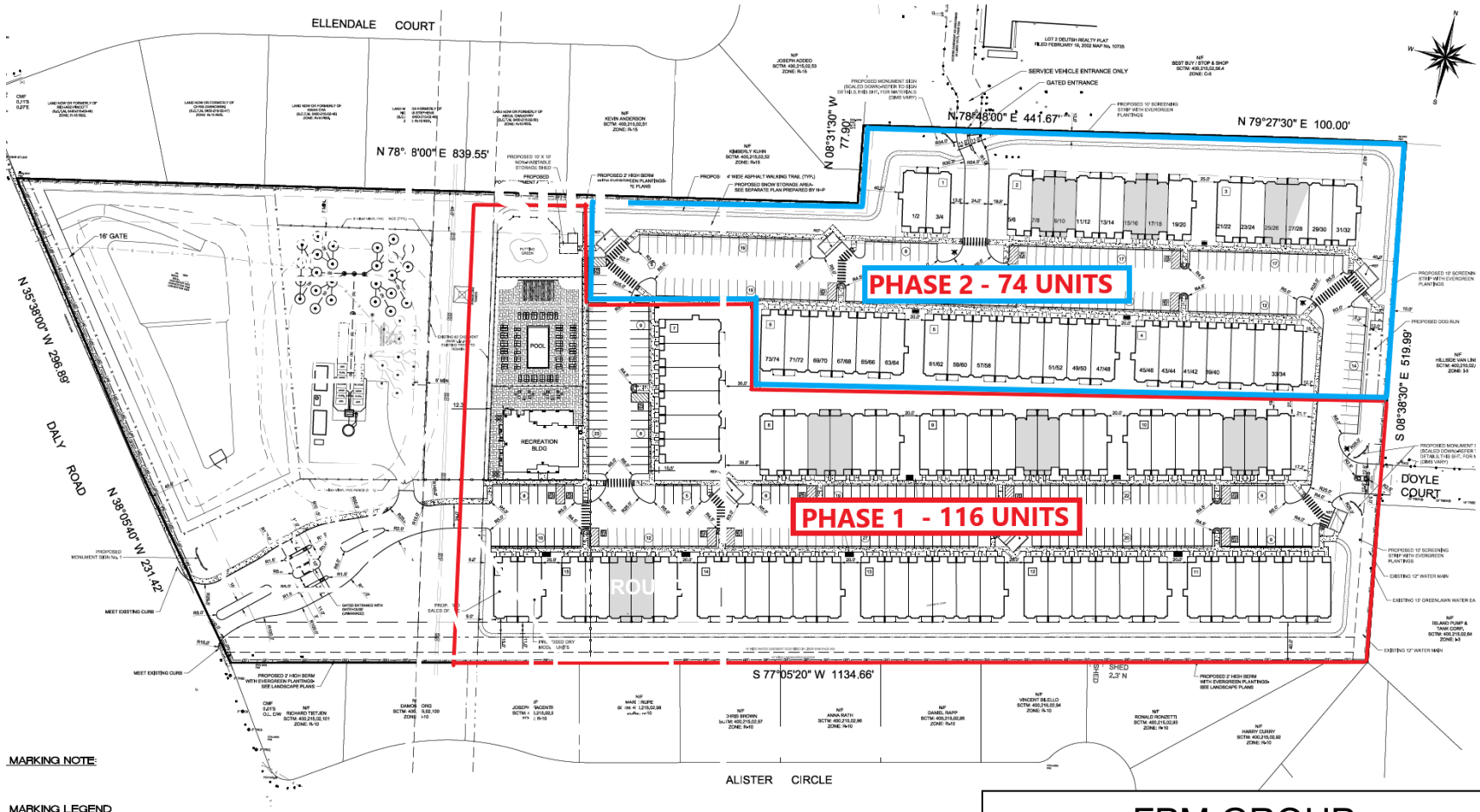
SSDS layouts for each proposed habitable building in Phase I are included in Appendix A. The SSDS layouts for the Phase II buildings are still in development but will be similar to the layouts for Phase I. The SSDS layouts for the Phase II buildings will be submitted to the NYSDEC at least 60 days prior to the start of construction for the Phase II buildings. Specifications for SSDS and monitoring point materials and equipment and the vapor barriers are included in Appendix B.

3.2 Penetration Sealing

Each first-floor condominium unit basement slab and walls or on-grade slab will be penetrated by one or more pipes, including pipes for water supply, waste discharge and/or natural gas service. All pipe penetrations through the slabs or exterior basement walls will be sealed with flexible caulk during construction to prevent vapor migration through the penetrations. Penetration sealing will be performed by the construction contractor and supervised by the construction manager. A PE or QEP will observe pipe penetration seals to confirm that they completely fill the penetrations.

3.3 Vapor Barrier

Vapor barrier materials will be installed beneath the basement floors, on-grade slabs, and on the outside basement walls of the habitable buildings during construction. The vapor barriers will be constructed by a construction contractor firm that is familiar with vapor barrier construction. Vapor barrier construction will be observed and documented by a PE or QEP and supervised by the construction manager.



FPM GROUP

FIGURE 3.2

CONSTRUCTION PHASING PLAN
65 DALY ROAD
EAST NORTHPORT, NEW YORK

Drawn by: SOD Checked By: SOD Date: 4-21-22

The vapor barriers will be constructed of a VOC-resistant membrane barrier (Blueskin PreSeal 435, or approved equivalent) meeting or exceeding the ASTM E-1745 Class A Standard for vapor barriers used in contact with soil under concrete slabs. A geotextile fabric may be used above the sub-slab gravel base material and below the vapor barrier to protect the barrier from possible damage from the base material. Sealing material will be used to seal joins between vapor barrier membranes and as needed in other areas. Pipe penetrations through the vapor barriers will also be sealed with vapor barrier material or pipe boots in accordance with the manufacturer's instructions.

3.4 Sub-Slab SSDS Elements

Sub-slab elements for SSDSs will be constructed below the lowest level of each habitable space. Sub-slab SSDS construction will include installation of lateral slotted Schedule 40 PVC piping beneath the concrete slab of each targeted area. The locations of the lateral slotted piping for each habitable building in Phase I are depicted on the Vapor Mitigation Layouts included in Appendix A and are based on the configuration of the habitable on-grade areas, the locations of underlying footings and other foundation elements, and typical radius of influence (ROI) testing results from local properties with installed SSDSs. The layout of the SSDS laterals is developed in a manner to provide mitigation for SVI, if needed, throughout the entire target areas. As the mechanical, electrical and plumbing (MEP) aspects of these buildings are still being finalized, it is possible that the final configuration of the lateral piping may be modified slightly to accommodate sub-slab MEP features. Any modifications made will be designed to result in sub-slab depressurization beneath the entire targeted slab.

The SSDS lateral piping will be constructed of slotted Schedule 40 PVC pipe with a solid slip-on end cap at the upstream end of the piping. A connection will be made at the downstream end of each lateral to solid piping that will extend to above the roof of each building for discharge. Backfill around the lateral piping will consist of uniform gradation gravel-size base material for the concrete slab to be constructed above the laterals. Following lateral piping placement, the backfill will be field-compacted in a manner to reduce the potential for settlement while not damaging the installed lateral piping.

The solid Schedule 40 PVC riser piping from each SSDS will initially be extended through the slab and to (or near) the location of a pipe chase to the roof. During building construction the

riser piping will be extended through the pipe chase as construction proceeds and to the roof, where it will be temporarily capped. The riser piping will be equipped with an in-line fan appropriately sized for the SSDS, as discussed below. An alarm will also be installed on the vacuum side of the fan.

The SSDS components will be constructed by a construction contractor firm that is familiar with SSDS construction. SSDS construction will be observed and documented by a PE or QEP under PE supervision and supervised by the construction manager.

3.5 SSDS Operating Equipment

Each SSDS will include an appropriately-sized in-line fan and an alarm installed on the vacuum side of the fan. Fan selection will be in accordance with the necessary air flow and vacuum needed to result in depressurization beneath the targeted slab. Specifications for the fan and alarms that are targeted for use in this project are included in Appendix B. The selected equipment will be installed during construction of the targeted area of each building. A sign for the alarms will be placed in a visible area and will include notification instructions in case an alarm sounds.

Each SSDS will discharge outside and above the roof of the building via a stack. The SSDS exhaust stacks will be located a minimum of 10 feet above the ground and a minimum of 10 feet from windows and ventilation inlets. The stacks for most of the buildings will be located within an open equipment area on the roof of each building. Exact stack location(s) and height(s) will be determined based on the final building exterior configurations.

3.6 Monitoring Points

Sub-slab monitoring points will be necessary to evaluate SSDS performance and conduct the SVI testing as needed. If the SSDSs are operated, then the monitoring points will also be used to periodically monitor the operation of the SSDSs and to assess when/if the potential for SVI is no longer present.

Monitoring points will be installed through the building slabs at select locations at a distance from the associated SSDS laterals. Proposed locations of monitoring points for the Phase I buildings are shown on the Vapor Mitigation Layouts in Appendix A and include at least one location within each enclosed habitable space.

Each monitoring point will be constructed using a stainless-steel screen connected to inert tubing. The screens will be installed through the slab and into the underlying gravel at a depth of approximately six inches below the slab. The top of the tubing will be equipped with a valve for monitoring purposes. Each monitoring point annulus will be gravel-packed to approximately six inches below grade and a bentonite seal will be installed above the gravel pack and in contact with the concrete slab. Each monitoring point will be protected by installing a traffic-rated protective manhole encased in concrete at the top of the slab. The base of the manhole will be layered with poly sheeting to further reduce the potential for SVI through the monitoring points and for short-circuiting between the atmosphere and the monitoring point screens.

3.7 SSDS Performance Evaluation

Following SSDS startup, the performance of each SSDS with respect to sub-slab depressurization will be verified by monitoring the pressure beneath the targeted area at the associated monitoring points to confirm that a downward pressure gradient is established. Monitoring will be performed during the startup period, which is anticipated to be within one to two weeks following completion of SSDS construction, with the results included in an SVI Mitigation Measures Construction Report to be provided to the NYSDEC.

Pressure monitoring will be performed by the PE or QEP while the SSDS is operating. A digital micromanometer or equivalent pressure measurement device will be used to measure the pressure above the slab in each affected area and in the associated sub-slab monitoring point(s). The measurements will be compared to confirm that a negative pressure is being created across the slab.

Periodic pressure monitoring will be continued following the startup of SSDSs to confirm that a downward pressure gradient remains established while the SSDS(s) operates.

3.8 Reporting

Following completion of construction, an SVI Mitigation Measures Construction Report will be prepared to document the mitigation measures implemented for potential SVI. This report will include a narrative of the construction procedures, with supporting notes, photographs, and other documentation as needed, a site plan showing the installed mitigation measures, as-built diagrams of the completed measures, startup procedures, the results of SSDS performance

evaluations, and other documentation generated during mitigation construction activities. If SVI testing is performed, the procedures and results will also be documented in this report. The completed report will be certified by a NYS-licensed PE and submitted to the NYSDEC for review and approval.

An Operation and Maintenance (O&M) Manual will be prepared for the SSDSs. The O&M Manual will include general procedures for operating and maintaining the SSDSs, the as-built diagrams for the SSDSs, specifications for the SSDS elements, copies of all system monitoring logs and other documentation needed for periodic reporting, and contact information for technical assistance. Procedures for sub-slab pressure and SVI monitoring will be included in the O&M Manual. The O&M Manual will be provided to the Homeowners Association and the designated property superintendent for their use.

The SSDSs that are operated will be routinely monitored by the property superintendent or his/her designated representative. All SSDS operation observations will be recorded in a logbook that will be kept onsite for operator reference. The logbook will include operating logs for recording system operating parameters, figures showing the SSDS lateral piping and monitoring point layouts and equipment configurations. SSDS performance observations to be recorded will include pressure readings at the designated monitoring points and the operation status of the alarm systems and fans. The monitoring information will be used in preparation of the Periodic Review Reports.

4.0 SVI EVALUATIONS

If the construction and occupancy schedule for the new development permits, SVI testing will be conducted for each on-grade habitable area following the completion of construction and once the HVAC systems are operating in these areas. If the results of SVI testing indicate that mitigation for potential SVI concerns is necessary in an area, then the SSDS for that area will be operated.

Alternatively, if the construction and occupancy schedules do not permit SVI testing during the heating season prior to occupancy, then the SSDSs for the affected areas will be actively operated, as discussed in Section 3, and performance evaluations (see Section 3.7) will be conducted to confirm that SSDS operation results in a negative pressure across each targeted slab.

If SSDSs are operated, SVI testing may be performed periodically to further evaluate the potential for SVI and determine if continued operation of the SSDSs is necessary. If periodic SVI testing is contemplated, the NYSDEC will be notified in advance and provided with the proposed scope of work.

4.1 SVI Evaluation Procedures

All SVI testing will be conducted by a QEP and will include collection of sub-slab soil vapor and co-located indoor air samples and an ambient air sample for each area or group of areas in accordance with NYSDOH SVI testing protocols. During each testing event samples will be collected from the sub-slab monitoring point(s) and corresponding indoor air sampling location(s) in each targeted area. The sub-slab points will be accessed and three to five volumes of soil vapor will be purged through the installed polyethylene tubing using an air pump to ensure that a representative sample is obtained and to confirm the integrity of the point's seal. Seal integrity will be evaluated by confining a helium tracer gas over the surface seal and checking with a helium meter. Following purging and the seal integrity check, the sub-slab soil vapor samples will be collected into laboratory-supplied Summa canisters equipped with calibrated flow controllers. The flow controllers will be set so as not to exceed 0.2 liters per minute and to collect each sample over an approximate 24-hour period. Upon completion of sampling, the canisters will be sealed, labeled, managed, transported, and tracked under chain of custody.

Indoor air and outdoor (ambient) air sampling will be performed concurrently with sub-slab soil vapor sampling. The indoor air samples will be collected from the vicinity of the sub-slab sampling points at a height of approximately three feet above the existing building slab. One ambient (outdoor) air sample will also be collected concurrently with the indoor air and sub-slab soil vapor samples from each general area of testing. This sample will be collected in the outdoor proximity to the building(s) and in the same manner as the indoor air samples. A duplicate sample will also be collected for quality assurance/quality control (QA/QC) purposes. The QEP will observe the flow controllers and seal the canisters while some vacuum remains. Upon completion of sampling, the canisters will be labeled, managed, transported, and tracked under chain of custody.

A NYSDOH building inventory form will also be completed by the QEP for each sampled area to document the potential presence of VOC sources present within and in proximity to the testing area. The resulting data will be utilized to evaluate VOC concentrations in sub-slab soil vapor and indoor air in each area and to assess potential contributions to indoor air quality from ambient air conditions.

The filled sample canisters will be transported to the designated analytical laboratory, which will be NYSDOH ELAP-certified for analyses using the TO-15 Method, with low-level analyses to be performed on the indoor air and ambient air samples. Laboratory results for the samples will be reported in Category B packages together with the duplicate sample results and laboratory batch QA/QC data. The laboratory analytical results will be reviewed by the QEP to evaluate whether mitigation for potential SVI is indicated in accordance with NYSDEC soil vapor intrusion guidance.

If mitigation for potential for SVI is indicated, then the SSDS operating equipment (fans, controls, etc.) for the affected area will be operated.

4.2 Reporting

Following completion of SVI testing, a report will be prepared by the QEP to document the SVI testing procedures and results. This report will include a narrative of the procedures, with supporting notes, photographs, and other documentation as needed, tabulated laboratory data, a site plan showing the installed mitigation measures and SVI testing locations, copies of the

laboratory reports, and other documentation generated during the SVI testing activities. The completed report will be submitted to the NYSDEC.

5.0 REFERENCES

6NYCRR Part 375, Environmental Remediation Programs. December 14, 2006.

FPM Group. January 2021. *Deutsch Relays, Inc. Site, NYSDEC #152003 Site Management Plan.*

New York State Department of Environmental Conservation. *Records pertaining to the subject property*.

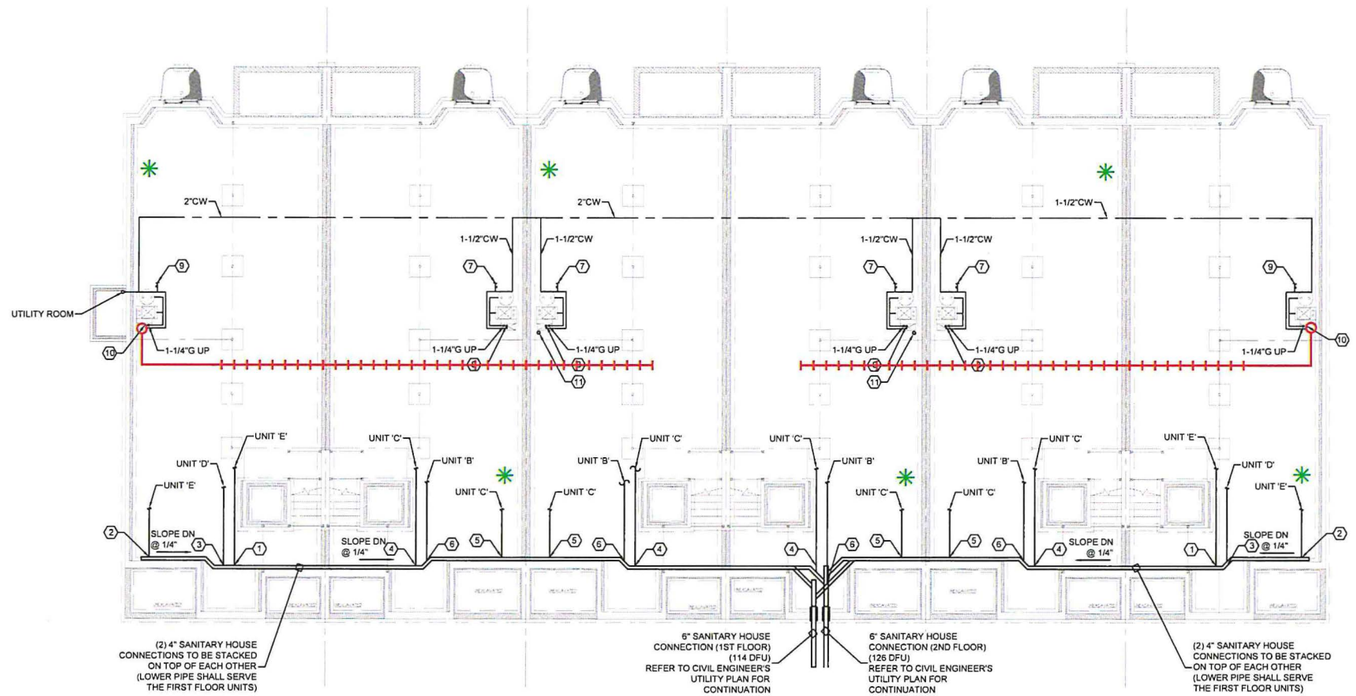
New York State Department of Environmental Conservation. March 1995. *Record of Decision, Deutsch Relays, Inc., Inactive Hazardous Waste Site Number 152003.*

New York State Department of Environmental Conservation. May 2010. *DER-10 – Technical Guidance for Site Investigation and Remediation*.

APPENDIX A

SVI MITIGATION LAYOUTS

This Appendix includes the proposed SVI mitigation features and layout for each proposed habitable building in the Phase I area.



NOTES:

1. REFER TO DRAWINGS P-103, P-104, P-105 & P-106 FOR PLUMBING UNIT LAYOUTS AND PIPE SIZES.
2. REFER TO P-301 & P-302 FOR CONTINUATION OF SANITARY PIPING AND SIZING.
3. REFER TO P-303 & P-304 FOR MORE DETAILING ON INCOMING WATER SERVICES.
4. REFER TO P-305 FOR MORE DETAILING AND CONTINUATION OF THE INCOMING GAS SERVICE AND GAS PIPING FOR UNIT PLANS.
5. THIS PLAN IS FOR REFERENCE ONLY TO DEPICT UNIT LOCATIONS AND UNIT TYPES.

KEY NOTES:

1. 4"S FROM UNIT 'E' (12 DFU) REFER TO DWG P-105
2. 4"S FROM UNIT 'E' (9 DFU) REFER TO DWG P-105
3. 4"S FROM UNIT 'D' (19 DFU) REFER TO DWG P-105
4. 4"S FROM UNIT 'C' (12 DFU) REFER TO DWG P-103
5. 4"S FROM UNIT 'C' (9 DFU) REFER TO DWG P-103
6. 4"S FROM UNIT 'B' (19 DFU) REFER TO DWG P-103
7. 1-1/4" CW TO UNIT 'B' REFER TO DWG P-103
8. 1-1/4" CW UP TO UNIT 'C' UTILITY ROOM IN ATTIC REFER TO DWG P-104.
9. 1-1/4" CW TO UNIT 'D' REFER TO DWG P-105.
10. 1-1/4" CW UP TO UNIT 'E' UTILITY ROOM IN ATTIC. REFER TO DWG P-106.
11. 4" PVC (SCHEDULE 40) SSDS VENT DN THRU SLAB AND UP THRU ROOF. REFER TO ENVIRONMENTAL ENGINEER'S DRAWINGS FOR ADDITIONAL INFORMATION.

LEGEND

- SSDS SLOTTED PIPE
- SSDS SOLID PIPE
- SSDS RISER TO ABOVE ROOF
- MONITORING POINT

0' 4' 8' 16'
APPROXIMATE SCALE

REFERENCE DRAWING No:
P-101

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CLIENT:

ENGEL BURMAN

THE SEASONS
AT EAST NORTHPORT

3 INCHES WHEN PLOTTED TO SCALE

NO.	DATE	DESCRIPTION
–	–	–

DESIGN CONSULTANT:

FPM GROUP, LTD.
BOHEMIA, NEW YORK
640 JOHNSON AVENUE, SUITE 101
BOHEMIA, N.Y. 11716
631-737-6200

REFERENCE DRAWING TITLE:

BUILDING 7 BASEMENT
PLUMBING PLAN

PROJECT TITLE AND LOCATION:

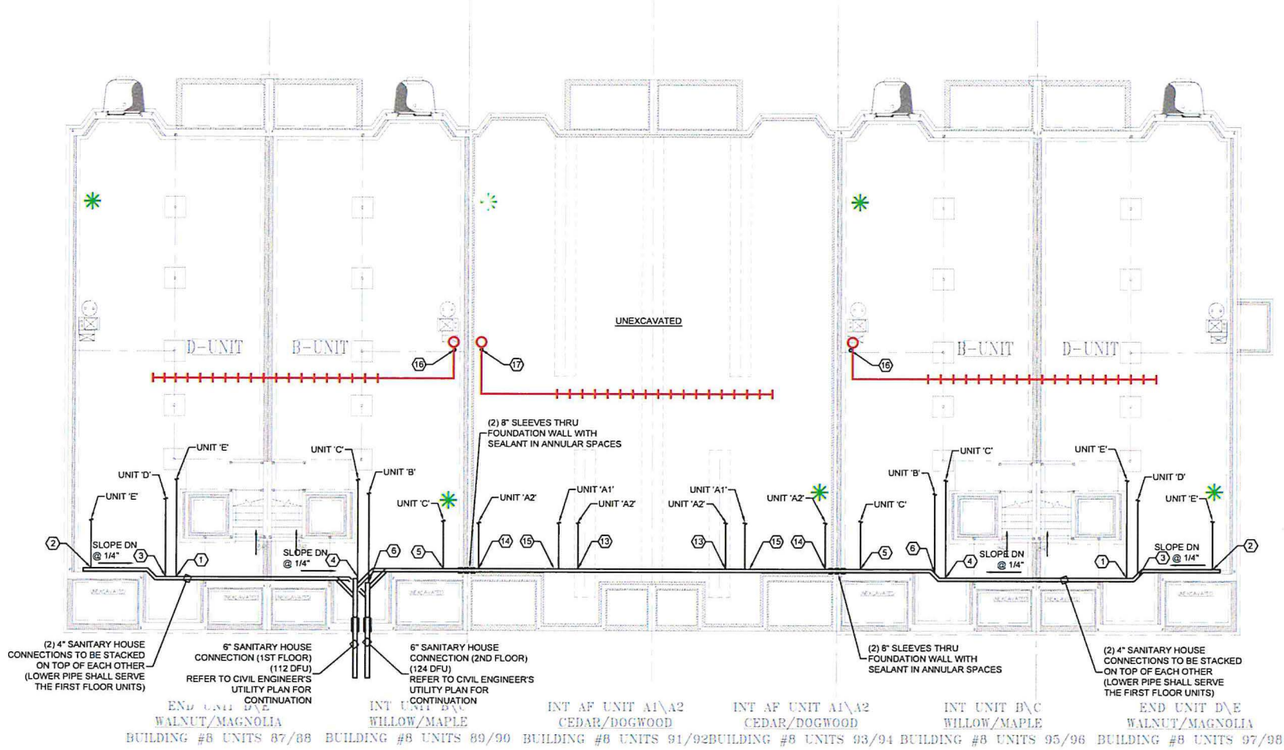
THE SEASONS AT
EAST NORTHPORT
65 DALY ROAD

PROJECT NO:
077-22-106 (01)

DRAWING TITLE:

BUILDING 7
SSDS LAYOUT

DESIGN BY: FPM	DRAWING NO.
DRAWN BY: –	A-107
CHECK BY: CMS	
SCALE: AS NOTED	
DATE: –	SHEET 7 of X



LEGEND

- SSDS SLOTTED PIPE
- SSDS SOLID PIPE
- SSDS RISER TO ABOVE ROOF
- MONITORING POINT

0' 4' 8' 16'
APPROXIMATE SCALE

NOTES:

1. REFER TO DRAWINGS P-103 THROUGH P-108 FOR PLUMBING UNIT LAYOUTS AND PIPE SIZES.
2. REFER TO P-301, P-302 & P-303 FOR CONTINUATION OF SANITARY PIPING AND SIZING.
3. REFER TO P-304, P-305 & P-306 FOR MORE DETAILING ON WATER SERVICES AND CW/HW PIPING FOR UNITS.
4. REFER TO P-307 FOR MORE GAS RISER DIAGRAM AND DETAILING.
5. THIS PLAN IS FOR REFERENCE ONLY TO DEPICT UNIT LOCATIONS AND UNIT TYPES.

KEY NOTES:

1. 4"S FROM UNIT 'E' (12 DFU) REFER TO DWG P-107
2. 4"S FROM UNIT 'E' (9 DFU) REFER TO DWG P-107
3. 4"S FROM UNIT 'D' (19 DFU) REFER TO DWG P-107
4. 4"S FROM UNIT 'C' (12 DFU) REFER TO DWG P-105
5. 4"S FROM UNIT 'C' (9 DFU) REFER TO DWG P-105
6. 4"S FROM UNIT 'B' (19 DFU) REFER TO DWG P-105
7. 1-1/4" CW TO UNIT 'B' REFER TO DWG P-105
8. 1-1/4" CW TO UNIT 'C' UTILITY ROOM IN ATTIC REFER TO DWG P-106.
9. 1-1/4" CW TO UNIT 'D' REFER TO DWG P-107.
10. 1-1/4" CW TO UNIT 'E' UTILITY ROOM IN ATTIC, REFER TO DWG P-108.
11. 1-1/4" CW TO UNIT 'A1' UTILITY ROOM REFER TO P-103.
12. 1-1/4" CW TO UNIT 'A2' UTILITY ROOM. REFER TO P-104
13. 4"S FROM UNIT 'A2' (12 DFU), REFER TO DWG P-103
14. 4"S FROM UNIT 'A2' (8 DFU), REFER TO DWG P-103
15. 4"S FROM UNIT 'A1' (18 DFU), REFER TO DWG P-103
16. 4" PVC (SCHEDULE 40) SSDS VENT DN THRU SLAB AND UP THRU ROOF. REFER TO ENVIRONMENTAL ENGINEER'S DRAWINGS FOR ADDITIONAL INFORMATION.
17. 4" PVC (SCHEDULE 40) SSDS VENT UP THRU FLOOR SLAB AND UP THRU ROOF. REFER TO ENVIRONMENTAL ENGINEER'S DRAWINGS FOR ADDITIONAL INFORMATION.

REFERENCE DRAWING No:
P-101

CONSULTANTS:

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CLIENT:
ENGEL BURMAN

THE SEASONS
AT EAST NORTHPORT

3 INCHES WHEN PLOTTED TO SCALE

NO.	DATE	DESCRIPTION
-	-	-

DESIGN CONSULTANT:
FPM GROUP, LTD.
BOHEMIA, NEW YORK
840 JOHNSON AVENUE, SUITE 101
BOHEMIA, N.Y. 11716
631-737-6200

REFERENCE DRAWING TITLE:
BUILDING 8 BASEMENT FLOOR PLUMBING PLAN

PROJECT TITLE AND LOCATION:
THE SEASONS AT EAST NORTHPORT
65 DALY ROAD

PROJECT NO:
977-22-106 (01)

DRAWING TITLE:
BUILDING 8
SSDS LAYOUT

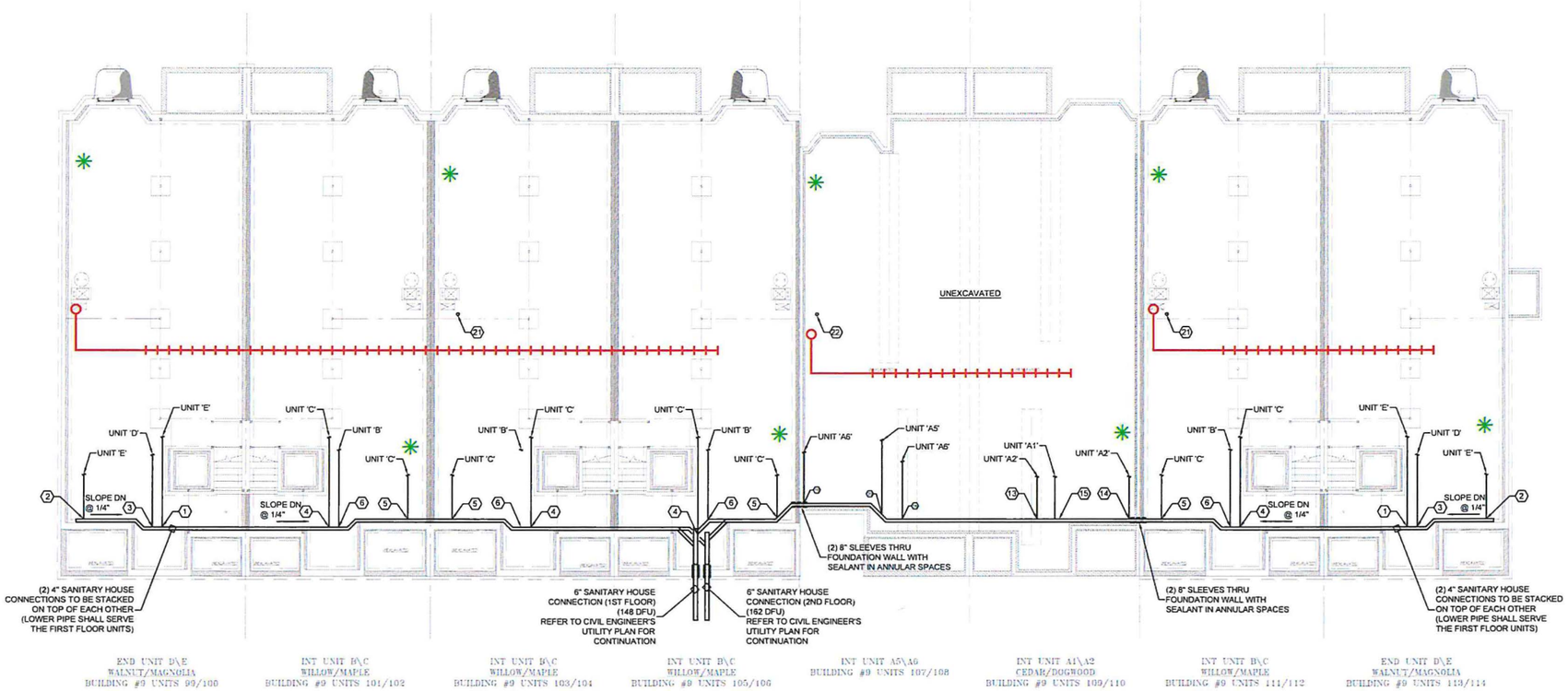
DESIGN BY: FPM	DRAWING NO. A-108
DRAWN BY: -	
CHECK BY: CMS	
SCALE: AS NOTED	
DATE: -	SHEET 8 of X

KEY NOTES:

1. 4"S FROM UNIT 'E' (12 DFU) REFER TO DWG P-107
2. 4"S FROM UNIT 'E' (9 DFU) REFER TO DWG P-107
3. 4"S FROM UNIT 'D' (19 DFU) REFER TO DWG P-107
4. 4"S FROM UNIT 'C' (12 DFU) REFER TO DWG P-105
5. 4"S FROM UNIT 'C' (9 DFU) REFER TO DWG P-105
6. 4"S FROM UNIT 'B' (19 DFU) REFER TO DWG P-105
7. 1-1/4" CW TO UNIT 'B' REFER TO DWG P-105
8. 1-1/4" CW TO UNIT 'C' UTILITY ROOM IN ATTIC REFER TO DWG P-106.
9. 1-1/4" CW TO UNIT 'D' REFER TO DWG P-107.
10. 1-1/4" CW TO UNIT 'E' UTILITY ROOM IN ATTIC, REFER TO DWG P-106.
11. 1-1/4" CW TO UNIT 'A1' UTILITY ROOM REFER TO P-103.
12. 1-1/4" CW TO UNIT 'A2' UTILITY ROOM. REFER TO P-104
13. 4"S FROM UNIT 'A2' (12 DFU), REFER TO DWG P-103
14. 4"S FROM UNIT 'A2' (8 DFU), REFER TO DWG P-103
15. 4"S FROM UNIT 'A1' (18 DFU), REFER TO DWG P-103
16. 1-1/4" CW TO UNIT 'A5' UTILITY ROOM, REFER TO P-103.
17. 1-1/4" CW TO UNIT 'A5' UTILITY ROOM REFER TO P-104
18. 4"S FROM UNIT 'A5' (10 DFU), REFER TO P-103
19. 4" S FROM UNIT 'A5' (6 DFU) REFER TO P-103
20. 4" S FROM UNIT 'A5' (16 DFU) REFER TO P-103
21. 4" PVC (SCHEDULE 40) SSDS VENT DN THRU SLAB AND UP THRU ROOF. REFER TO ENVIRONMENTAL ENGINEER'S DRAWINGS FOR ADDITIONAL INFORMATION.
22. 4" PVC (SCHEDULE 40) SSDS VENT UP THRU FLOOR SLAB AND UP THRU ROOF. REFER TO ENVIRONMENTAL ENGINEER'S DRAWINGS FOR ADDITIONAL INFORMATION.

NOTES:

1. REFER TO DRAWINGS P-103 THROUGH P-108 FOR PLUMBING UNIT LAYOUTS AND PIPE SIZES.
2. REFER TO P-301, P-302, P-303 & P-304 FOR CONTINUATION OF SANITARY PIPING AND SIZING.
3. REFER TO P-305, P-306, P-307 & P-308 FOR MORE DETAILING ON WATER SERVICES AND CW/HW PIPING FOR UNITS.
4. REFER TO P-309 FOR MORE GAS RISER DIAGRAM AND DETAILING.
5. THIS PLAN IS FOR REFERENCE ONLY TO DEPICT UNIT LOCATIONS AND UNIT TYPES.



LEGEND

- SSDS SLOTTED PIPE
- SSDS SOLID PIPE
- SSDS RISER TO ABOVE ROOF
- MONITORING POINT

0' 4' 8' 16'
APPROXIMATE SCALE

REFERENCE DRAWING No: P-101

CONSULTANTS:

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THE SEASONS
AT EAST NORTHPORT

3 INCHES WHEN PLOTTED TO SCALE

NO.	DATE	DESCRIPTION
-	-	-

DESIGN CONSULTANT:

FPM GROUP, LTD.
BOHEMIA, NEW YORK
640 JOHNSON AVENUE, SUITE 101
BOHEMIA, N.Y. 11716
631-737-6200

REFERENCE DRAWING TITLE:

BUILDING 9 BASEMENT PLUMBING PLAN

PROJECT TITLE AND LOCATION:

THE SEASONS AT EAST NORTHPORT
65 DALY ROAD

PROJECT NO: 977-22-108 (01)

DRAWING TITLE:

BUILDING 9
SSDS LAYOUT

DESIGN BY: FPM	DRAWING NO. A-109
DRAWN BY: -	
CHECK BY: CMS	
SCALE: AS NOTED	
DATE: -	SHEET 9 of X

KEY NOTES:

1. 4"S FROM UNIT 'E' (12 DFU) REFER TO DWG P-107
2. 4"S FROM UNIT 'E' (9 DFU) REFER TO DWG P-107
3. 4"S FROM UNIT 'D' (19 DFU) REFER TO DWG P-107
4. 4"S FROM UNIT 'C' (12 DFU) REFER TO DWG P-105
5. 4"S FROM UNIT 'C' (9 DFU) REFER TO DWG P-105
6. 4"S FROM UNIT 'B' (19 DFU) REFER TO DWG P-105
7. 1-1/4" CW TO UNIT 'B' REFER TO DWG P-105
8. 1-1/4" CW TO UNIT 'C' UTILITY ROOM IN ATTIC REFER TO DWG P-106.
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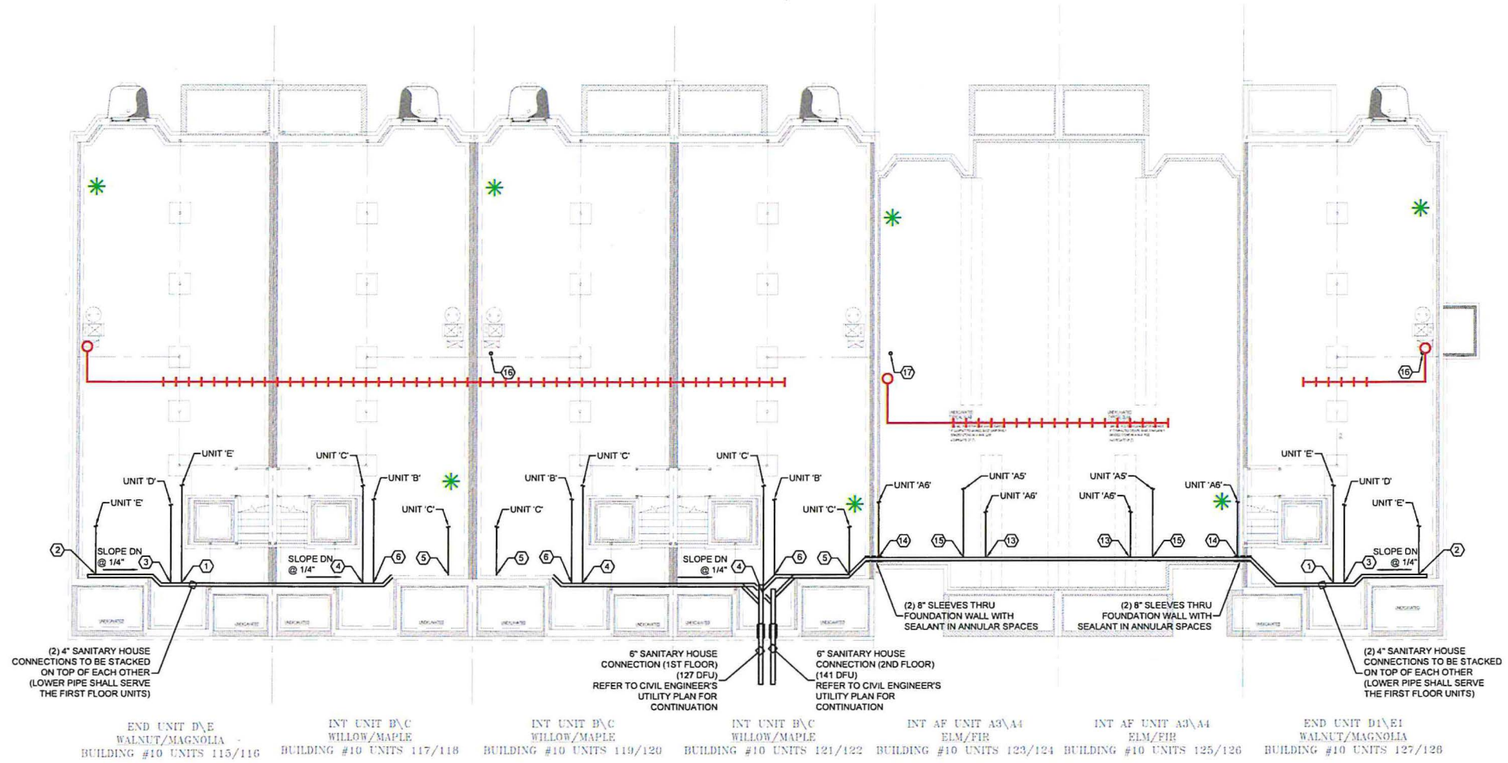
10. 1-1/4" CW TO UNIT 'E' UTILITY ROOM IN ATTIC, REFER TO DWG P-108.
11. 1-1/4" CW TO UNIT 'A3' UTILITY ROOM REFER TO P-103.
12. 1-1/4" CW TO UNIT 'A4' UTILITY ROOM. REFER TO P-104
13. 4"S FROM UNIT 'A4' (10 DFU), REFER TO P-103
14. 4" S FROM UNIT 'A4' (8 DFU) REFER TO P-103
15. 4" S FROM UNIT 'A3' (16 DFU) REFER TO P-103
16. 4" PVC (SCHEDULE 40) SSDS VENT DN THRU SLAB AND UP THRU ROOF. REFER TO ENVIRONMENTAL ENGINEER'S DRAWINGS FOR ADDITIONAL INFORMATION.
17. 4" PVC (SCHEDULE 40) SSDS VENT UP THRU FLOOR SLAB AND UP THRU ROOF. REFER TO ENVIRONMENTAL ENGINEER'S DRAWINGS FOR ADDITIONAL INFORMATION.

NOTES:

1. REFER TO DRAWINGS P-103 THROUGH P-108 FOR PLUMBING UNIT LAYOUTS AND PIPE SIZES.
2. REFER TO P-301, P-302, P-303 & P-304 FOR CONTINUATION OF SANITARY PIPING AND SIZING.
3. REFER TO P-305, P-306, P-307 & P-308 FOR MORE DETAILING ON WATER SERVICES AND CW/HW PIPING FOR UNITS.
4. REFER TO P-309 FOR MORE GAS RISER DIAGRAM AND DETAILING.
5. THIS PLAN IS FOR REFERENCE ONLY TO DEPICT UNIT LOCATIONS AND UNIT TYPES.



LEGEND

- SSDS SLOTTED PIPE
- SSDS SOLID PIPE
- SSDS RISER TO ABOVE ROOF
- MONITORING POINT

REFERENCE DRAWING No:
P-101

CONSULTANTS:

N&P
NELSON & POPE
ENGINEERS & SURVEYORS
572 WALT WHITMAN ROAD, MELVILLE, N.Y. 11747
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Smithtown, NY 11787
Phone: 631.750.2800
Fax: 631.750.2744
tangelengineering.com

CLIENT:

ENGEL BURMAN

THE SEASONS
AT EAST NORTHPORT

3 INCHES WHEN PLOTTED TO SCALE

NO.	DATE	DESCRIPTION
–	–	–

DESIGN CONSULTANT:

FPM GROUP, LTD.
BOHEMIA, NEW YORK
640 JOHNSON AVENUE, SUITE 101
BOHEMIA, N.Y. 11716
631-737-6200

REFERENCE DRAWING TITLE:

BUILDING 10 BASEMENT PLUMBING PLAN

PROJECT TITLE AND LOCATION:

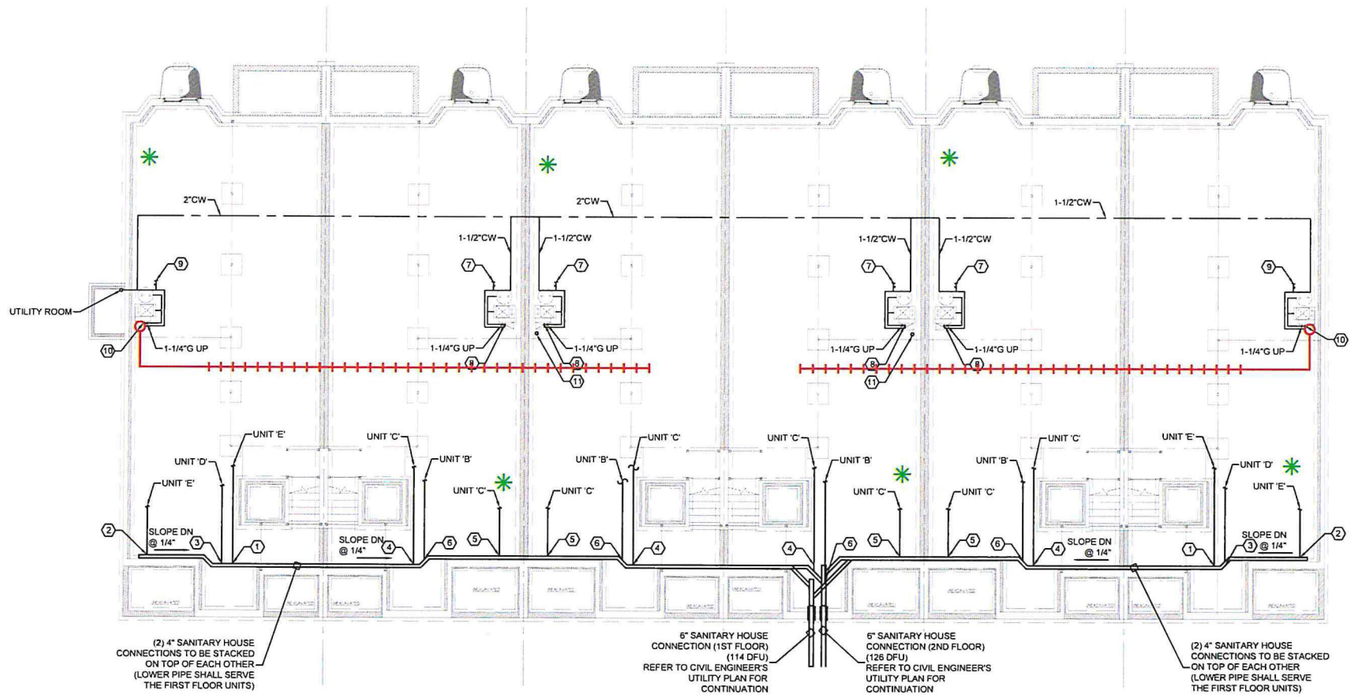
THE SEASONS AT EAST NORTHPORT
65 DALY ROAD

PROJECT NO:
977-22-106 (01)

DRAWING TITLE:

BUILDING 10
SSDS LAYOUT

DESIGN BY: FPM	DRAWING NO.
DRAWN BY: –	A-110
CHECK BY: CMS	
SCALE: AS NOTED	
DATE: –	SHEET 10 of X



NOTES:

1. REFER TO DRAWINGS P-103, P-104, P-105 & P-106 FOR PLUMBING UNIT LAYOUTS AND PIPE SIZES.
2. REFER TO P-301 & P-302 FOR CONTINUATION OF SANITARY PIPING AND SIZING.
3. REFER TO P-303 & P-304 FOR MORE DETAILING ON INCOMING WATER SERVICES.
4. REFER TO P-305 FOR MORE DETAILING AND CONTINUATION OF THE INCOMING GAS SERVICE AND GAS PIPING FOR UNIT PLANS.
5. THIS PLAN IS FOR REFERENCE ONLY TO DEPICT UNIT LOCATIONS AND UNIT TYPES.

KEY NOTES:

1. 4"S FROM UNIT 'E' (12 DFU) REFER TO DWG P-105
2. 4"S FROM UNIT 'E' (9 DFU) REFER TO DWG P-105
3. 4"S FROM UNIT 'D' (19 DFU) REFER TO DWG P-105
4. 4"S FROM UNIT 'C' (12 DFU) REFER TO DWG P-103
5. 4"S FROM UNIT 'C' (9 DFU) REFER TO DWG P-103
6. 4"S FROM UNIT 'B' (19 DFU) REFER TO DWG P-103
7. 1-1/4" CW TO UNIT 'B' REFER TO DWG P-103
8. 1-1/4" CW UP TO UNIT 'C' UTILITY ROOM IN ATTIC REFER TO DWG P-104.
9. 1-1/4" CW TO UNIT 'D' REFER TO DWG P-105.
10. 1-1/4" CW UP TO UNIT 'E' UTILITY ROOM IN ATTIC. REFER TO DWG P-106.
11. 4" PVC (SCHEDULE 40) SSDS VENT DN THRU SLAB AND UP THRU ROOF. REFER TO ENVIRONMENTAL ENGINEER'S DRAWINGS FOR ADDITIONAL INFORMATION.

LEGEND

- SSDS SLOTTED PIPE
- SSDS SOLID PIPE
- SSDS RISER TO ABOVE ROOF
- MONITORING POINT

0' 4' 8' 16'
APPROXIMATE SCALE

REFERENCE DRAWING No:
P-101

CONSULTANTS:

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NELSON & POPE
ENGINEERS & SURVEYORS
572 WALT WHITMAN ROAD, MELVILLE, N.Y. 11747
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Fax: 631.750.2744
tangelengineering.com

CLIENT:

ENGEL BURMAN

THE SEASONS
AT EAST NORTHPORT

3 INCHES WHEN PLOTTED TO SCALE

NO.	DATE	DESCRIPTION
–	–	–

DESIGN CONSULTANT:

FPM GROUP, LTD.
BOHEMIA, NEW YORK
640 JOHNSON AVENUE, SUITE 101
BOHEMIA, N.Y. 11716
631-737-6200

REFERENCE DRAWING TITLE:

BUILDING 11 BASEMENT PLUMBING PLAN

PROJECT TITLE AND LOCATION:

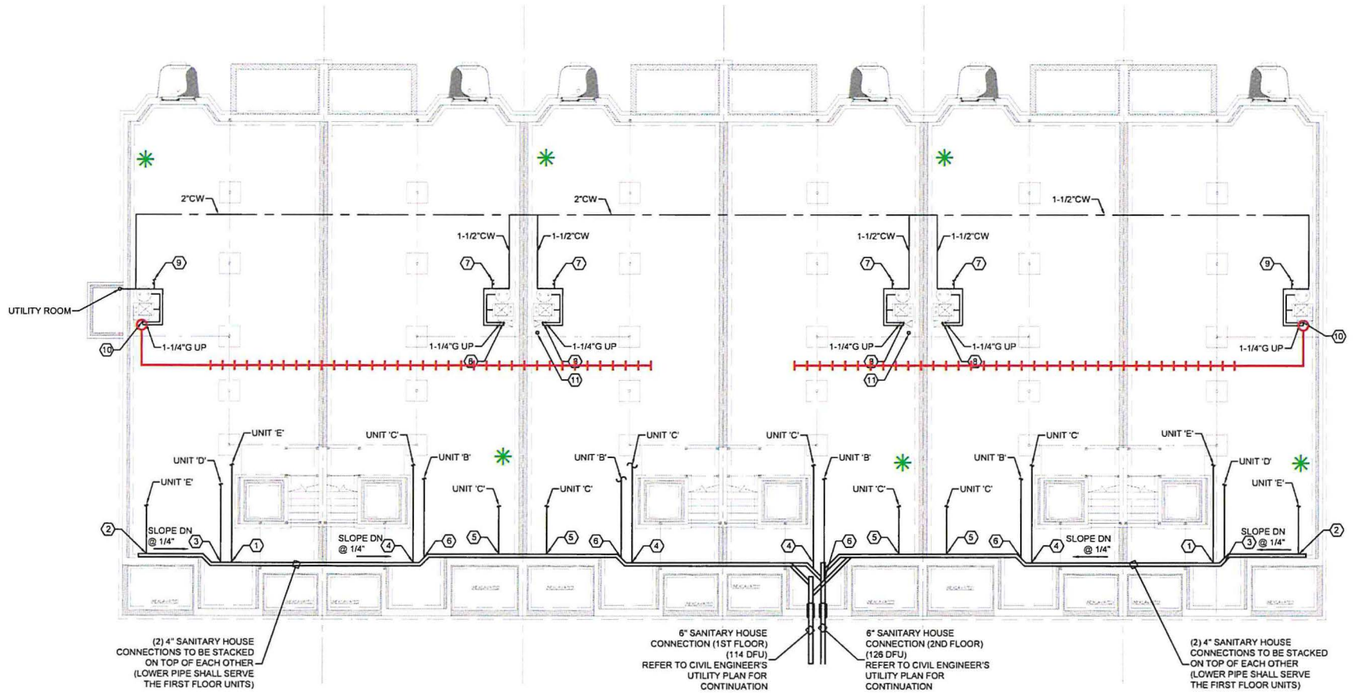
THE SEASONS AT EAST NORTHPORT
65 DALY ROAD

PROJECT NO: 977-22-106 (01)

DRAWING TITLE:

BUILDING 11 SSDS LAYOUT

DESIGN BY: FPM	DRAWING NO. A–111
DRAWN BY: –	
CHECK BY: CWS	
SCALE: AS NOTED	
DATE: –	SHEET 11 of X



NOTES:

1. REFER TO DRAWINGS P-103, P-104, P-105 & P-106 FOR PLUMBING UNIT LAYOUTS AND PIPE SIZES.
2. REFER TO P-301 & P-302 FOR CONTINUATION OF SANITARY PIPING AND SIZING.
3. REFER TO P-303 & P-304 FOR MORE DETAILING ON INCOMING WATER SERVICES.
4. REFER TO P-305 FOR MORE DETAILING AND CONTINUATION OF THE INCOMING GAS SERVICE AND GAS PIPING FOR UNIT PLANS.
5. THIS PLAN IS FOR REFERENCE ONLY TO DEPICT UNIT LOCATIONS AND UNIT TYPES.

KEY NOTES:

1. 4"S FROM UNIT 'E' (12 DFU) REFER TO DWG P-105
2. 4"S FROM UNIT 'E' (9 DFU) REFER TO DWG P-105
3. 4"S FROM UNIT 'D' (19 DFU) REFER TO DWG P-105
4. 4"S FROM UNIT 'C' (12 DFU) REFER TO DWG P-103
5. 4"S FROM UNIT 'C' (9 DFU) REFER TO DWG P-103
6. 4"S FROM UNIT 'B' (19 DFU) REFER TO DWG P-103
7. 1-1/4" CW TO UNIT 'B' REFER TO DWG P-103
8. 1-1/4" CW UP TO UNIT 'C' UTILITY ROOM IN ATTIC REFER TO DWG P-104.
9. 1-1/4" CW TO UNIT 'D' REFER TO DWG P-105.
10. 1-1/4" CW UP TO UNIT 'E' UTILITY ROOM IN ATTIC. REFER TO DWG P-106.
11. 4" PVC (SCHEDULE 40) SSDS VENT DN THRU SLAB AND UP THRU ROOF. REFER TO ENVIRONMENTAL ENGINEER'S DRAWINGS FOR ADDITIONAL INFORMATION.

LEGEND

- SSDS SLOTTED PIPE
- SSDS SOLID PIPE
- SSDS RISER TO ABOVE ROOF
- MONITORING POINT

0' 4' 8' 16'
APPROXIMATE SCALE

REFERENCE DRAWING No:
P-101

CONSULTANTS:

N&P
NELSON & POPE
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CLIENT:
ENGEL BURMAN

THE SEASONS
AT EAST NORTHPORT

3 INCHES WHEN PLOTTED TO SCALE

NO.	DATE	DESCRIPTION
–	–	–

DESIGN CONSULTANT:
FPM GROUP, LTD.
BOHEMIA, NEW YORK
640 JOHNSON AVENUE, SUITE 101
BOHEMIA, N.Y. 11716
631-737-6200

REFERENCE DRAWING TITLE:
BUILDING 12 BASEMENT PLUMBING PLAN

PROJECT TITLE AND LOCATION:
THE SEASONS AT EAST NORTHPORT
65 DALY ROAD

PROJECT NO:
977-22-106 (01)

DRAWING TITLE:
BUILDING 12
SSDS LAYOUT

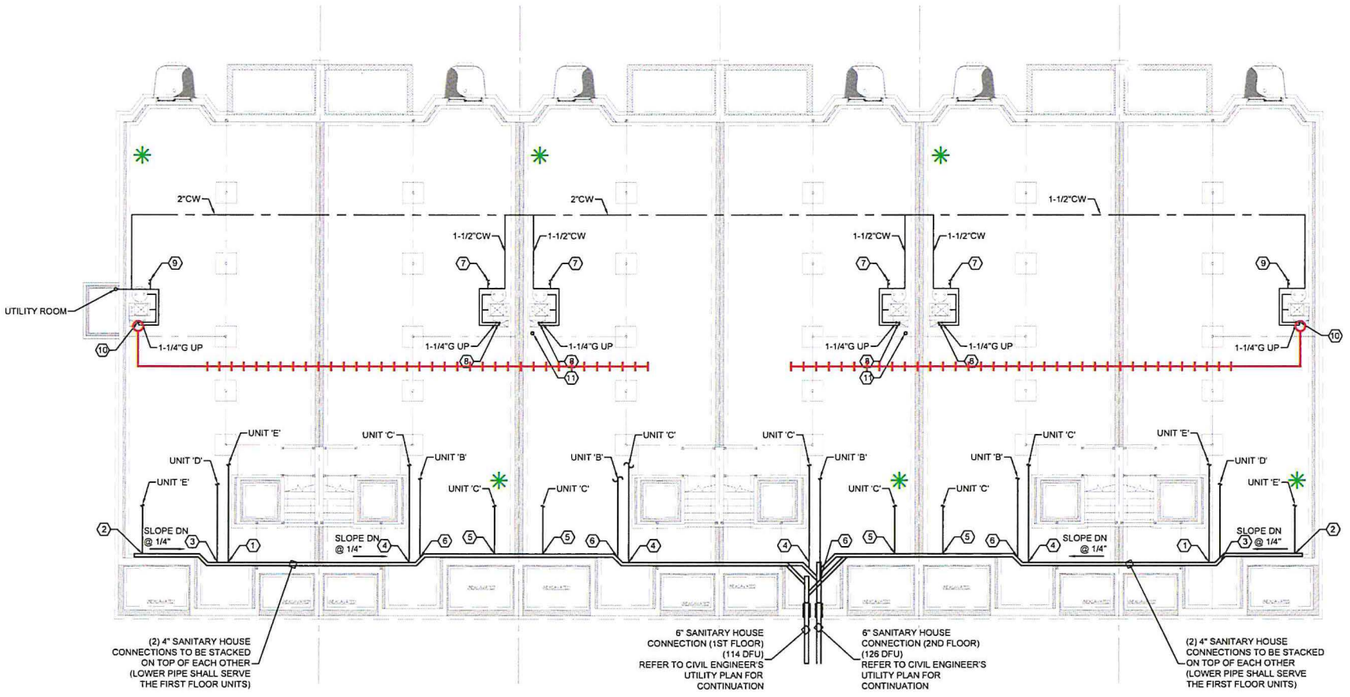
DESIGN BY: FPM	DRAWING NO.
DRAWN BY: –	A-112
CHECK BY: CMS	
SCALE: AS NOTED	
DATE: –	SHEET 12 of X

NOTES:

1. REFER TO DRAWINGS P-103. P-104, P-105 & P-106 FOR PLUMBING UNIT LAYOUTS AND PIPE SIZES.
2. REFER TO P-301 & P-302 FOR CONTINUATION OF SANITARY PIPING AND SIZING.
3. REFER TO P-303 & P-304 FOR MORE DETAILING ON INCOMING WATER SERVICES.
4. REFER TO P-305 FOR MORE DETAILING AND CONTINUATION OF THE INCOMING GAS SERVICE AND GAS PIPING FOR UNIT PLANS.
5. THIS PLAN IS FOR REFERENCE ONLY TO DEPICT UNIT LOCATIONS AND UNIT TYPES.

KEY NOTES:

1. 4"S FROM UNIT 'E' (12 DFU) REFER TO DWG P-105
2. 4"S FROM UNIT 'E' (9 DFU) REFER TO DWG P-105
3. 4"S FROM UNIT 'D' (19 DFU) REFER TO DWG P-105
4. 4"S FROM UNIT 'C' (12 DFU) REFER TO DWG P-103
5. 4"S FROM UNIT 'C' (9 DFU) REFER TO DWG P-103
6. 4"S FROM UNIT 'B' (19 DFU) REFER TO DWG P-103
7. 1-1/4" CW TO UNIT 'B' REFER TO DWG P-103
8. 1-1/4" CW UP TO UNIT 'C' UTILITY ROOM IN ATTIC REFER TO DWG P-104.
9. 1-1/4" CW TO UNIT 'D' REFER TO DWG P-105.
10. 1-1/4" CW UP TO UNIT 'E' UTILITY ROOM IN ATTIC, REFER TO DWG P-106.
11. 4" PVC (SCHEDULE 40) SSDS VENT DN THRU SLAB AND UP THRU ROOF. REFER TO ENVIRONMENTAL ENGINEER'S DRAWINGS FOR ADDITIONAL INFORMATION.



LEGEND

- SSDS SLOTTED PIPE
- SSDS SOLID PIPE
- SSDS RISER TO ABOVE ROOF
- MONITORING POINT

0' 4' 8' 16'
APPROXIMATE SCALE

REFERENCE DRAWING No: P-101

CONSULTANTS:

NELSON & POPE
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Fax: 631.750.2744
tangelengineering.com

CLIENT:
ENGEL BURMAN

THE SEASONS
AT EAST NORTHPORT

3 INCHES WHEN PLOTTED TO SCALE

NO.	DATE	DESCRIPTION
–	–	–

DESIGN CONSULTANT:
FPM GROUP, LTD.
BOHEMIA, NEW YORK
640 JOHNSON AVENUE, SUITE 101
BOHEMIA, N.Y. 11716
631-737-6200

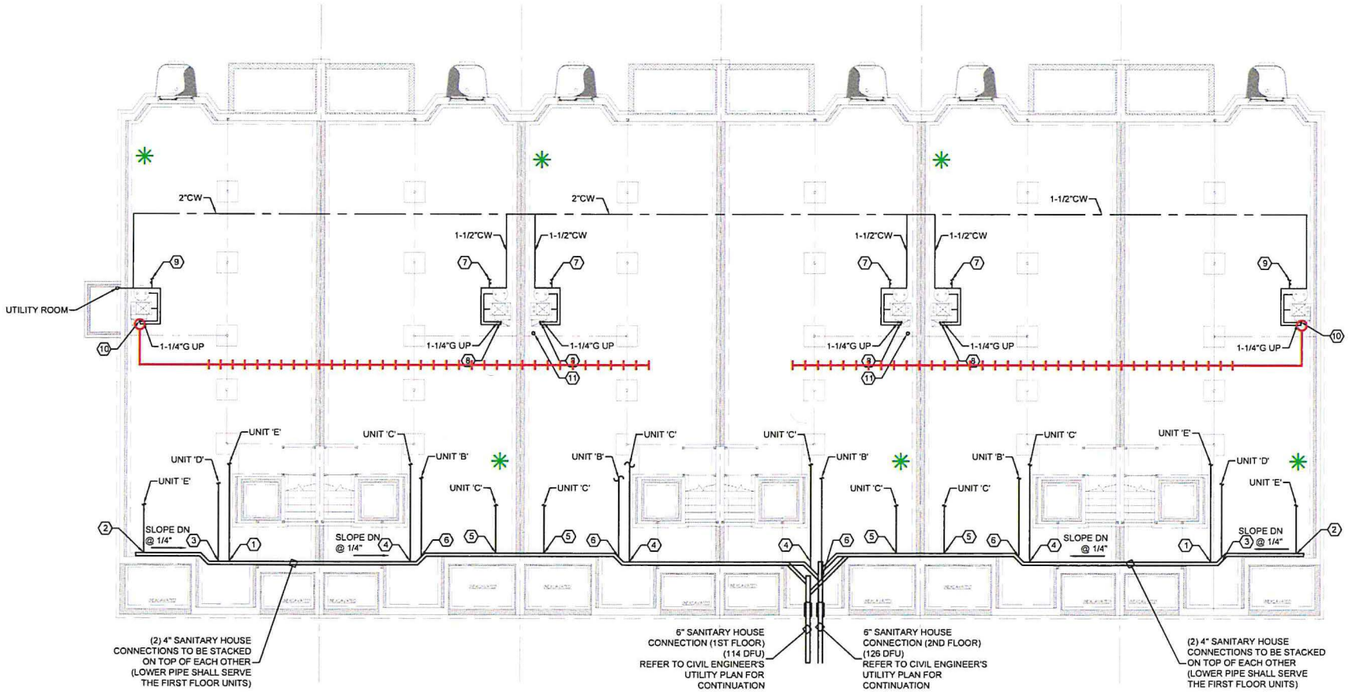
REFERENCE DRAWING TITLE:
BUILDING 13 BASEMENT PLUMBING PLAN

PROJECT TITLE AND LOCATION:
THE SEASONS AT EAST NORTHPORT
65 DALY ROAD

PROJECT NO: 977-22-106 (01)

DRAWING TITLE:
BUILDING 13 SSDS LAYOUT

DESIGN BY: FPM	DRAWING NO. A–113
DRAWN BY: –	
CHECK BY: CWS	
SCALE: AS NOTED	
DATE: –	SHEET 13 of X



NOTES:

1. REFER TO DRAWINGS P-103, P-104, P-105 & P-106 FOR PLUMBING UNIT LAYOUTS AND PIPE SIZES.
2. REFER TO P-301 & P-302 FOR CONTINUATION OF SANITARY PIPING AND SIZING.
3. REFER TO P-303 & P-304 FOR MORE DETAILING ON INCOMING WATER SERVICES.
4. REFER TO P-305 FOR MORE DETAILING AND CONTINUATION OF THE INCOMING GAS SERVICE AND GAS PIPING FOR UNIT PLANS.
5. THIS PLAN IS FOR REFERENCE ONLY TO DEPICT UNIT LOCATIONS AND UNIT TYPES.

KEY NOTES:

1. 4"S FROM UNIT 'E' (12 DFU) REFER TO DWG P-105
2. 4"S FROM UNIT 'E' (9 DFU) REFER TO DWG P-105
3. 4"S FROM UNIT 'D' (19 DFU) REFER TO DWG P-105
4. 4"S FROM UNIT 'C' (12 DFU) REFER TO DWG P-103
5. 4"S FROM UNIT 'C' (9 DFU) REFER TO DWG P-103
6. 4"S FROM UNIT 'B' (19 DFU) REFER TO DWG P-103
7. 1-1/4" CW TO UNIT 'B' REFER TO DWG P-103
8. 1-1/4" CW UP TO UNIT 'C' UTILITY ROOM IN ATTIC REFER TO DWG P-104.
9. 1-1/4" CW TO UNIT 'D' REFER TO DWG P-105.
10. 1-1/4" CW UP TO UNIT 'E' UTILITY ROOM IN ATTIC, REFER TO DWG P-106.
11. 4" PVC (SCHEDULE 40) SSDS VENT DN THRU SLAB AND UP THRU ROOF. REFER TO ENVIRONMENTAL ENGINEER'S DRAWINGS FOR ADDITIONAL INFORMATION.

LEGEND

- SSDS SLOTTED PIPE
- SSDS SOLID PIPE
- SSDS RISER TO ABOVE ROOF
- MONITORING POINT

0' 4' 8' 16'
APPROXIMATE SCALE

REFERENCE DRAWING No: P-101

CONSULTANTS:

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ENGINEERS & SURVEYORS
572 WALT WHITMAN ROAD, MELVILLE, N.Y. 11747
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Consulting Engineers
285 Middle Country Road, Suite 208
Smithtown, NY 11787
Phone: 631.750.2800
Fax: 631.750.2744
tangelengineering.com

CLIENT:
ENGEL BURMAN

THE SEASONS
AT EAST NORTHPORT

3 INCHES WHEN PLOTTED TO SCALE

NO.	DATE	DESCRIPTION
–	–	–

DESIGN CONSULTANT:
FPM GROUP, LTD.
BOHEMIA, NEW YORK
640 JOHNSON AVENUE, SUITE 101
BOHEMIA, N.Y. 11716
631-737-6200

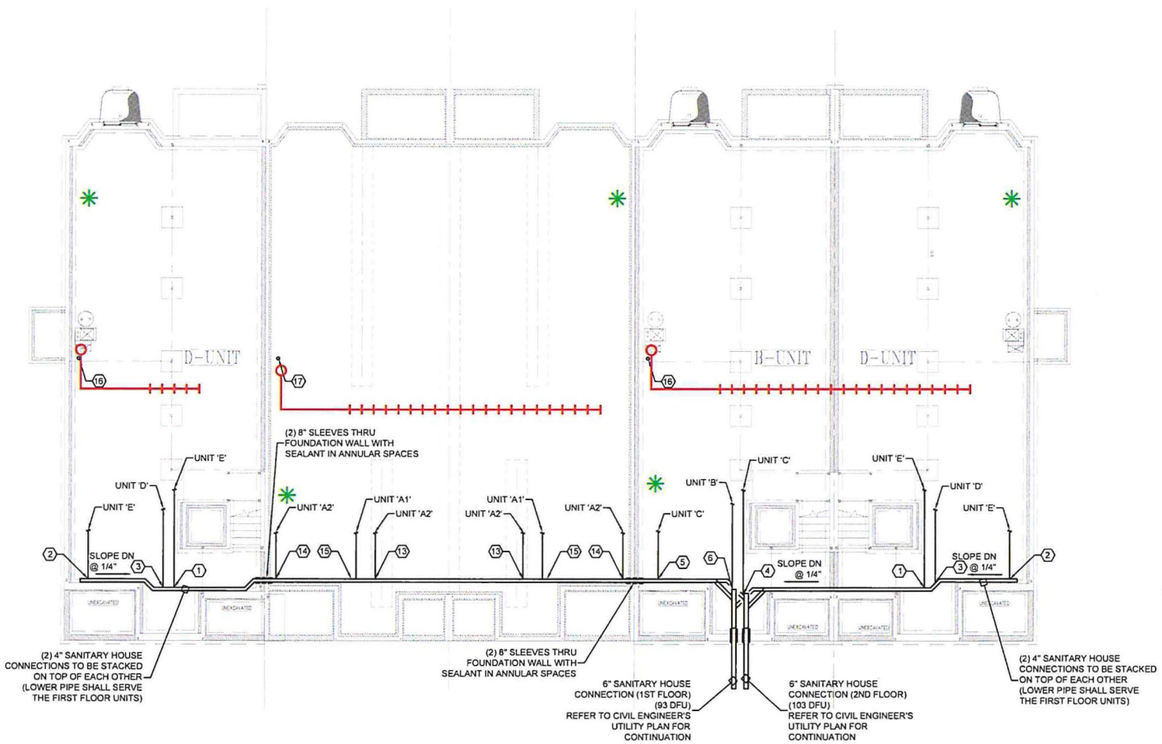
REFERENCE DRAWING TITLE:
BUILDING 14 BASEMENT PLUMBING PLAN

PROJECT TITLE AND LOCATION:
THE SEASONS AT EAST NORTHPORT
65 DALY ROAD

PROJECT NO: 977-22-106 (01)

DRAWING TITLE:
BUILDING 14 SSDS LAYOUT

DESIGN BY: FPM	DRAWING NO. A-114
DRAWN BY: –	
CHECK BY: CWS	
SCALE: AS NOTED	
DATE: –	SHEET 14 of X



NOTES:

1. REFER TO DRAWINGS P-103 THROUGH P-108 FOR PLUMBING UNIT LAYOUTS AND PIPE SIZES.
2. REFER TO P-301, P-302 & P-303 FOR CONTINUATION OF SANITARY PIPING AND SIZING.
3. REFER TO P-304, P-305 & P-306 FOR MORE DETAILING ON WATER SERVICES AND CW/HW PIPING FOR UNITS.
4. REFER TO P-307 FOR MORE GAS RISER DIAGRAM AND DETAILING.
5. THIS PLAN IS FOR REFERENCE ONLY TO DEPICT UNIT LOCATIONS AND UNIT TYPES.

KEY NOTES:

1. 4"S FROM UNIT 'E' (12 DFU) REFER TO DWG P-107
2. 4"S FROM UNIT 'E' (9 DFU) REFER TO DWG P-107
3. 4"S FROM UNIT 'D' (19 DFU) REFER TO DWG P-107
4. 4"S FROM UNIT 'C' (12 DFU) REFER TO DWG P-105
5. 4"S FROM UNIT 'C' (9 DFU) REFER TO DWG P-105
6. 4"S FROM UNIT 'B' (19 DFU) REFER TO DWG P-105
7. 1-1/4" CW TO UNIT 'B' REFER TO DWG P-105
8. 1-1/4" CW TO UNIT 'C' UTILITY ROOM IN ATTIC REFER TO DWG P-106.
9. 1-1/4" CW TO UNIT 'D' REFER TO DWG P-107.
10. 1-1/4" CW TO UNIT 'E' UTILITY ROOM IN ATTIC, REFER TO DWG P-108.
11. 1-1/4" CW TO UNIT 'A1' UTILITY ROOM REFER TO P-103.
12. 1-1/4" CW TO UNIT 'A2' UTILITY ROOM. REFER TO P-104
13. 4"S FROM UNIT 'A2' (12 DFU), REFER TO DWG P-103
14. 4"S FROM UNIT 'A2' (8 DFU), REFER TO DWG P-103
15. 4"S FROM UNIT 'A1' (18 DFU), REFER TO DWG P-103
16. 4" PVC (SCHEDULE 40) SSDS VENT DN THRU SLAB AND UP THRU ROOF. REFER TO ENVIRONMENTAL ENGINEER'S DRAWINGS FOR ADDITIONAL INFORMATION.
17. 4" PVC (SCHEDULE 40) SSDS VENT UP THRU FLOOR SLAB AND UP THRU ROOF. REFER TO ENVIRONMENTAL ENGINEER'S DRAWINGS FOR ADDITIONAL INFORMATION.

LEGEND

- SSDS SLOTTED PIPE
- SSDS SOLID PIPE
- SSDS RISER TO ABOVE ROOF
- MONITORING POINT

0' 4' 8' 16'
APPROXIMATE SCALE

REFERENCE DRAWING No:
P-101

CONSULTANTS:

N&P
NELSON & POPE
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Smithtown, NY 11787
Phone: 631.750.2800
Fax: 631.750.2744
tangelengineering.com

CLIENT:
ENGEL BURMAN

THE SEASONS
AT EAST NORTHPORT

3 INCHES WHEN PLOTTED TO SCALE

NO.	DATE	DESCRIPTION
-	-	-

DESIGN CONSULTANT:
FPM GROUP, LTD.
BOHEMIA, NEW YORK
640 JOHNSON AVENUE, SUITE 101
BOHEMIA, N.Y. 11716
631-737-6200

REFERENCE DRAWING TITLE:
BUILDING 15 BASEMENT FLOOR PLUMBING PLAN

PROJECT TITLE AND LOCATION:
THE SEASONS AT EAST NORTHPORT
65 DALY ROAD

PROJECT NO:
977-22-106 (01)

DRAWING TITLE:
BUILDING 15
SSDS LAYOUT

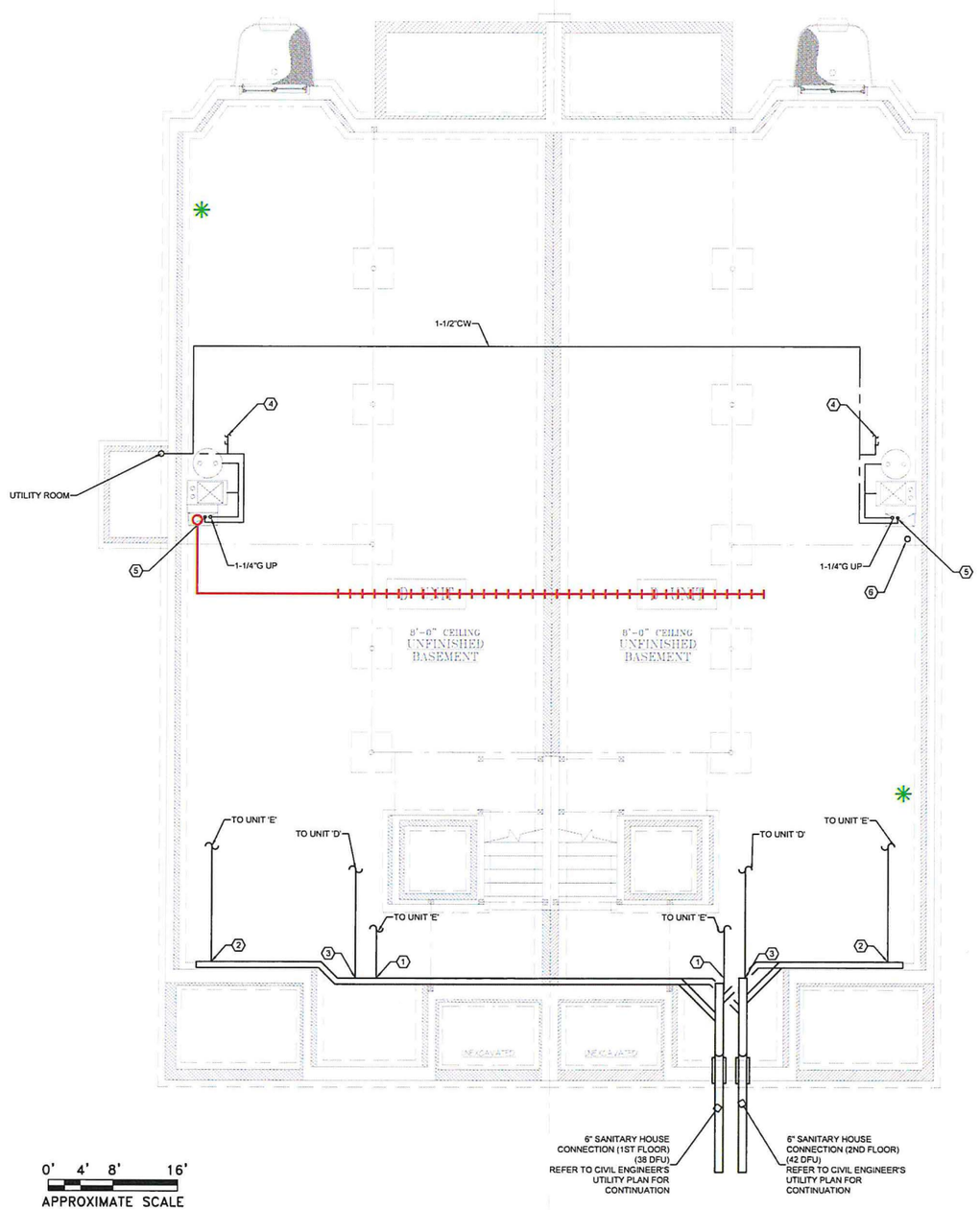
DESIGN BY: FPM	DRAWING NO.
DRAWN BY: -	A-115
CHECK BY: CMS	
SCALE: AS NOTED	
DATE: -	SHEET 15 of X

NOTES:

1. REFER TO DRAWINGS P-103 & P-104 FOR PLUMBING UNIT LAYOUTS AND PIPE SIZES.
2. REFER TO P-301 FOR CONTINUATION OF SANITARY PIPING AND SIZING.
3. REFER TO P-302 FOR MORE DETAILING ON INCOMING WATER SERVICES.
4. REFER TO P-303 FOR MORE DETAILING AND CONTINUATION OF THE INCOMING GAS SERVICE AND GAS PIPING FOR UNIT PLANS.
5. THIS PLAN IS FOR REFERENCE ONLY TO DEPICT UNIT LOCATIONS AND UNIT TYPES.

KEY NOTES:

1. 4"S FROM UNIT 'E' (12 DFU) REFER TO DWG P-105
2. 4"S FROM UNIT 'E' (9 DFU) REFER TO DWG P-105
3. 4"S FROM UNIT 'D' (19 DFU) REFER TO DWG P-105
4. 1-1/4" CW TO UNIT 'D' REFER TO DWG P-105.
5. 1-1/4" CW UP TO UNIT 'E' UTILITY ROOM IN ATTIC, REFER TO DWG P-106.
6. 4" PVC (SCHEDULE 40) SSDS VENT ON THRU SLAB AND UP THRU ROOF. REFER TO ENVIRONMENTAL ENGINEER'S DRAWINGS FOR ADDITIONAL INFORMATION.



LEGEND

- SSDS SLOTTED PIPE
- SSDS SOLID PIPE
- SSDS RISER TO ABOVE ROOF
- MONITORING POINT

0' 4' 8' 16'
APPROXIMATE SCALE

REFERENCE DRAWING No:
P-101

CONSULTANTS:

N&P
NELSON & POPE
ENGINEERS & SURVEYORS
572 WALT WHITMAN ROAD, MELVILLE, N.Y. 11747
PHONE (631) 427-5665 FAX (631) 427-5620
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Fax: 631.750.2744
tangelengineering.com

CLIENT:

ENGEL BURMAN

THE SEASONS
AT EAST NORTHPORT

3 INCHES WHEN PLOTTED TO SCALE

NO.	DATE	DESCRIPTION
–	–	–

DESIGN CONSULTANT:

FPM GROUP, LTD.
BOHEMIA, NEW YORK
640 JOHNSON AVENUE, SUITE 101
BOHEMIA, N.Y. 11716
631-737-6200

REFERENCE DRAWING TITLE:

BUILDING 16
BASEMENT PLUMBING PLAN

PROJECT TITLE AND LOCATION:

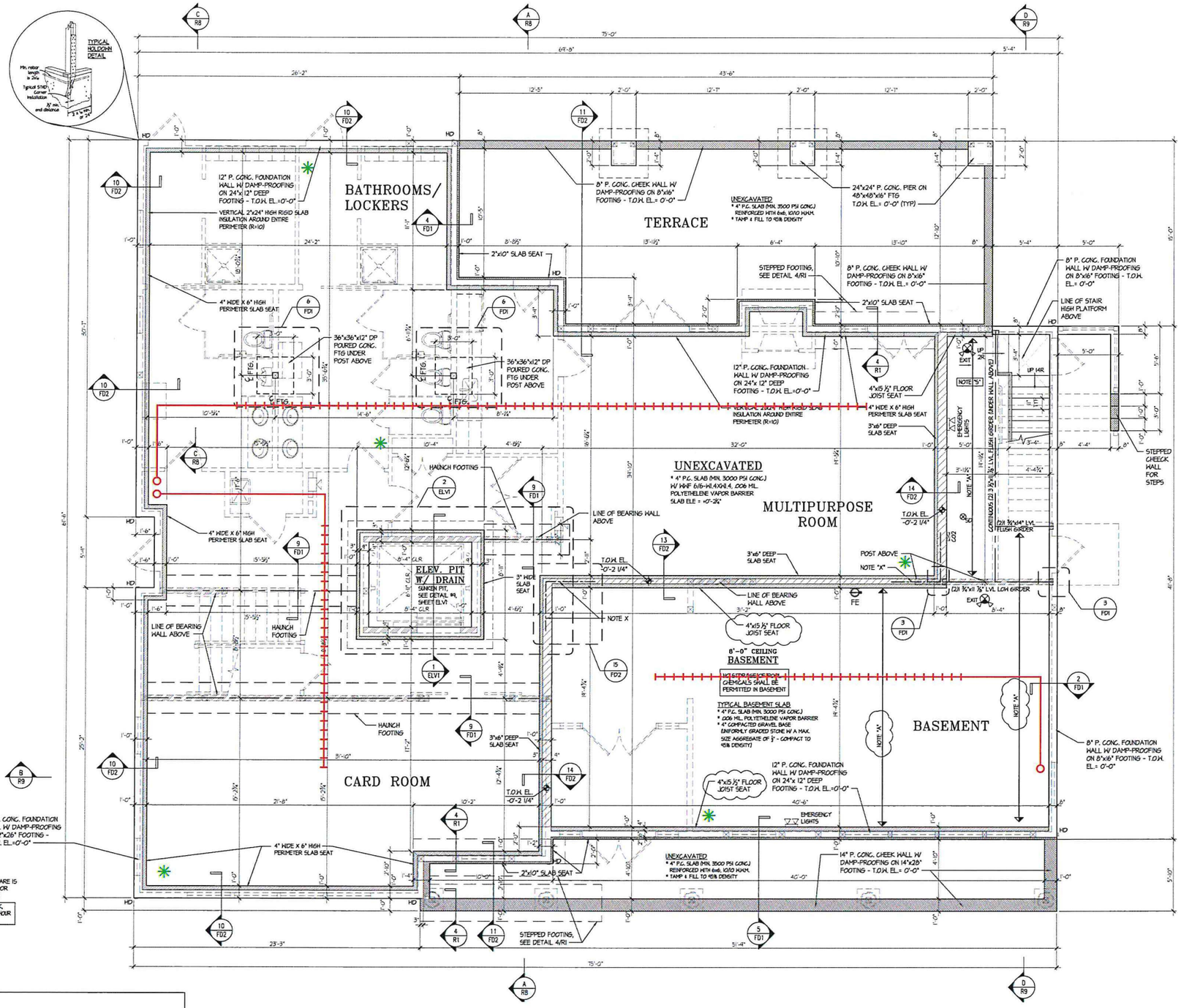
THE SEASONS AT
EAST NORTHPORT
65 DALY ROAD

PROJECT NO:
977-22-106 (01)

DRAWING TITLE:

BUILDING 16
SSDS LAYOUT

DESIGN BY: FPM	DRAWING NO. A–116
DRAWN BY: –	
CHECK BY: CMS	
SCALE: AS NOTED	
DATE: –	SHEET 16 of X



FOUNDATION PLAN
SCALE: 1/4" = 1'-0" BASEMENT AREA= 574 SQ. FT.

COMMUNITY BUILDING

REFERENCE DRAWING No:
R4

CONSULTANTS:

N&P
NELSON & POPE
ENGINEERS & SURVEYORS
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CLIENT:

ENGEL BURMAN

THE SEASONS AT EAST NORTHPORT

3 INCHES WHEN PLOTTED TO SCALE

NO.	DATE	DESCRIPTION
-	-	-

DESIGN CONSULTANT:

FPM GROUP, LTD.
BOHEMIA, NEW YORK
640 JOHNSON AVENUE, SUITE 101
BOHEMIA, N.Y. 11716
631-737-6200

REFERENCE DRAWING TITLE:

FOUNDATION PLAN

PROJECT TITLE AND LOCATION:

THE SEASONS AT EAST NORTHPORT
65 DALY ROAD

PROJECT NO:
977-22-106 (01)

DRAWING TITLE:

COMMUNITY BUILDING SSDS LAYOUT

DESIGN BY: FPM	DRAWING NO.
DRAWN BY: -	A-117
CHECK BY: CMS	
SCALE: AS NOTED	
DATE: -	SHEET 17 of X

APPENDIX B

EQUIPMENT AND MATERIALS SPECIFICATIONS

This Appendix includes information concerning the proposed materials and equipment for SVI mitigation.

April 18, 2022

Stephanie Davis
Senior Project Manager/VP-FPM Group
640 Johnson Avenue, Suite 101
Bohemia, NY 11716

Project: 65 Daly Road, East Northport, NY 11731

Ms. Davis,

This letter is to confirm that our Blueskin PreSeal 435 and all system accessories will function as an underslab soil vapor retarder system to the contaminant types and levels being reported for the above referenced project site. Henry Company's technical department has reviewed the Soil Vapor Sampling Plan prepared by FPM Group dated May 1st, 2019 and the information contained within as well as our understanding an SSDS system will also be utilized as part of the overall vapor mitigation design were used to make the above judgement.

Blueskin PreSeal 435 is a composite membrane consisting of 42 mils of polypropylene with a thermally laminated adhesively treated geotextile designed to function as a best in class pre-applied waterproofing and vapor barrier system that can resist hydrostatic head pressures in excess of 231 feet. As its primary function is used as a below grade foundation waterproofing membrane many of the material standards the system is tested to, as well as product thickness, will exceed the requirements for plastic sheet vapor retarders. Additional benefits of using Blueskin PreSeal over traditional vapor retarders is that PreSeal becomes fully bonded to the concrete after placement and has factory applied self-adhesive laps. Henry company confirms that Blueskin PreSeal 435 will meet and exceed the performance requirements in ASTM E1745 and function as a Class A Vapor Retarder. Please see the comparison below but note some material test methods differ and results may not be directly correlated. ASTM E1745 is also specific to water vapor and Henry Company's contamination review is specific to site conditions and based on internal and third-party testing, historical use, and published data on polypropylene itself.

	ASTM E1745 Table 1- Class A	**Blueskin PreSeal 435**
Water Vapor Permeance- ASTM E96	0.1 perms	.01 perms
Tensile Strength	45 lbf/in (ASTM E154)	2400 lb/in^2 (ASTM D412)
Puncture Resistance	2200 g (ASTM D1709)	225 lb/in^2 (ASTM E154)

Sincerely,

Jordan Merritt
Regional Sales Manager-Below Grade Waterproofing
jmerritt@henry.com

enc: PRI Third Party Test Reports- Henry Blueskin PreSeal

PRI Construction Materials Technologies LLC

6412 Badger Drive
Tampa, FL 33610
813.621.5777
https://www.pri-group.com/

Laboratory Test Report

Report for:	Thomas Tepe Henry Company 336 Cold Stream Road Kimberton, PA 19442
Product Name:	Henry Blueskin PreSeal 320
Project No.:	447T0019, 447T0029
Date(s) Tested:	September 7, 2020 – September 22, 2020
Test Method(s):	ASTM D5385-93(2014)e1 ASTM E154/E154M – 08a(2019)
Results Summary:	Hydrostatic Pressure Resistance (ASTM D5385): 223ft of water (97psi) Puncture Resistance (ASTM E154): 114lbf

Purpose:

Evaluate the resistance to hydrostatic pressure of the identified product in accordance with ASTM D5385: *Standard Test Method for Hydrostatic Pressure Resistance of Waterproofing Membranes*.

Evaluate the resistance to puncture of the identified product in accordance with ASTM E154 / E154M – 08a(3019): *Standard Test Methods for Water Vapor Retarders Used in Contact with Earth Under Concrete Slabs, on Walls, or as Ground Cover, Section 10.*

Test Methods:

Testing for hydrostatic resistance was conducted in accordance with ASTM D 5385/D 5385M - 93(2014)e1 *Standard Test Method for Hydrostatic Pressure Resistance of Waterproofing Membranes*. Test specimens were constructed as described herein and tested in one hour durations at 15psi increments. The specimens for testing were constructed by casting plastic concrete to the prepared, lapped membrane. Specimens were allowed to cure for 28 days prior to testing.

Testing for resistance to puncture was conducted in accordance with ASTM E154 / E154M – 08a(3019): *Standard Test Methods for Water Vapor Retarders Used in Contact with Earth Under Concrete Slabs, on Walls, or as Ground Cover, Section 10.*

Sampling:

The following materials were received by PRI.

Product	Source	Date	Sampling
Henry Blueskin PreSeal 320	Kimberton, PA	August 3, 2020	Henry Company

Property	Test Method	Requirement					
Physical Properties – As Received							
Hydrostatic Pressure Resistance, max (psi) 3 specimens; 16in x 8in; Cast in place concrete; Test @ 73.4±3.6°F & 50±5%RH; 15psi increments held for 1 hr each	ASTM D5385	1	2	3	**Avg.**	St.Dev.	
	Resistance (psi)	100	90	100	97	6	Report
	Resistance (Ft of water)	231	208	231	223	13	Report
	Thickness (in)	0.030	0.030	0.030	0.030	--	Report
Resistance to Puncture (lbf) 3 specimens; 10in x 10in; 6in x 6in central opening; Test @ 73.4±3.6°F & 50±5%RH; Steel cylinder with 1in diameter; Rate = ¼in/min	ASTM E154 Section 10	1	2	3	**Avg.**	St.Dev.	
	Load (lbf)	110	121	110	114	6	Report
	Deflection (in)	1.3	1.7	1.1	1.4	0.3	Report

Notes: None.

Statement of Attestation: The resistance to hydrostatic pressure of the product was evaluated in accordance with ASTM D 5385: *Standard Test Method for Hydrostatic Pressure Resistance of Waterproofing Membranes*. The resistance to puncture of the product was evaluated in accordance with ASTM E154: *Standard Test Methods for Water Vapor Retarders Used in Contact with Earth Under Concrete Slabs, on Walls, or as Ground Cover, Section 10.* The laboratory test results presented in this report are representative of the material supplied.

Signed: 

Jason Simmons
Director

Date: March 15, 2021

Report Issue History:

Issue #	Date	Pages	Revision Description (if applicable)
Original	09/24/2020	2	NA
Revision	09/28/2020	2	Added resistance to puncture data
Revision	03/15/2021	2	Additional Product ID

END OF REPORT

447T0019.2

PRI Construction Materials Technologies LLC

6412 Badger Drive
Tampa, FL 33610
813.621.5777
https://www.pri-group.com/

Laboratory Test Report

Report for:	Tomas Tepe Henry Company 336 Cold Stream Road Kimberton, PA 19442
Product Name:	Henry Blueskin PreSeal 435
Project No.:	447T0021, 447T0029
Date(s) Tested:	September 7, 2020 – September 22, 2020
Test Method(s):	ASTM D5385-93(2014)e1 ASTM E154/E154M – 08a(2019)
Results Summary:	Hydrostatic Pressure Resistance (ASTM D5385): 231ft of water (100psi) Puncture Resistance (ASTM E154): 227lbf

Purpose:

Evaluate the resistance to hydrostatic pressure of the identified product in accordance with ASTM D5385: *Standard Test Method for Hydrostatic Pressure Resistance of Waterproofing Membranes*.

Evaluate the resistance to puncture of the identified product in accordance with ASTM E154 / E154M – 08a(3019): *Standard Test Methods for Water Vapor Retarders Used in Contact with Earth Under Concrete Slabs, on Walls, or as Ground Cover, Section 10.*

Test Methods:

Testing for hydrostatic resistance was conducted in accordance with ASTM D 5385/D 5385M - 93(2014)e1 *Standard Test Method for Hydrostatic Pressure Resistance of Waterproofing Membranes*. Test specimens were constructed as described herein and tested in one hour durations at 15psi increments. The specimens for testing were constructed by casting plastic concrete to the prepared, lapped membrane. Specimens were allowed to cure for 28 days prior to testing.

Testing for resistance to puncture was conducted in accordance with ASTM E154 / E154M – 08a(3019): *Standard Test Methods for Water Vapor Retarders Used in Contact with Earth Under Concrete Slabs, on Walls, or as Ground Cover, Section 10.*

Sampling:

The following materials were received by PRI.

Product	Source	Date	Sampling
Henry Blueskin PreSeal 435	Kimberton, PA	August 3, 2020	Henry Company

Property	Test Method	Requirement					
Physical Properties – As Received							
Hydrostatic Pressure Resistance, max (psi) 3 specimens; 16in x 8in; Cast in place concrete; Test @ 73.4±3.6°F & 50±5%RH; 15psi increments held for 1 hr each	ASTM D5385	1	2	3	**Avg.**	St.Dev.	
	Resistance (psi)	100	100	100	100	--	Report
	Resistance (Ft of water)	231	231	231	231	--	Report
	Thickness (in)	0.042	0.042	0.042	0.042	--	Report
Resistance to Puncture (lbf) 3 specimens; 10in x 10in; 6in x 6in central opening; Test @ 73.4±3.6°F & 50±5%RH; Steel cylinder with 1in diameter; Rate = ¼in/min	ASTM E154 Section 10	1	2	3	**Avg.**	St.Dev.	
	Load (lbf)	227	223	230	227	3	Report
	Deflection (in)	2.0	1.9	2.1	2.0	0.1	Report

Notes: None.

Statement of Attestation: The resistance to hydrostatic pressure of the product was evaluated in accordance with ASTM D 5385: *Standard Test Method for Hydrostatic Pressure Resistance of Waterproofing Membranes*. The resistance to puncture of the product was evaluated in accordance with ASTM E154: *Standard Test Methods for Water Vapor Retarders Used in Contact with Earth Under Concrete Slabs, on Walls, or as Ground Cover, Section 10.* The laboratory test results presented in this report are representative of the material supplied.

Signed: _____

Jason Simmons
Director

Date: March 15, 2021

Report Issue History:

Issue #	Date	Pages	Revision Description (if applicable)
Original	09/28/2020	2	NA
Revision	03/15/2021	2	Alternate Product ID

END OF REPORT

447T0021.1

PRI Construction Materials Technologies LLC

6412 Badger Drive
Tampa, FL 33610
813.621.5777
https://www.pri-group.com/

Laboratory Test Report

Report for:	Thomas Tepe Henry Company 336 Cold Stream Road Kimberton, PA 19442
Product(s):	Henry Blueskin PreSeal 320
Project No.:	447T0031
Dates Tested:	November 12, 2020
Test Method(s):	Henry Company's proprietary method for Lateral Water Migration ("LWM") utilizing and modifying ASTM D5385: *Standard Test Method for Hydrostatic Pressure Resistance of Waterproofing Membranes.*

Purpose:

Lateral Water Migration was evaluated in accordance with Henry Company's proprietary method for Lateral Water Migration ("LWM") utilizing and modifying ASTM D5385: *Standard Test Method for Hydrostatic Pressure Resistance of Waterproofing Membranes*.

Test Methods:

Specimens were prepared by excising nominal 8" by 16" x 7-1/2" sections of membranes. The membrane sections were placed into forms and 6" thick concrete (6" slump) was cast onto each specimen. A "pressure release port" was placed into the form prior to filling the forms with the plastic concrete. The specimens were cured in the forms for 28 days at 73±4°F and 50±10%RH. The forms were then stripped, and a 2" diameter "rupture" was excised from the center of the membrane to expose the concrete. The distance between the pressure release port and the rupture was set at 2" for every specimen that was tested.

Specimens were placed into the apparatus as prescribed in ASTM D5385: *Standard Test Method for Hydrostatic Pressure Resistance of Waterproofing Membranes.* Testing was conducted in accordance with ASTM D5385. Water was placed into the test chamber and sealed. Pressure was introduced to the test chamber at an initial pressure of 15psi and held for a period of 1 hour. After one hour of dwell time, the test pressure was increased in increments of 15psi to the point where failure was observed via the presence of water in the pressure release port or at the point where the maximum test pressure of 100psi was reached.

Sampling: The following materials were independently sourced by PRI.

Product	**Origin**	**Date**
Henry Blueskin PreSeal 320	Kimberton, PA	Oct. 6, 2020

Results:

Table 1 – Results for Lateral Water Migration

Property	Test Method	Highest Pressure with No Observed Lateral Water Migration
Lateral Water Migration, (psi) 8in x 16in x 6in specimen; 3 specimens Cast to Min. 3,000psi concrete; Cure 28d at 23±2°C & 50±10%RH; Test Condition 23±2°C;	Henry Company "LWM"	
Henry Blueskin PreSeal 320 Specimen 1		**100psi[1]**
Henry Blueskin PreSeal 320 Specimen 2		**100psi[1]**
Henry Blueskin PreSeal 320 Specimen 3		**100psi[1]**

Note(s): 1) No lateral water migration observed; 690kPa is the limit of the apparatus

Statement of Attestation: The susceptibility to lateral water migration was evaluated in accordance with Henry Company's proprietary method for Lateral Water Migration ("LWM") utilizing and modifying ASTM D5385: *Standard Test Method for Hydrostatic Pressure Resistance of Waterproofing Membranes*.

Signed: _____

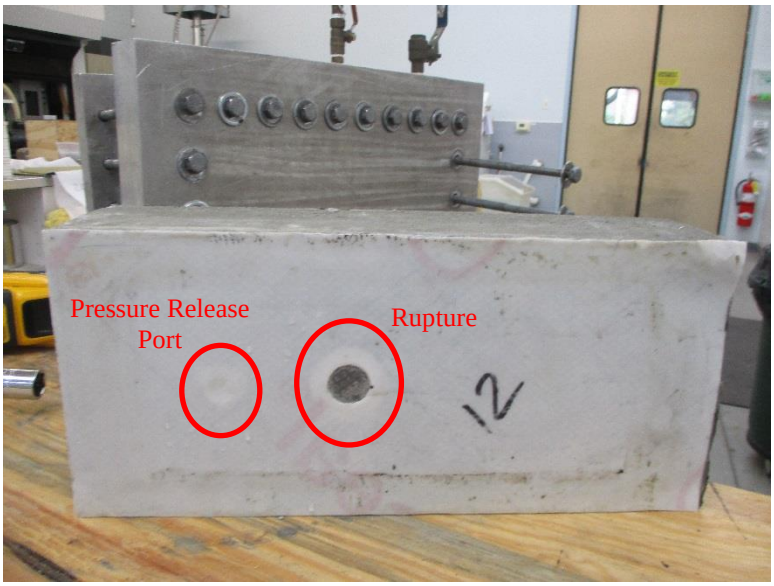
Jason Simmons
Director

Report Issue History:

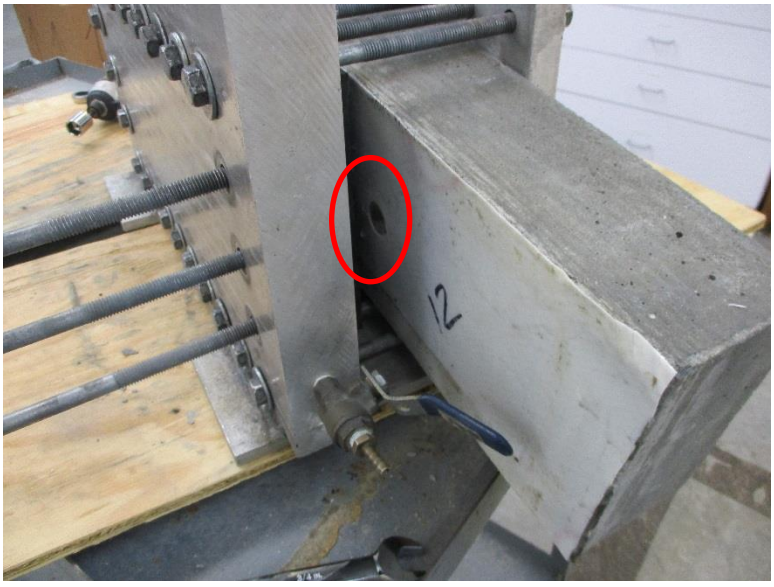
Issue #	Date	Pages	Revision Description (if applicable)
Original	11/24/2020	4	NA
Revision	03/15/2021	4	Additional Product ID

APPENDIX ATTACHED

Appendix A: Representative Photographs:

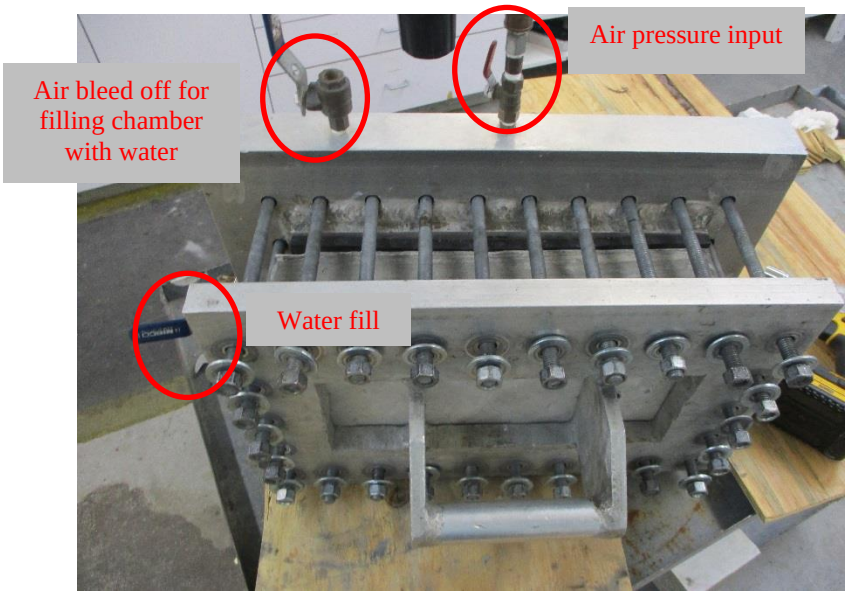


Typical prepared specimen

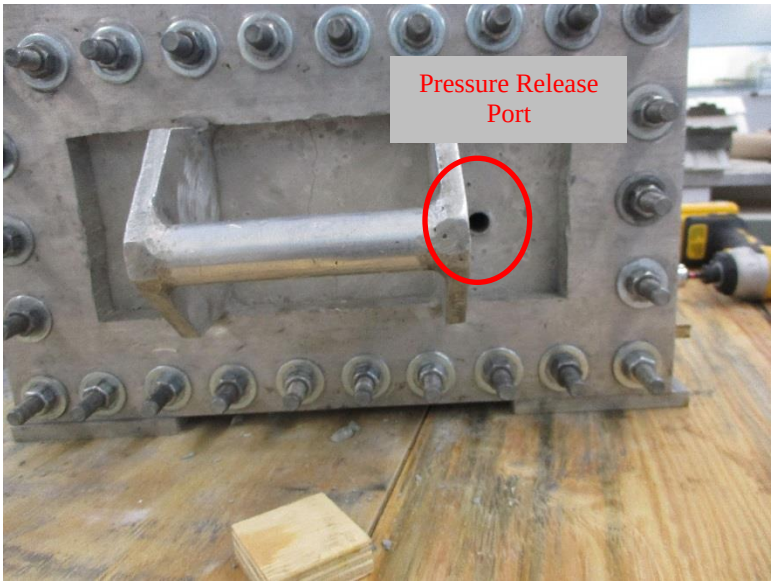


Typical loading of the specimen into the apparatus
Note: the "rupture" is exposed to the water in the chamber

PRI Construction Materials Technologies LLC 6408 Badger Drive Tampa, FL 33610 Tel: 813-621-5777 Fax: 813-621-5840 e-mail: materialstesting@pricmt.com WebSite: http://www.pricmt.com



Typical loaded specimen – prior to tightening bolts



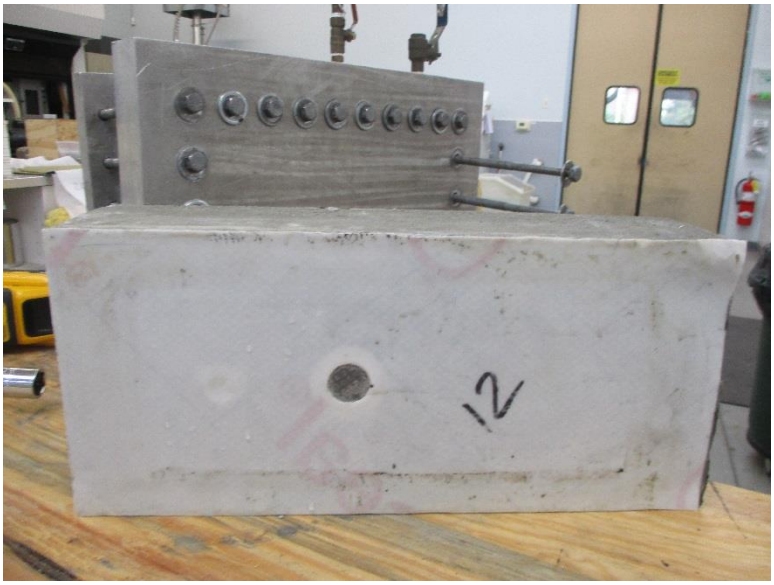
Typical loaded specimen – pressure release port visible

PRI Construction Materials Technologies LLC 6408 Badger Drive Tampa, FL 33610 Tel: 813-621-5777 Fax: 813-621-5840 e-mail: materialstesting@pricmt.com WebSite: http://www.pricmt.com

Typical loaded specimen – filling chamber with water

Typical loaded specimen – testing in progress

Typical read of air pressure during test



Typical tested specimen

END OF REPORT

447T0031.1

PRI Construction Materials Technologies LLC

6412 Badger Drive
Tampa, FL 33610
813.621.5777
https://www.pri-group.com/

Laboratory Test Report

Report for:	Thomas Tepe Henry Company 336 Cold Stream Road Kimberton, PA 19442
Product(s):	Henry Blueskin PreSeal 435
Project No.:	447T0032
Dates Tested:	November 12, 2020
Test Method(s):	Henry Company's proprietary method for Lateral Water Migration ("LWM") utilizing and modifying ASTM D5385: *Standard Test Method for Hydrostatic Pressure Resistance of Waterproofing Membranes.*

Purpose:

Lateral Water Migration was evaluated in accordance with Henry Company's proprietary method for Lateral Water Migration ("LWM") utilizing and modifying ASTM D5385: *Standard Test Method for Hydrostatic Pressure Resistance of Waterproofing Membranes*.

Test Methods:

Specimens were prepared by excising nominal 8" by 16" x 7-1/2" sections of membranes. The membrane sections were placed into forms and 6" thick concrete (6" slump) was cast onto each specimen. A "pressure release port" was placed into the form prior to filling the forms with the plastic concrete. The specimens were cured in the forms for 28 days at 73±4°F and 50±10%RH. The forms were then stripped, and a 2" diameter "rupture" was excised from the center of the membrane to expose the concrete. The distance between the pressure release port and the rupture was set at 2" for every specimen that was tested.

Specimens were placed into the apparatus as prescribed in ASTM D5385: *Standard Test Method for Hydrostatic Pressure Resistance of Waterproofing Membranes.* Testing was conducted in accordance with ASTM D5385. Water was placed into the test chamber and sealed. Pressure was introduced to the test chamber at an initial pressure of 15psi and held for a period of 1 hour. After one hour of dwell time, the test pressure was increased in increments of 15psi to the point where failure was observed via the presence of water in the pressure release port or at the point where the maximum test pressure of 100psi was reached.

Sampling: The following materials were independently sourced by PRI.

Product	Origin	Date
Henry Blueskin PreSeal 435	Kimberton, PA	Oct. 6, 2020

Results:

Table 1 – Results for Lateral Water Migration

Property	Test Method	Highest Pressure with No Observed Lateral Water Migration
Lateral Water Migration, (psi) 8in x 16in x 6in specimen; 3 specimens Cast to Min. 3,000psi concrete; Cure 28d at 23±2°C & 50±10%RH; Test Condition 23±2°C;	Henry Company "LWM"	
Henry Blueskin PreSeal 435 Specimen 1		**100psi[1]**
Henry Blueskin PreSeal 435 Specimen 2		**100psi[1]**
Henry Blueskin PreSeal 435 Specimen 3		**100psi[1]**

Note(s): 1) No lateral water migration observed; 690kPa is the limit of the apparatus

Statement of Attestation: The susceptibility to lateral water migration was evaluated in accordance with Henry Company's proprietary method for Lateral Water Migration ("LWM") utilizing and modifying ASTM D5385: *Standard Test Method for Hydrostatic Pressure Resistance of Waterproofing Membranes*.

Signed: _____

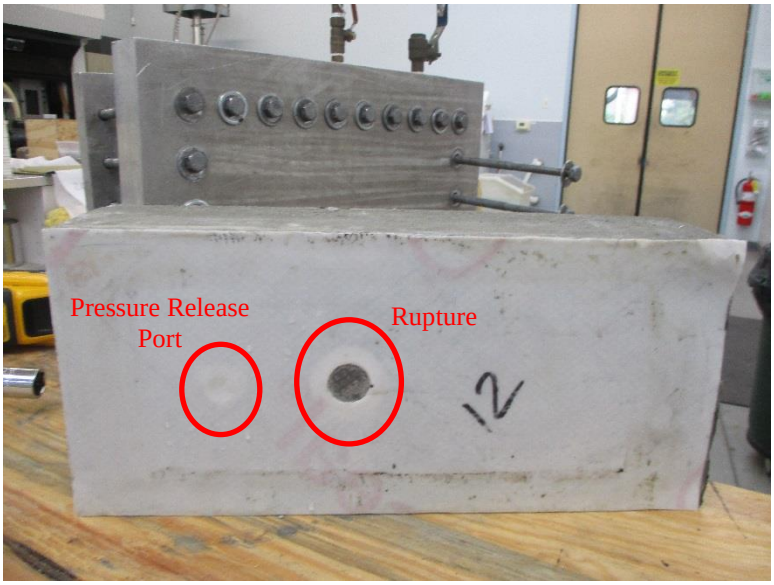
Jason Simmons
Director

Report Issue History:

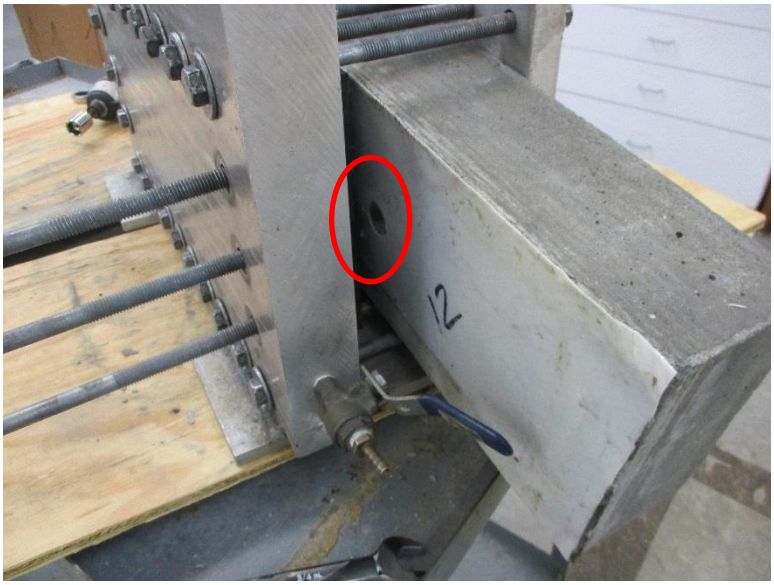
Issue #	Date	Pages	Revision Description (if applicable)
Original	11/24/2020	4	NA
Revision	03/15/2021	4	Additional Product ID

APPENDIX ATTACHED

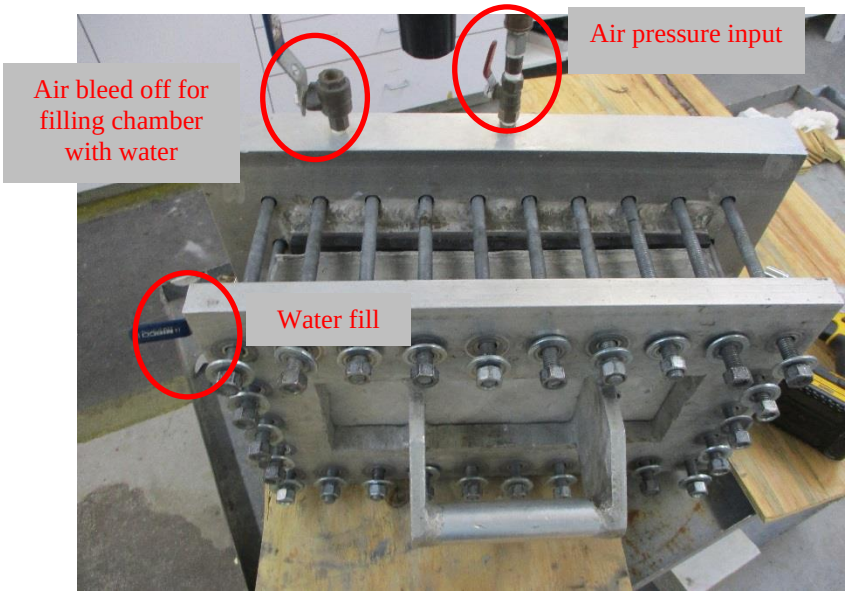
Appendix A: Representative Photographs:



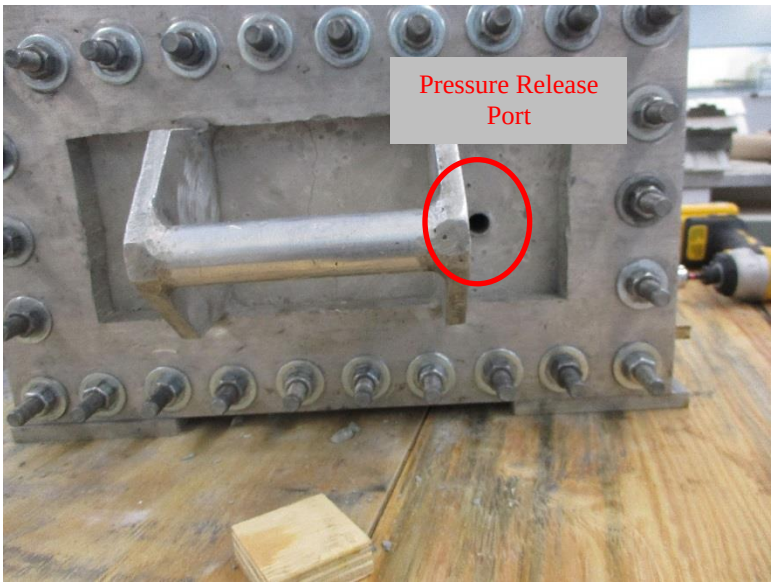
Typical prepared specimen



Typical loading of the specimen into the apparatus
Note: the "rupture" is exposed to the water in the chamber



Typical loaded specimen – prior to tightening bolts



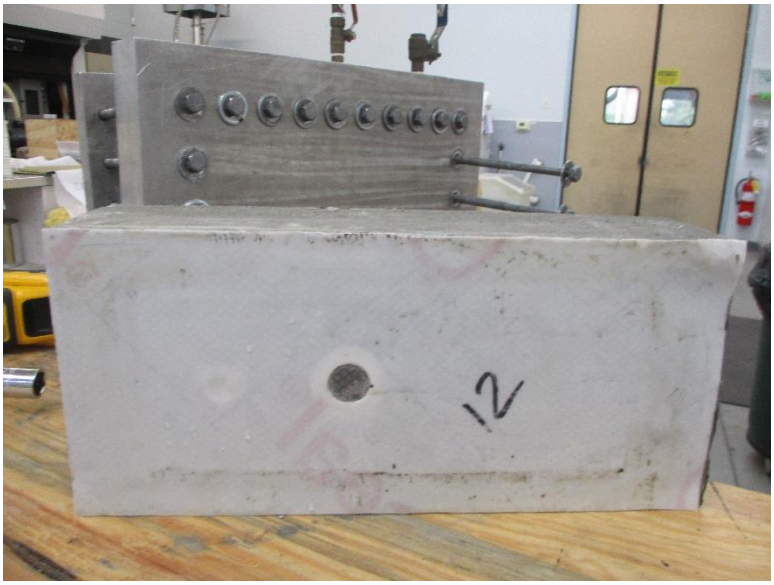
Typical loaded specimen – pressure release port visible

PRI Construction Materials Technologies LLC 6408 Badger Drive Tampa, FL 33610 Tel: 813-621-5777 Fax: 813-621-5840 e-mail: materialstesting@pricmt.com WebSite: http://www.pricmt.com

Typical loaded specimen – filling chamber with water

Typical loaded specimen – testing in progress

Typical read of air pressure during test



Typical tested specimen

END OF REPORT

447T0032.1

Henry®

Foundation Waterproofing Systems

A comprehensive portfolio of pre-applied and post-applied foundation waterproofing systems

Building Confidence™

Water under pressure is relentless...

Whenever the water table rises, hydrostatic pressure increases and pushes water against a building's foundation from all directions. When the foundation is concrete, water will find a way in through cracks, voids, crevices and other imperfections, eventually reaching the interior as seepage or dampness. And the only thing standing in the way is the waterproofing system.

So is Henry waterproofing protection

Proven pre-applied and post-applied solutions

Backed by 50 years of waterproofing expertise, Henry Company foundation waterproofing systems are designed to withstand hydrostatic pressure. Each system features a membrane of exceptional durability, elasticity through freeze and thaw, and resistance to most naturally occurring and deposited chemicals and soil acidity.

For zero-property line applications, Henry offers a pre-applied solution featuring a unique dual bonding technology. For post applied applications, Henry offers multiple solutions based on project demands.

Part of a complete Building Envelope System

Unlike most waterproofing membranes that are standalone products, Henry foundation waterproofing systems are also a key part of the complete Henry Building Envelope Systems® portfolio which covers structures from foundation to roof. From drainage composites and waterstops to membranes, Henry foundation waterproofing systems integrate seamlessly with the Henry Building Envelope Systems portfolio.

Let Henry help you find the best foundation waterproofing system for your needs.

Henry® Blueskin PreSeal™ System

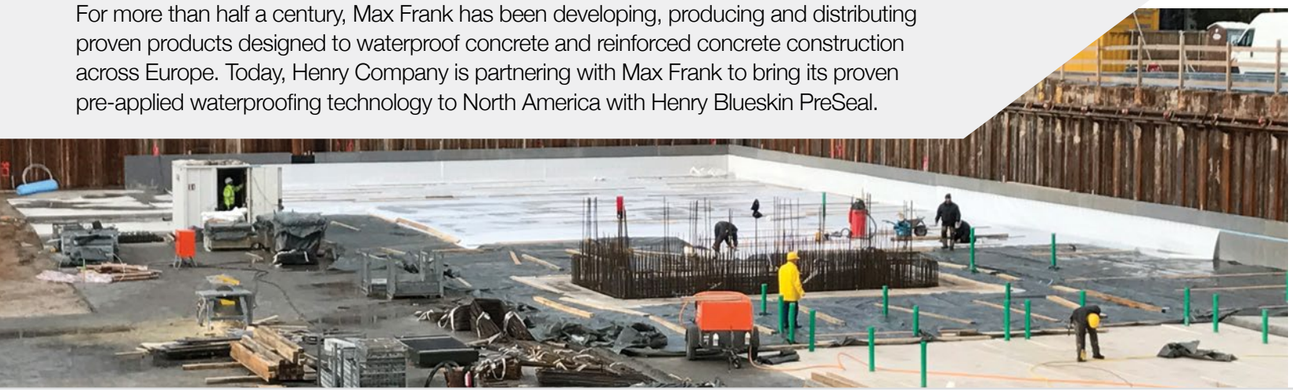
Combining mechanical and adhesive bond

The Henry **Blueskin PreSeal** membrane is a pre-applied, fully and permanently bonded sheet membrane system for waterproof construction. The unique dual bond of the **Blueskin PreSeal** membrane improves adhesion, reduces or eliminates lateral water migration as well as migration through the membrane, and reduces the sequencing delays associated with chemically bonded systems.

Installed prior to rebar installation and concrete placement, the **Blueskin PreSeal** membrane also features wide rolls resulting in fewer seams, reducing the risk of water ingress. On the jobsite, the system's lightweight rolls are easy to transport, cut and position, making installation fast and easy.

In partnership with MAX FRANK®

For more than half a century, Max Frank has been developing, producing and distributing proven products designed to waterproof concrete and reinforced concrete construction across Europe. Today, Henry Company is partnering with Max Frank to bring its proven pre-applied waterproofing technology to North America with Henry Blueskin PreSeal.

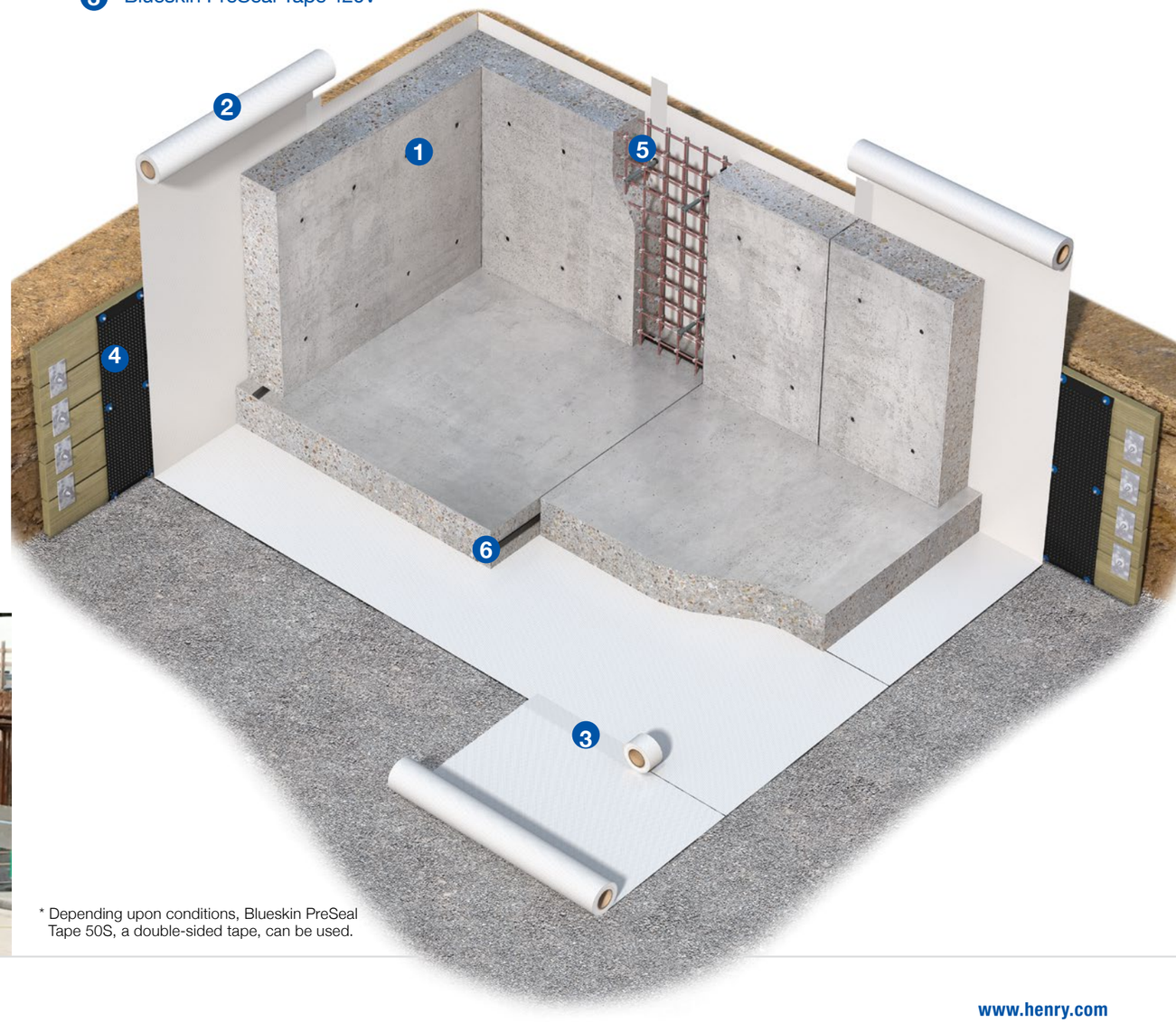


Features and benefits

- Proprietary dual bond technology provides full mechanical and active, adhesive bond to the concrete
- Dual bond helps accelerate scheduling by reducing sequencing delays tied to concrete cure time and form removal
- Easily installs with self-adhering laps and splices – no special tools or torches required
- Highly resistant to harmful substances in soil and groundwater, as well as superior resistance to water vapor and radon gas
- Better cold weather performance than HDPE systems for excellent low temperature flexibility and crack bridging
- Living Building Challenge Declare "Red List Free" status supports sustainable building properties

Blueskin PreSeal System Overview

1. Concrete
2. Blueskin PreSeal 320 or Blueskin PreSeal 435
3. Blueskin PreSeal Tape 120V*
4. Henry Drain Board
5. Henry 925 BES Sealant
6. Carlisle® MiraSTOP™ BW



* Depending upon conditions, Blueskin PreSeal Tape 50S, a double-sided tape, can be used.

Henry Blueskin® WP200 Self-Adhered System

Easy to handle. Simple to apply.

The **Blueskin WP200** self-adhered waterproofing membrane provides a high-performance waterproofing barrier for post applied construction. **Blueskin WP200** fully adheres to the substrate and eliminates water migration between the membrane and the waterproofed surface.

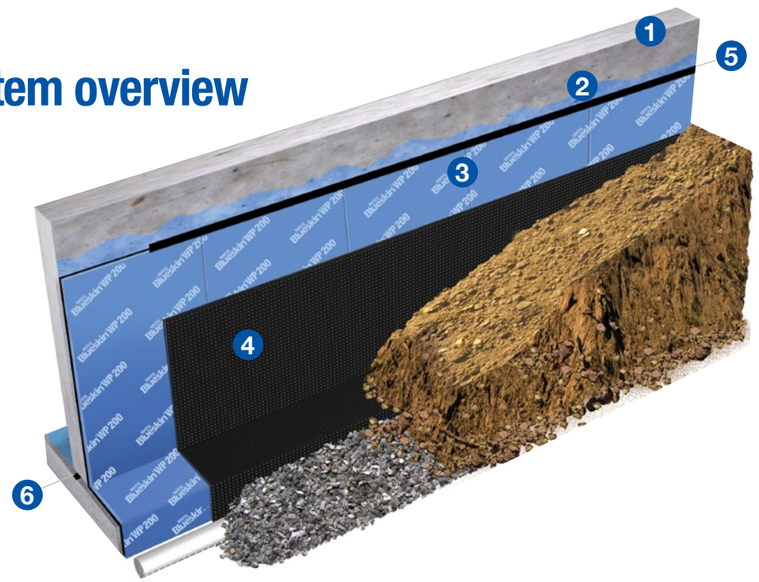
Blueskin WP200 has excellent elongation properties for waterproofing coverage on a variety of substrates (concrete, masonry and wood) and can resist hydrostatic head pressures of up to 231 feet.

Features and benefits

- Easy to install – no special equipment, heat or flame required
- No curing time required – membrane can be backfilled immediately
- Unique side-lap feature offers superior water-tightness
- Flexible SBS rubberized asphalt membrane offers excellent cold weather application
- No VOC and low odor

Blueskin WP200 System overview

1. Substrate/Concrete
2. Aquatac™ Primer or Blueskin LVC Primer
3. Blueskin WP200
4. Henry Drain Board
5. Henry 925 BES Sealant
6. Carlisle MiraSTOP BW



Henry Aqua-Bloc® Cold Fluid Applied System

Proven elastomeric performance

The **Aqua-Bloc System** elastomeric membranes are available in three formulations to meet a range of site-specific conditions.

Aqua-Bloc WB is a water-based, low-odor and low-VOC emulsified asphalt membrane that is ideal for waterproofing damp or green ICF (Insulated Concrete Forms). **Aqua-Bloc SB** is a solvent-based, single component membrane that is used to repair damaged rubberized membranes. **Aqua-Bloc QS** is a quick-setting, low-odor and low-VOC emulsified asphalt membrane that performs very well in cold temperatures.

Features and benefits

- Seamless elastomeric membranes retain flexibility over a wide temperature range
- Easy to install – no special equipment, heat or flame required
- Excellent adhesion to a range of horizontal and vertical surfaces

Aqua-Bloc System overview

1. Substrate/Concrete
2. Aqua-Bloc WB, SB or QS
3. Henry Drain Board
4. Carlisle MiraSTOP BW

Henry CM100 Cold Fluid Applied System

Apply it sooner. Finish the job faster.

Henry CM100 is a cold fluid-applied, single-component, elastomeric waterproofing membrane ideal for a variety of foundation applications. With **Henry CM100**, you no longer have to wait several days for concrete to dry before applying a waterproofing membrane. It cures by reacting with atmospheric and surface moisture to provide a seamless and impervious waterproofing membrane.

Features and benefits

- Can be applied to green concrete 24 hours after forms are removed
- Typical cure time* is three hours, allowing application of multiple coats in a single day
- Solvent-free, low odor and non-flammable for safe installation in confined spaces
- High solids content retains applied thickness with no shrinkage
- Designed for vertical or horizontal applications, including difficult-to-access areas

Henry CM100 System overview

1. Concrete
2. Henry CM100
3. Henry Drain Board
4. Carlisle MiraSTOP BW

* Subject to weather conditions; see technical data sheet for more details

Foundation Waterproofing System Accessories

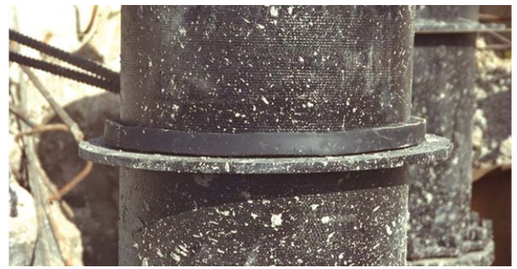
Carlisle MiraSTOP NBW

MiraSTOP NBW is a hydrophilic, rubber based, highly chemically resistant waterstop that swells when it comes in contact with water. **MiraSTOP NBW** is used in foundation slab and below grade wall applications, creating watertight joints.

NSF 61 approved: will not leach or mix with potable water.

Carlisle MiraSTOP BW

MiraSTOP BW is an easy to use, preformed, self-adhesive hydrophilic waterstop that provides a watertight seal in cold joints on concrete structures. Designed to swell into surfaces upon contact with water, **MiraSTOP BW** stays flexible in cold weather and eliminates the need for split forming, wiring to rebar, or heat welding of splices.



Henry Drain Board: Improving waterproofing performance

As a key part of all Henry foundation waterproofing systems, **Henry Drain Board** is a cost-effective drainage composite that helps improve the flow of water away from the foundation.

Featuring a polystyrene or polypropylene core combined with a polypropylene fabric, **Henry Drain Board** is available in a range of compressive strength and flow rate options to meet every waterproofing application demand.

Total protection is our mission

Henry Building Envelope Systems

For over 80 years, Henry products and systems have helped manage the flow of water, air, vapor, and energy through the building envelope. From foundation to roof, our solutions improve the energy efficiency, livability and sustainability of commercial and residential structures, for the benefit of the owner, occupant and the environment.

Most importantly, our experience has confirmed that the building envelope needs to be viewed as a holistic system – from roof to wall to foundation – offering a solid line of defense from the elements. Today, our Building Envelope Systems include an entire portfolio of interrelated solutions to help you meet the challenges you face.

When it comes to making sure you get the **waterproofing systems** and **Building Envelope Systems** solutions and expertise you need,

Waterproofing Systems

Designing a durable waterproofing system starts with the foundation waterproofing system and extends to critical transition areas such as plaza decks. Once the building is complete, the opportunity to integrate an optimized waterproofing system into the building envelope is lost. Henry provides proven, comprehensive waterproofing solutions that keep the structure dry and protect it from damage due to water infiltration.

Air Barrier Systems

Designing air barrier systems for today's structures has never been more challenging. A designer has to balance air leakage, water resistance, vapor management, thermal controls and fire resistance, all while keeping an eye on the budget. Henry Building Envelope Systems include an entire portfolio of air barrier solutions to help you meet your goals.

Roofing Systems

From providing durable, watertight performance, to managing storm water run-off and offering outdoor green spaces, Henry roofing systems are designed to meet the challenges of these evolving trends. Inverted roof membrane assemblies, including vegetative roof assemblies and solutions for plaza decks, along with conventional roofing solutions for low-slope and flat roof applications help provide years of reliable service to building owners and occupants.

All Henry Building Envelope Systems are backed by comprehensive warranties.

Henry®

Building Envelope Systems®
Roofing | Air Barrier | Waterproofing

Ask us today about other Henry® solutions that help manage the flow of water, air, vapor and energy.

productsupport@henry.com | 1-800-486-1278
www.henry.com

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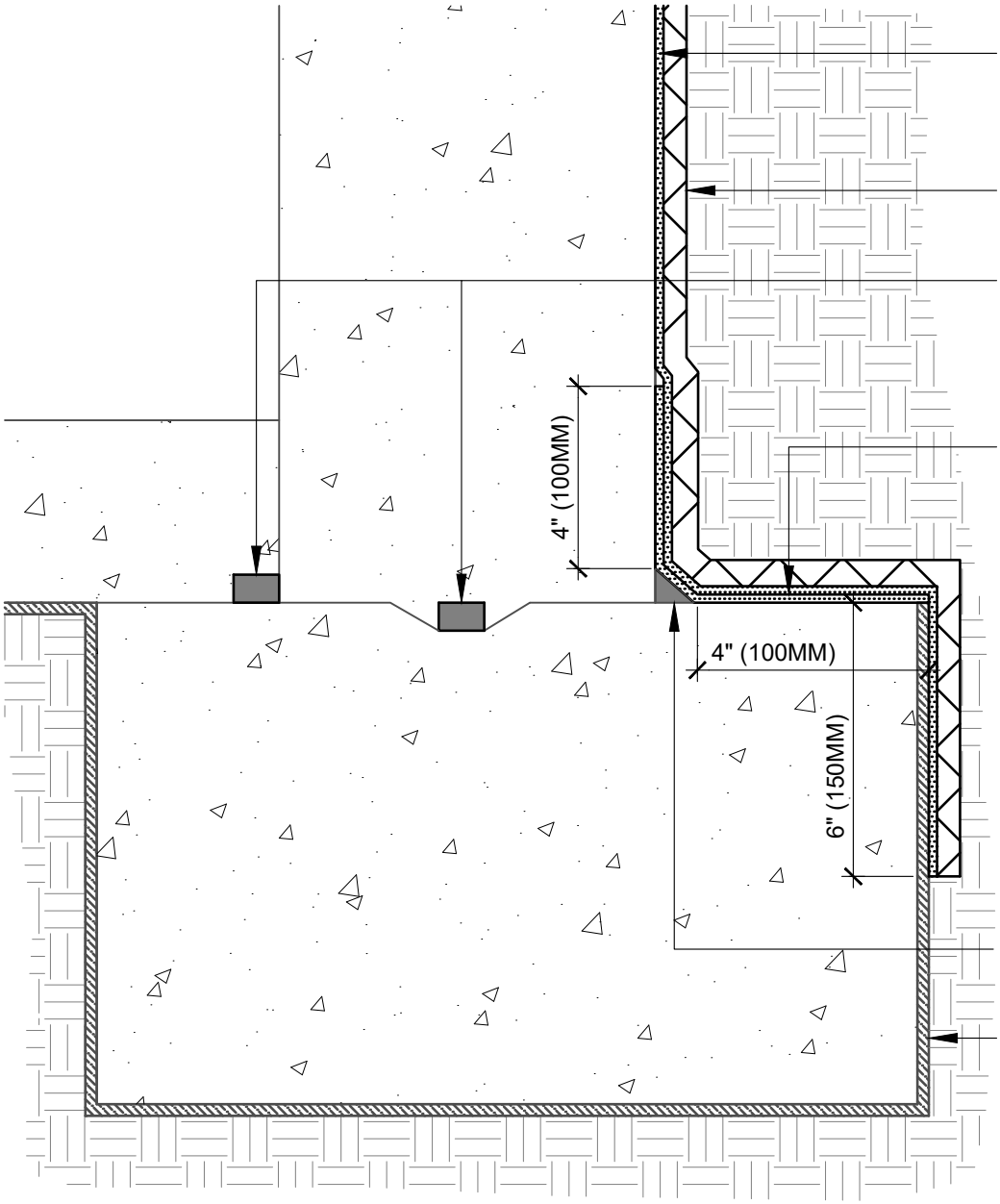

BLUESKIN WP200
(PRIMER NOT SHOWN FOR CLARITY - SEE DATA SHEET FOR RECOMMENDATIONS)

HENRY DRAINAGE COMPOSITE

SYNKO-FLEX WATERSTOP
OR **HYDRO-FLEX WATERSTOP**
(SEE NOTE #2)

BLUESKIN WP200
(PRIMER NOT SHOWN FOR CLARITY - SEE DATA SHEET FOR RECOMMENDATIONS)

HENRY 925 BES SEALANT
(EXTEND 3/4" (20MM) EACH SIDE)

BLUESKIN PRESEAL 320
OR **BLUESKIN PRESEAL 435**
(COMPACTED EARTH APPLICATIONS MUST USE **BLUESKIN PRESEAL 435**)

NOTES:

1. DETAIL SHOWS HENRY PRE-APPLIED WATERPROOFING SYSTEM FOR APPLICATIONS USING HENRY **BLUESKIN PRESEAL 320** OR **BLUESKIN PRESEAL 435**. SUBSTRATE SHOWN IS FOR REFERENCE ONLY.
2. APPLICATIONS USING **HYDRO-FLEX WATERSTOP:** 2" (50MM) MINIMUM CONCRETE COVERAGE ON ALL SIDES.
3. HENRY RECOMMENDS THE USE OF A DRAINBOARD IN NON-HYDROSTATIC CONDITIONS, OR AS A SUBSTRATE PREPARATION.
4. REFER TO PRODUCT SPECIFIC TECHNICAL DATA SHEET (TDS) AND GUIDE SPECIFICATION FOR INSTALLATION PROCEDURES.

Henry®
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El Segundo, CA 90245
800-486-1278 • www.henry.com

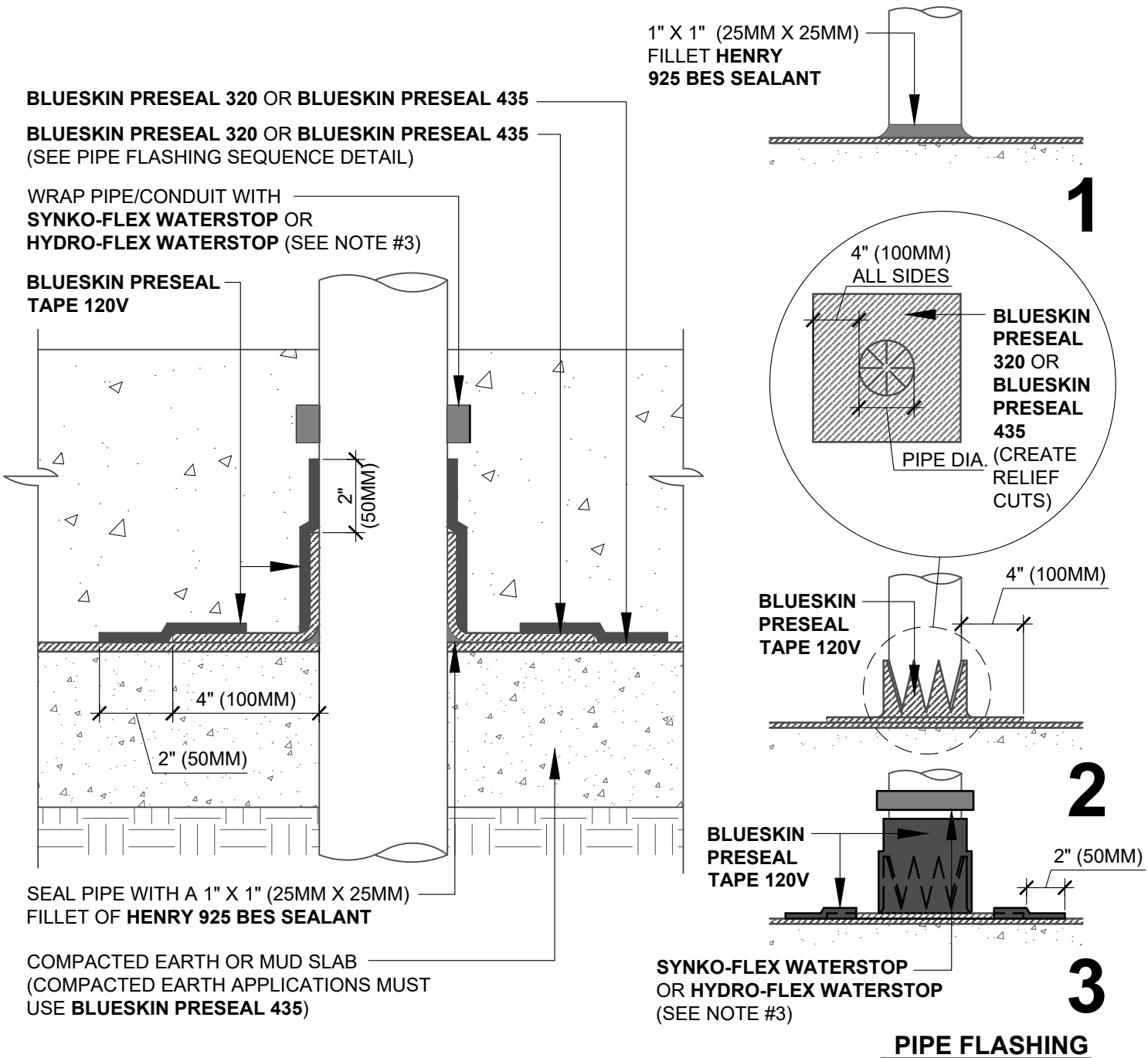
HENRY PRE-APPLIED WATERPROOFING SYSTEM

SLAB TO WALL TRANSITION

BLUESKIN PRESEAL 320 OR BLUESKIN PRESEAL 435 TRANSITION WITH BLUESKIN WP200 AT FOOTING

SCALE: N.T.S. | 04-01-2021

BSPS-1C1



PIPE FLASHING

ELEVATION VIEW

NOTES:

1. DETAIL SHOWS HENRY PRE-APPLIED WATERPROOFING SYSTEM FOR APPLICATIONS USING HENRY **BLUESKIN PRESEAL 320** OR **BLUESKIN PRESEAL 435**. SUBSTRATE SHOWN IS FOR REFERENCE ONLY.
2. REMOVE DIRT, DEBRIS, RUST AND OTHER CONTAMINANTS FROM PIPE PRIOR TO **HENRY 925 BES SEALANT** INSTALLATION.
3. APPLICATIONS USING **HYDRO-FLEX WATERSTOP:** 2" (50MM) MINIMUM CONCRETE COVERAGE ON ALL SIDES.
4. REFER TO PRODUCT SPECIFIC TECHNICAL DATA SHEET (TDS) AND GUIDE SPECIFICATION FOR INSTALLATION PROCEDURES.

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HENRY PRE-APPLIED WATERPROOFING SYSTEM

SLAB PENETRATION

BLUESKIN PRESEAL 320 OR BLUESKIN PRESEAL 435 PIPE OR CONDUIT

SCALE: N.T.S. | 03-08-2021

BSPS-9B2

fantech®
a systemair company

Rn3 Inline Radon Fan

6" pipe, plastic housing, 2.6" max SP
Item #: 89053
Variant: 120V 1~ 60Hz

Rn3 Radon Fan is designed for active radon mitigation systems to employ for applications where medium suction and medium flow are needed. It is a perfect choice for elevated Radon levels and poor communication, multiple suction points and/or large sub slab footprint.

• Designed specifically for Active Soil Depressurization (ASD) mitigation applications
• Medium suction, medium flow
• For residential applications
• Air-tight housing - zero leakage
• UV resistant plastic housing
• UL Listed for safety and outdoor use
• HVI certified fan performance
• 5-year factory warranty

Manufactured from two molded plastic pieces seamlessly joined together. It is inherently and permanently airtight ensuring no Radon gas leakage. A large watertight electrical wiring enclosure ensures electrical installation quick and simple. Fan motor is thermal overload protected with automatic reset and can be installed both indoors or outdoors. To simplify installation on a 3” or 4” PVC pipe, use FRIK 6x3 or FRIK 6x4 Installation kits.

Technical parameters

Nominal data		
Voltage (nominal)	120	V
Frequency	60	Hz
Phase(s)	1~	
Input power	141	W
Input current	1.2	A
Impeller speed	2,782	r.p.m.
Air flow	max 377	cfm

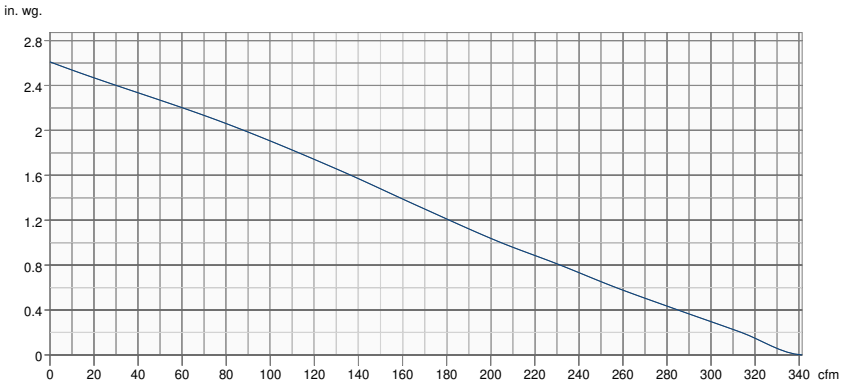
Protection/Classification		
Enclosure class, motor	IP44	
Insulation class	B	

Dimensions and weights		
Duct dimension; Circular, inlet	6	in.
Duct dimension; Circular, outlet	6	in.
Weight	6.3	lb

Optional		
Duct connection type	Circular	

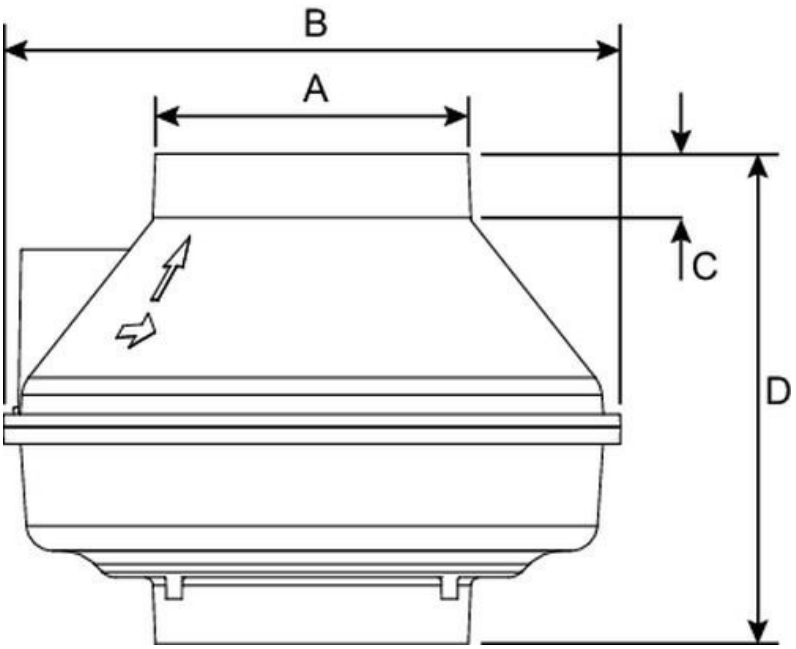
Performance

Performance curve



Hydraulic data	
Required air flow	-
Required static pressure	-
Working air flow	-
Working static pressure	-
Air density	0.075 lb/ft³
Power	-
Fan control - RPM	-
Current	-
Airflow efficiency	-
Control voltage	-
Supply voltage	-

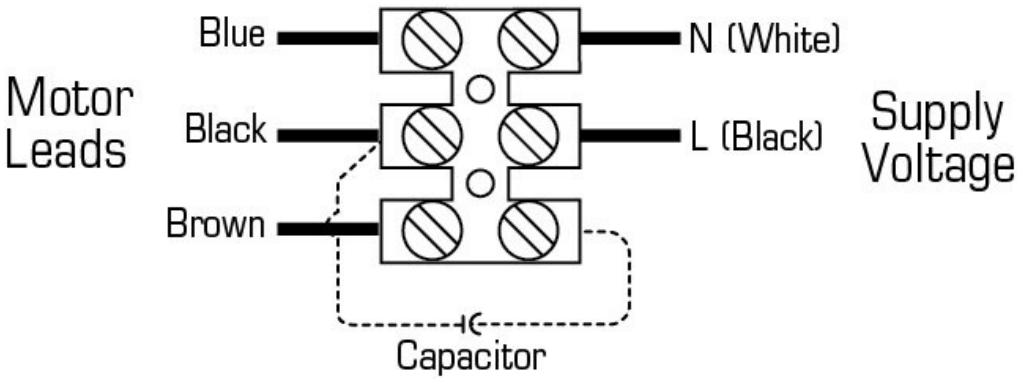
Dimensions



Model	A	B	C	D
Rn1	4 15/32 (114)	10 (254)	1 1/4 (32)	9 1/4 (235)
Rn2	4 15/32 (114)	10 (254)	1 1/4 (32)	9 1/4 (235)
Rn3	5 7/8 (149)	11 1/2 (292)	1 1/4 (32)	9 1/4 (235)

Dimensions in inches (mm).

Wiring


Motor Leads
Blue
Black
Brown
N (White)
L (Black)
Supply Voltage
Capacitor

Accessories

- FRIK 6x3 Rn Installation Kit (95906)
- LDVI® 6x3 Bulk Pack, 40 pcs (95910)
- FRIK 6x4 Rn Installation Kit (95907)
- LDVI® 6x4 Bulk Pack, 40 pcs (95911)

Documents

- Rn Series Brochure.pdf
- Rn3_Sales_Sheet.pdf
- 484840 Rn OIPM EN FR .pdf

RadonAway
The world's leading radon fan manufacturer

AIR FLOW ALARM

RADON SYSTEM OPERATION MONITOR

RadonAway's battery-powered air flow alarm (P/N 28421) monitors radon system operation. It mounts directly onto the system pipe to alert users of a low or no air flow condition. A thin, field-trimmable vane installed within the pipe operates in air flow as low as 10 CFM in a 3" pipe and 15 CFM in a 4" pipe. An audible buzzer alternates with bright, flashing red LED light when there is no air flow in the pipe.

This monitor does not measure radon levels.

FEATURES

- Easy Installation (indoor use only)
- For use on 3" or 4" pipe
- Battery-Operated
- Visual Alarm (Red LED light)
- Audible Alarm
- Low Battery Warning

PACKAGE INCLUDES

- RadonAway Air Flow Alarm
- Battery
- Trimmable Vane
- Installation Instructions
- Alarm Information Sticker

SPECIFICATIONS

Actuation Point: 15 CFM (4″ Pipe) / 10 CFM (3″ Pipe) on decrease in flow

Audible Alarm: At least 85 dB @ 1' distance

Visual Alarms: Red LED for no flow alarm; Yellow LED for low battery

Wetted Materials: ABS, Polycarbonate, Rare Earth Magnet

Power Requirements: Lithium battery (CR2450)

Battery Life: 5 years steady state / 48 hours during alarm condition

Temperature Limits: 32 to 122°F (0 to 50°C)

Application Limits: Corrosive environments

Weight: 4 oz (113.4 g)