

LOCATION PLAN

NTS

RECEIVED
DEC 06 2017
PLANNING/ZONING
DP 17-23

Upon finding that the final plans complied with all requirements of the Williston Development Bylaw and all conditions imposed on the approval of Discretionary Permit 17-23, the Williston Development Review Board/Administrator approved the final plans for S.D. Ireland on the 6th day of December, 2017.

[Signature]
Presiding member of Administrator's signature

PARCEL INFO

Zoning District: Industrial West

Parcel ID: 02097 009000

± 50.54 Acre Parcel

LEGEND

	PROJECT BOUNDARY
	ABUTTING PROPERTY LINE
	MAJOR LIDAR CONTOUR
	EXISTING WATER LINE
	EXISTING GAS LINE
	EXISTING POWER LINE

FINAL PLANS



<table border="1"> <tr> <td>RECORD DRAWING</td> <td>PRELIMINARY</td> </tr> <tr> <td>FINAL</td> <td>SKETCH/CONCEPT</td> </tr> </table>	RECORD DRAWING	PRELIMINARY	FINAL	SKETCH/CONCEPT	O'LEARY-BURKE CIVIL ASSOCIATES, PLC <small>13 CORPORATE DRIVE ESSEX ACT, VT PHONE: 578-2890 FAX: 578-2892 E-MAIL: ocb@o'leary-burke.com</small>	IRELAND INDUSTRIAL SITE 193 INDUSTRIAL AVENUE, WILLISTON VT	10-28-16 2016-79 2016-79-52
RECORD DRAWING	PRELIMINARY						
FINAL	SKETCH/CONCEPT						
OBCA SEC PUJ	EXISTING CONDITIONS	1					

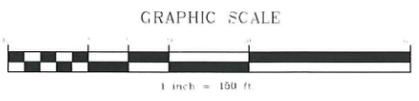


Upon finding that the final plans complied with all requirements of the Williston Development Bylaw and all conditions imposed on the approval of Discretionary Permit 17-23, the Williston Development Review Board/Administrator approved the final plans for S.D. Ireland on the 22 day of DEC, 2017.

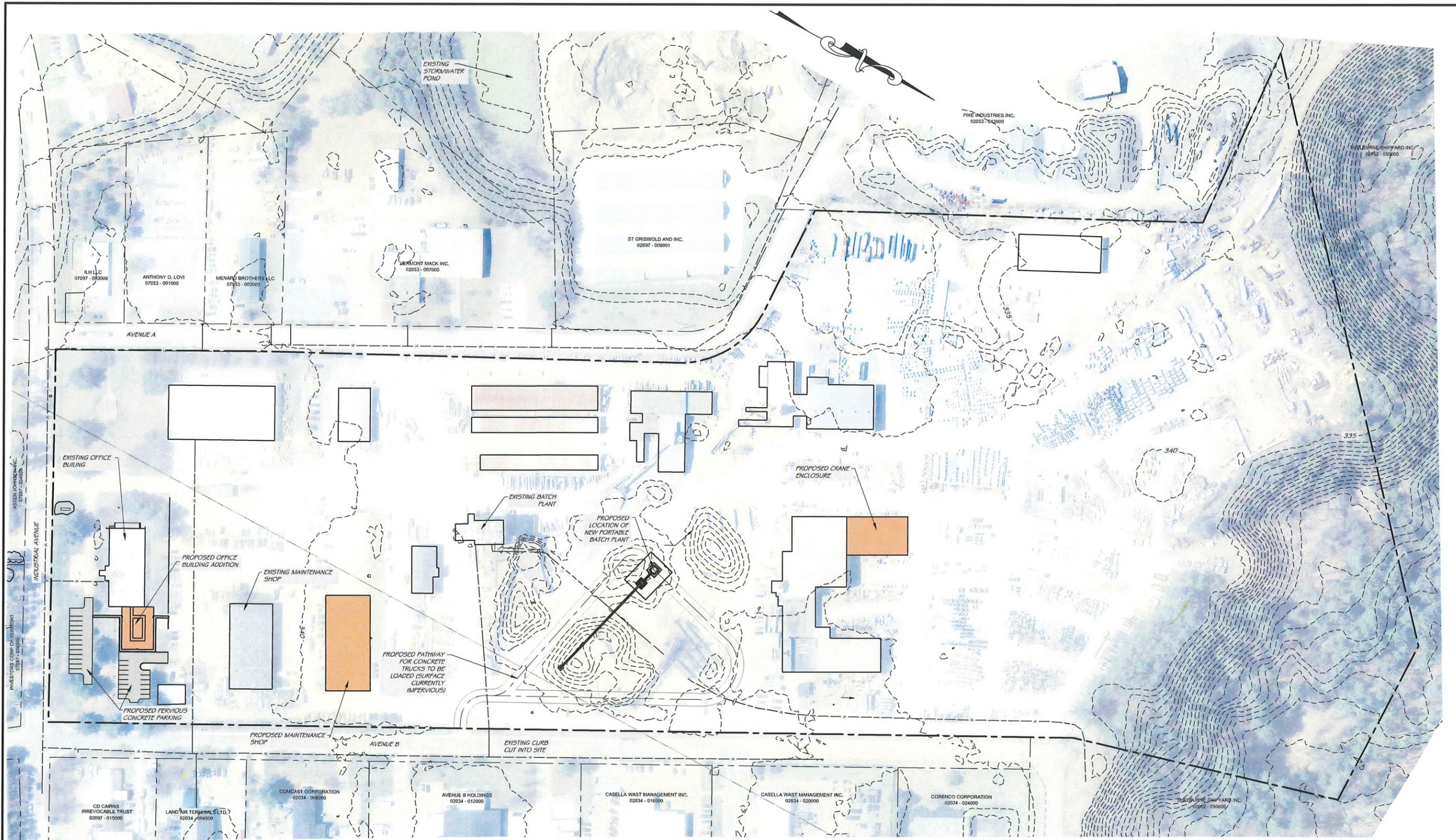
[Signature]
 Residing member of Administrator's signature

LEGEND	
	PROJECT BOUNDARY
	ABUTTING PROPERTY LINE
	MAJOR LIDAR CONTOUR
	EXISTING WATER LINE
	EXISTING GAS LINE
	EXISTING POWER LINE

NOTE: PLEASE REFER TO SHEET L-1 FOR LANDSCAPING DETAILS



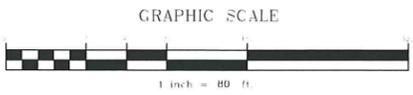
RECORD DRAWING <input checked="" type="checkbox"/> RECORD DRAWING <input type="checkbox"/> PRELIMINARY <input type="checkbox"/> SKETCH/CONCEPT OBCA SEC PJO	O'LEARY-BURKE CIVIL ASSOCIATES, PLC <small>13 CORPORATE DRIVE ESSEX, VT, VI PHONE: 878-3990 FAX: 878-0822 E MAIL: ocb@o'burburke.com</small>	IRELAND INDUSTRIAL SITE 193 INDUSTRIAL AVENUE, WILLISTON VT OVERALL SITE PLAN	10-28-16 2016-79 2016-79-S2 2
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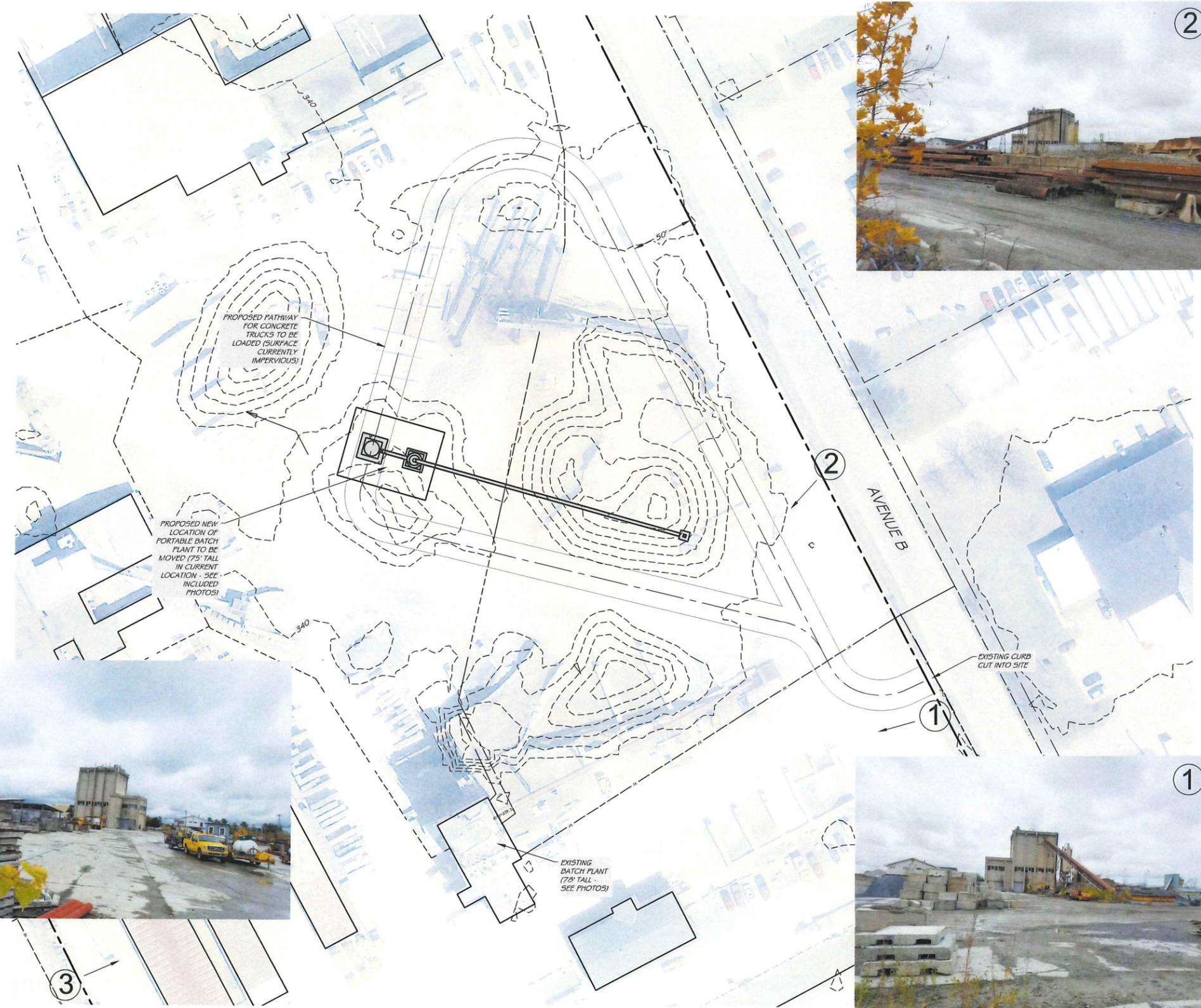
Upon finding that the final plans complied with all requirements of the Williston Development Bylaw and all conditions imposed on the approval of Discretionary Permit 17-23, the Williston Development Review Board/Administrator approved the final plans for S.D. Ireland on the 22 day of DEC, 2017.

K. Dill
 Presiding member of Administrator's signature

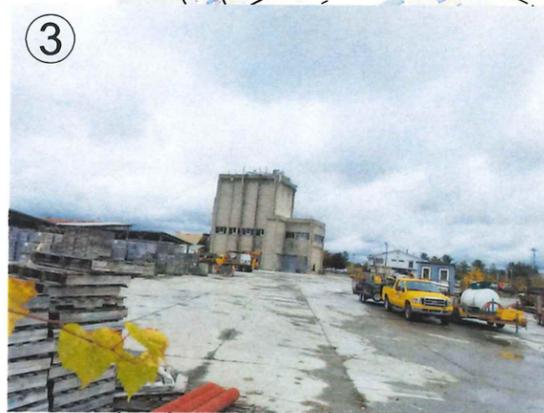
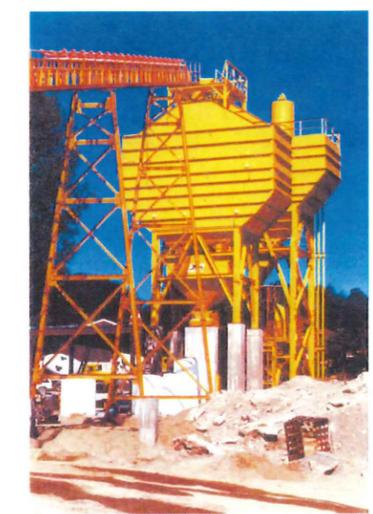
LEGEND	
	PROJECT BOUNDARY
	ABUTTING PROPERTY LINE
	MAJOR LIDAR CONTOUR
	EXISTING WATER LINE
	EXISTING GAS LINE
	EXISTING POWER LINE



<table border="0"> <tr> <td><input checked="" type="checkbox"/> RECORD DRAWING</td> <td><input type="checkbox"/> PRELIMINARY</td> </tr> <tr> <td><input type="checkbox"/> FINAL</td> <td><input type="checkbox"/> SKETCH/CONCEPT</td> </tr> </table>	<input checked="" type="checkbox"/> RECORD DRAWING	<input type="checkbox"/> PRELIMINARY	<input type="checkbox"/> FINAL	<input type="checkbox"/> SKETCH/CONCEPT	IRELAND INDUSTRIAL SITE 193 INDUSTRIAL AVENUE, WILLISTON VT	10-28-16
<input checked="" type="checkbox"/> RECORD DRAWING	<input type="checkbox"/> PRELIMINARY					
<input type="checkbox"/> FINAL	<input type="checkbox"/> SKETCH/CONCEPT					
O'LEARY-BURKE CIVIL ASSOCIATES, PLC <small>13 CORPORATE DRIVE ESSEX, VT, VI PHONE: 578-0090 FAX: 578-0092 E MAIL: oab@o'burburke.com</small>	2016-79					
1"=80' P.J.O.	OVERALL SITE PLAN	2016-79-S2				
		2A				



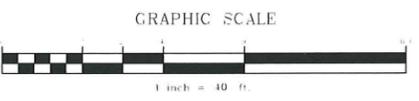
PHOTOS OF GROVE STREET PORTABLE BATCH PLANT WITHOUT SKIN:



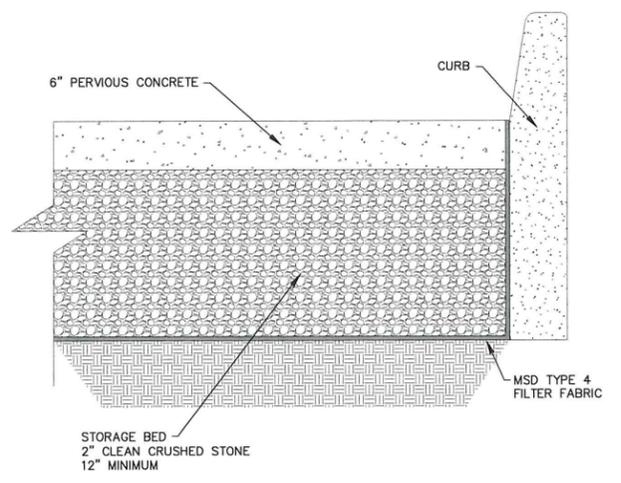
LEGEND	
	PROJECT BOUNDARY
	ABUTTING PROPERTY LINE
	MAJOR LIDAR CONTOUR
	EXISTING WATER LINE
	EXISTING GAS LINE
	EXISTING POWER LINE
	PHOTO LOCATION

Upon finding that the final plans complied with all requirements of the Williston Development Bylaw and all conditions imposed on the approval of Discretionary Permit 17-23, the Williston Development Review Board/Administrator approved the final plans for S.D. Ireland on the 20th day of Dec 2016.

[Signature]
 Presiding member of Administrator's signature



<input type="checkbox"/> RECORD DRAWING <input type="checkbox"/> FINAL <input type="checkbox"/> PRELIMINARY <input type="checkbox"/> SKETCH/CONCEPT	O'LEARY-BURKE CIVIL ASSOCIATES, PLC <small>13 CORPORATE DRIVE ESSEX JCT. VT PHONE: 878-3850 FAX: 878-3850 E-MAIL: ocb@o'burburke.com</small>	IRELAND INDUSTRIAL SITE 193 INDUSTRIAL AVENUE, WILLISTON VT BATCH PLANT SITE PLAN	10-28-16 2016-79 2016-79-S1 3
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TYPICAL PERVIOUS CONCRETE CROSS SECTION NT5

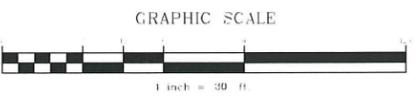
PARKING REQUIREMENTS	
Industrial Use:	1 Space / 1000 SF
Required:	9,800 SF = 10 Spaces
Net Proposed:	28 - 17 = 11 Spaces
Accessible Spaces (1-15 Total):	= 1

LEGEND	
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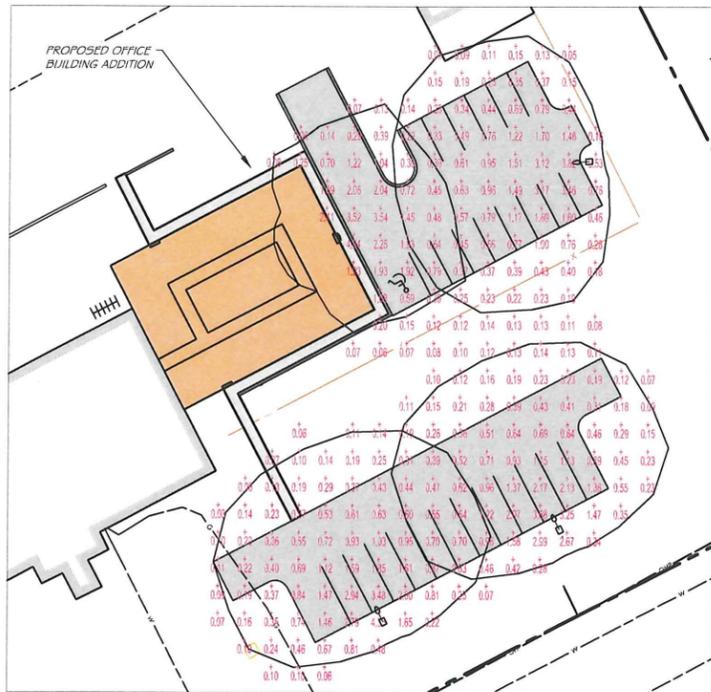
NOTE: PLEASE REFER TO SHEET L-1 FOR LANDSCAPING DETAILS

Upon finding that the final plans complied with all requirements of the Williston Development Bylaw and all conditions imposed on the approval of Discretionary Permit *17-22*, the Williston Development Review Board/Administrator approved the final plans for S.D. Ireland on the 22 day of DEC, 2017.

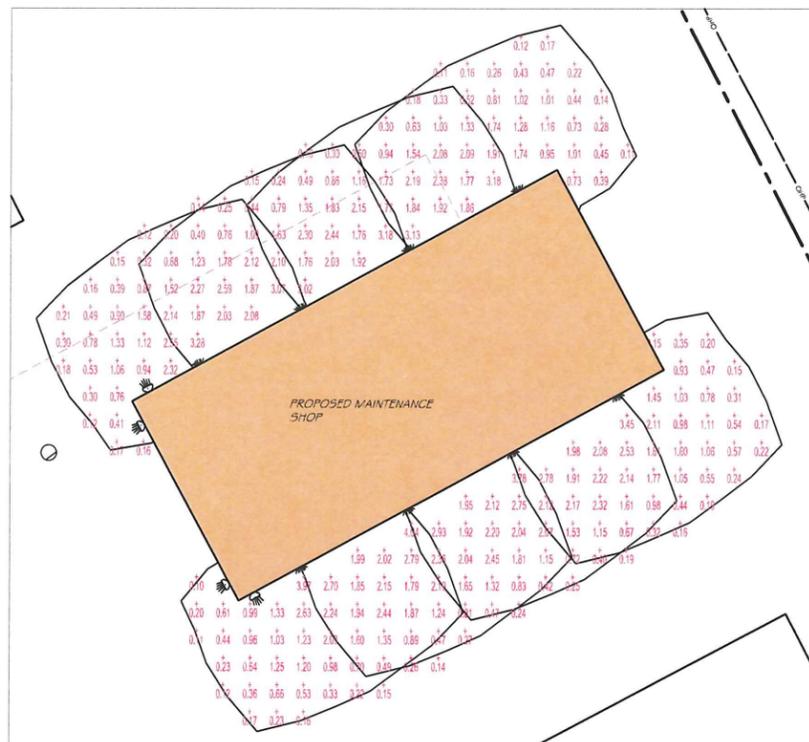
K. S. Burke
Presiding member or Administrator's signature



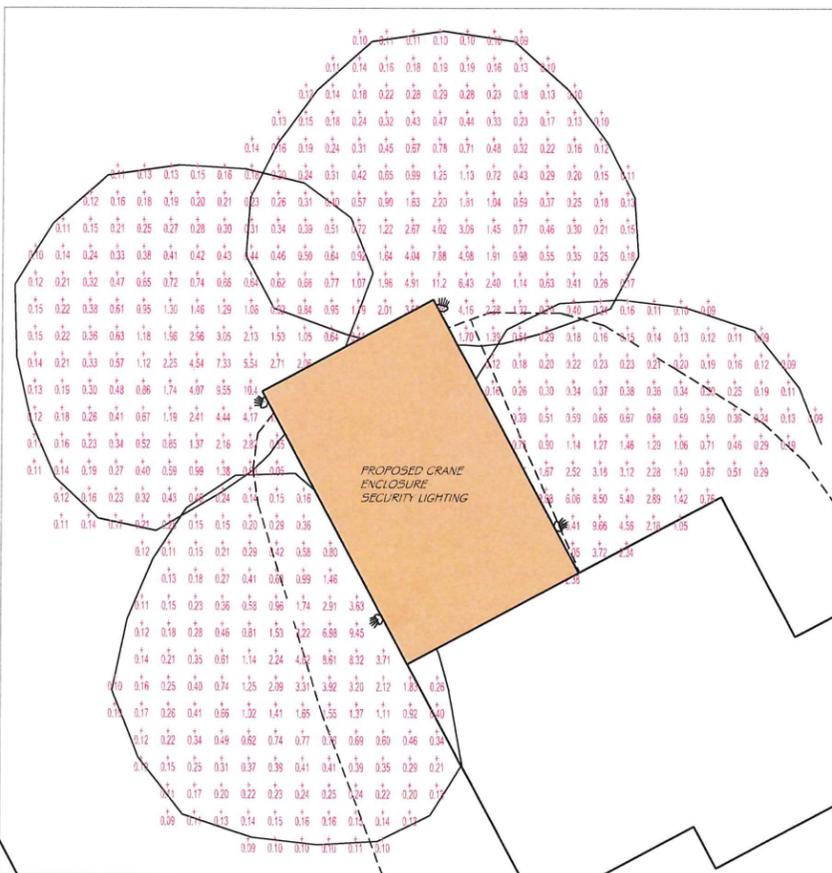
7-27-17	UPDATE PARKING CALCULATIONS, ADD BIKE RACK	SEC
<input checked="" type="checkbox"/> RECORD DRAWING	<input type="checkbox"/> PRELIMINARY	10-28-16
<input type="checkbox"/> FINAL	<input type="checkbox"/> SKETCH/CONCEPT	2016-79
OBCA	O'LEARY-BURKE	193 INDUSTRIAL AVENUE, WILLISTON VT
SEC	CIVIL ASSOCIATES, PLC	
PJO	13 CORPORATE DRIVE ESSEX JCT. VT PHONE: 578-5290 FAX: 878-9982 EMAIL: ocbca@o'leary-burke.com	2016-79-51
1"=30'	OFFICE ADDITION SITE PLAN	4



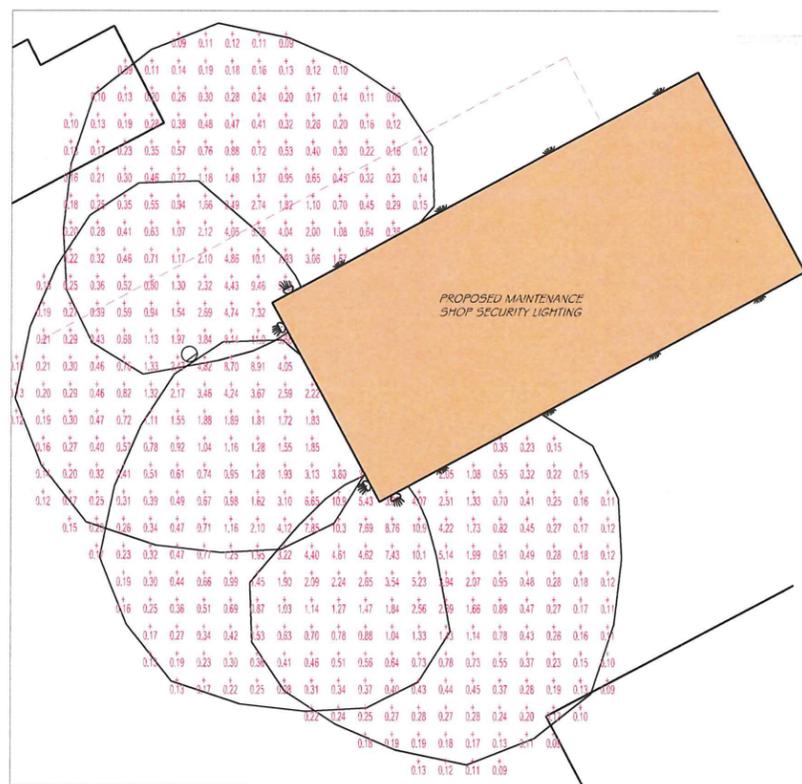
AREA NAME	DIMENSIONS	GRID NAME	AVE	MAX	MIN	MAX/MIN	AVE/MIN
OFFICE		NEW GRID	<+> 0.70	4.81	0.10	106.3	14.4



AREA NAME	DIMENSIONS	GRID NAME	AVE	MAX	MIN	MAX/MIN	AVE/MIN
MAINTENANCE		WALL	<+> 1.20	4.0	0.10	38.6	11.5



AREA NAME	DIMENSIONS	GRID NAME	AVE	MAX	MIN	MAX/MIN	AVE/MIN
SITE PLAN		SECURITY	<+> 1.0	11.2	0.1	N/A	N/A



AREA NAME	DIMENSIONS	GRID NAME	AVE	MAX	MIN	MAX/MIN	AVE/MIN
MAINTENANCE		SECURITY	<+> 1.30	11.0	0	N/A	N/A

ALED4T78N RAB

Technical Specifications (continued):

- Beam Spread: 78°
- Color Temperature: 4000K
- Power Factor: >0.95
- Life Span: 50,000 hours

Lighting Data Table:

Area	Area (sq ft)	Footcandle	Wattage
OFFICE	106.3	14.4	42W
MAINTENANCE	38.6	11.5	42W

McGraw-Edison Lumark

Product Selection Guide:

- ISCSH5H15W IMPACT ELITE LED
- NIGHTHAWK III

Photometric Data:

Area	Area (sq ft)	Footcandle	Wattage
OFFICE	106.3	14.4	42W
MAINTENANCE	38.6	11.5	42W

TYP	SYMB	DESCRIPTION	LAMP	LUMENS	MOUNTING	LLF	QTY
AREA	□	ALED4T78N AREA LIGHT	78W	6632	20' POLE MOUNT	0.75	3
BLDG	■	COOPER 1ST IMPACT ELITE LED	42W	5225	16' BUILDING MOUNT		1
SPOT	●	COOPER NIGHTHAWK III	250W		25' BUILDING MOUNT TILT 45 DEGREES		8

18745 BILEVEL SENSOR FOR D10 RAB

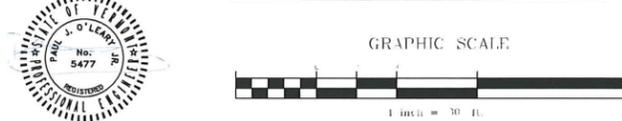
IMPORTANT: READ CAREFULLY BEFORE INSTALLATION. GENERAL USE INSTRUCTIONS FOR FUTURE REFERENCE.

Specifications:

- Operating Temperature: -20°C to 50°C
- Operating Voltage: 12VDC
- Power Consumption: 100mA

Upon finding that the final plans complied with all requirements of the Williston Development Bylaw and all conditions imposed on the approval of Discretionary Permit for the Williston Development Review Board/Administrator approved the final plans for S.D. Ireland on the 22nd day of DEC, 2016.

K. Bell
Presiding member / Administrator's signature



O'LEARY-BURKE CIVIL ASSOCIATES, P.L.C.

13 CORPORATE DRIVE
ESSEX JCT. VI
PHONE: 578-5980
FAX: 578-5980
E-MAIL: ocb@o'leary-burke.com

RECORD DRAWING (checked)

IRLAND INDUSTRIAL SITE
193 INDUSTRIAL AVENUE, WILLISTON VT

LIGHTING PLAN

7-21-17
2016-79
2016-79-52
5

SD IRELAND

193 INDUSTRIAL AVENUE
WILLISTON, VERMONT



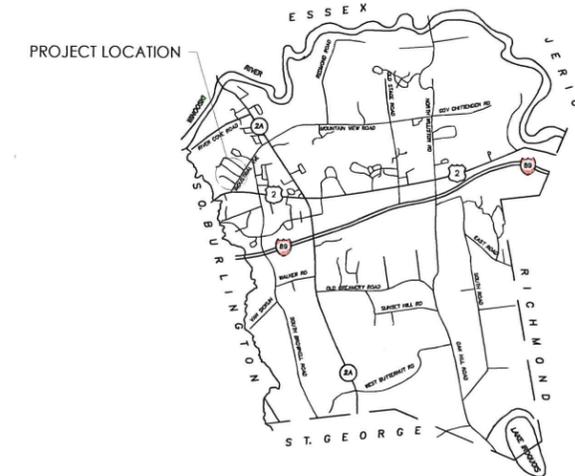
PROJECT DESCRIPTION:
THE PURPOSE OF THIS PROJECT IS TO ERECT A BATCH PLANT WITH ON-SITE SEPTIC, EXPAND THE EXISTING OFFICE SPACE AND CONNECT THE PREVIOUSLY APPROVED NOT YET CONSTRUCTED MAINTENANCE GARAGE AND OFFICE TO THE APPROVED NOT YET CONSTRUCTED MUNICIPAL WASTEWATER SYSTEM (REF# WW-4-1145-1).

Owner/Applicants:

ILH, LLC
SCOTT IRELAND
P.O. BOX 2286
SOUTH BURLINGTON, VERMONT 05407
PHONE: (802) 863-6222

Engineer:

TRUDELL CONSULTING ENGINEERS (TCE)
478 BLAIR PARK ROAD
WILLISTON, VT 05495
(802) 879-6331



Sheet List Index

Sheet Number	Sheet Title
C1-00	Cover
C1-01	Legend & Notes
C1-02	Existing Conditions
C2-01	Overall Site Plan
C2-02	Office & Maintenance Garage Site Plan
C2-03	Batch Plant Site Plan
C8-01	Sanitary Details
C8-02	Sanitary & Water Details
C8-05	Sanitary & Water Notes

USE AND INTERPRETATION OF THE DRAWINGS	
1. Unless otherwise noted, these drawings are intended for preliminary planning, coordination with other disciplines or utilities, and/or approval from the regulatory authorities. They are not intended as construction drawings unless noted as such or marked approved by a regulatory authority.	
2. By use of these drawings for construction of the Project, the Owner represents that they have reviewed, approved, and accepted the drawings, obtained all necessary permits, and have met with all applicable parties/agencies, including but not limited to, the Engineer and the Architect, to ensure these plans are properly coordinated including, but not limited to, contract documents, specifications, owner contract for agreements, building and mechanical plans, private and public utilities, and other pertinent permits for construction.	
3. Owner and Architect are responsible for final design and location of buildings shown, including on area measured to maximum five (5) feet around any building and coordinating final utility connections shown on these plans.	
4. Prior to using these plans for construction layout, the user shall contact TCE to ensure the plan contains the most current revisions.	
5. These Drawings are specific to the Project and are not transferable. As instruments of service, these drawings, and copies thereof, furnished by TCE are its and its client's property. Changes to the drawings may only be made by TCE. If errors or omissions are discovered, they shall be brought to the attention of TCE immediately.	
6. It is the user's responsibility to ensure this copy contains the most current revisions. If unsure, please contact TCE.	
BEFORE USING THESE PLANS ENSURE THAT YOU HAVE THE LATEST REVISION	
LAST REVISED:	01/26/17 PERMITTING ONLY

TCE PROJECT NO: 16-206

TAX ID: 02-097-009-000



TRUDELL CONSULTING ENGINEERS
478 BLAIR PARK ROAD | WILLISTON, VERMONT 05495
802.879.6331 | WWW.TCEVT.COM



SITE	LINE		
	EXISTING	PROPOSED	REMOVED/ABANDONED
PAVED DRIVE OR ROAD	---	---	---
GRAVEL DRIVE OR ROAD	---	---	---
PAVED DRIVE OR ROAD WITH CURB	---	---	---
TREE LINE	~ ~ ~ ~ ~	~ ~ ~ ~ ~	~ ~ ~ ~ ~
TRAIL	---	---	---
WETLAND LIMIT	---	---	---
TOPOGRAPHIC CONTOURS	124	124	
STREAM	---	---	---
GUARD RAIL	---	---	---
UTILITIES			
SEWER MAINS AND SERVICES	S	S	---
SEWER FORCEMAIN	FM	FM	---
WATER MAINS AND SERVICES	W	W	---
STORM DRAINAGE	D	D	---
CURTAIN DRAIN	CD	CD	---
UNDERDRAIN	UD	UD	---
ROOF DRAIN	RD	RD	---
FOOTING DRAIN	FD	FD	---
LIQUID PROPANE OR NATURAL GAS	G	G	---
OVERHEAD POWER	OP	OP	---
UNDERGROUND POWER	UP	UP	---
OVERHEAD TELEPHONE	OT	OT	---
UNDERGROUND TELEPHONE	UT	UT	---
OVERHEAD POWER & TELEPHONE	OP&T	OP&T	---
UNDERGROUND POWER & TELEPHONE	UP&T	UP&T	---
OVERHEAD POWER, TELEPHONE & CABLE	OP&T&C	OP&T&C	---
UNDERGROUND POWER, TELEPHONE & CABLE	UP&T&C	UP&T&C	---
CABLE TELEVISION	CTV	CTV	---
FIBER OPTIC	FO	FO	---
SURVEY			
PROPERTY LINE	---	---	---
RIGHT-OF-WAY LINE	---	---	---
EASEMENTS	---	---	---
FENCE	X	X	---
STONEWALL	---	---	---
BUILDING SETBACKS	---	---	---

LEGEND

SITE	SYMBOL		
	EXISTING	PROPOSED	REMOVED/ABANDONED
3/8"	4	4	4
UTILITIES			
SEWER MANHOLE (SMH)	○	●	○
SEWER CLEANOUT (CO)	○	●	○
PUMP STATION (PS)	○	●	○
STORM DRAINAGE MANHOLE (DMH)	○	●	○
CATCH BASIN (CB)	□	■	□
STORM DRAINAGE CLEANOUT	○	●	○
OUTLET OR END SECTION	<	<	<
VALVE	⊕	⊕	⊕
CURB STOP (CS)	⊕	⊕	⊕
FIRE HYDRANT (HYD)	⊕	⊕	⊕
WATER SUPPLY WELL	⊕	⊕	⊕
END CAP	⊕	⊕	⊕
BLOWOFF	⊕	⊕	⊕
UTILITY POLE	⊕	⊕	⊕
MTC OR TRANSFORMER	⊕	⊕	⊕
TELEPHONE MANHOLE	○	●	○
TELEPHONE PEDESTAL	⊕	⊕	⊕
LUMINAIRE	⊕	⊕	⊕
BOLLARD LIGHT	⊕	⊕	⊕
TELEVISION PEDESTAL	⊕	⊕	⊕
FIELD			
CALCULATED POINT	△	△	△
TCE CONTROL POINT	▲	▲	▲
STEEL REBAR	▲	▲	▲
TCE CONTROL POINT	▲	▲	▲
FLAG NAIL	▲	▲	▲
OBSERVATION WELL	▲	▲	▲
PERCOLATION TEST	▲	▲	▲
SOIL TEST PIT	▲	▲	▲
SOIL BORING	▲	▲	▲
BENCHMARK	⊕	⊕	⊕
SURVEY			
	FOUND	TO BE SET	SET
IRON PIPE	●	●	●
STEEL REBAR	○	○	○
CONCRETE MONUMENT	■	■	■
MARBLE OR STONE MONUMENT	■	■	■
IRON PIN (IP)	○	○	○

EXISTING CONDITIONS NOTES:

- THE PURPOSE OF THE EXISTING CONDITIONS PLAN IS TO DEPICT PERTINENT EXISTING CONDITIONS AS OF THE DATES OF SURVEY - 9/16/15 AND 12/19/16.
- BEARINGS SHOWN ARE BASED UPON VERMONT GRID NORTH.
- VERTICAL DATUM IS BASED ON NAVD88 (GEOID 12).
- COORDINATE SYSTEM IS BASED ON VERMONT STATE PLANE (U.S. SURVEY FEET).
- HORIZONTAL AND VERTICAL CONTROL ESTABLISHED WITH RTK GPS OBSERVATIONS FROM THE ST. ALBANS CORS STATION. A TRIMBLE R6 RTK GPS UNIT WAS EMPLOYED FOR THESE OBSERVATIONS.
- THE LOCATION OF EXISTING UNDERGROUND UTILITIES AND IMPROVEMENTS SHOWN ARE BASED ON RESEARCH, UTILITY PLANS PROVIDED BY OTHERS, AND/OR SURFACE EVIDENCE ENCOUNTERED AND WERE OBTAINED IN A MANNER CONSISTENT WITH THE ORDINARY STANDARD OF PROFESSIONAL CARE AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR THE DESIGN ENGINEER. ADDITIONAL UTILITIES NOT SHOWN MAY EXIST. ENGINEER SHALL BE NOTIFIED IF ANY DISCREPANCIES ARE ENCOUNTERED. ACTUAL LOCATION OF UNDERGROUND UTILITIES MAY VARY. DIGSAFE MUST BE CONTACTED PRIOR TO ANY EXCAVATION. CALL 1-888-DIG SAFE (344-7233).
- PERMETER BOUNDARIES SHOWN HEREON AND NEIGHBORING PARCELS REFERENCES LEASE PLAT BY TCE - DATED 12/12/96 REV # OF 6/30/14.
- REFERENCE PLANS BY TRUDELL CONSULTING ENGINEERS ENTITLED "S.T. GRSWOLD & CO., INC. AVENUE A WILLISTON, VERMONT" SHEETS R1 & R2 DATED 07/06/98. JOB REF. #94086 ENTITLED "L.H. INC." SHEETS C2-01 & C2-02. DATED 2/25/13 REV.# 1/20/14. JOB REF. 12-094. ENTITLED "S.D. IRELAND" SHEETS C1-02 & C2-01. DATED 11/19/15 REV.# 2/12/16.

RECORD DRAWING REQUIREMENTS:

- A CLEAN SET UP TO DATE RECORD DRAWINGS IS TO BE AVAILABLE FOR REVIEW ON SITE AT ALL TIMES. FOR JOBS LASTING MORE THAN 4 WEEKS A REVIEW OF THE RECORD DRAWINGS WILL BE DONE BY THE ENGINEER EVERY 2 WEEKS AND COMMENTS OR DEFICIENCIES MAY BE PROVIDED.
- TIES TO ALL BENDS, VALVES, JOINTS, CONNECTIONS AND DESIGN FEATURES SHALL BE PROVIDED. TIES SHALL BE PULLED FROM EASILY LOCATABLE PERMANENT ABOVE GROUND FEATURES THAT ARE VISIBLE YEAR AROUND SUCH AS BUILDING CORNERS, HYDRANTS, SEWER AND STORM DRAIN COVERS THAT WILL BE CLEARED IN WATER, UTILITY POLES, ETC. REFRAIN FROM PROVIDING TIES WITH ACUTE ANGLES. TIES SHOULD BE PULLED AT ANGLES AS CLOSE TO 90 DEGREES AS POSSIBLE. TIES WITH ANGLE TOO ACUTE MAY BE REJECTED.
- RECORD INFORMATION NEEDS TO BE PROVIDED ON THE APPROPRIATE DESIGN PLANS ON A WEEKLY BASIS. RECORD INFORMATION REGARDING TCE DESIGN ITEMS PLACED ON INAPPROPRIATE DESIGN PLANS WILL NOT BE ACCEPTED.
- TCE WILL ACCEPT ELECTRONIC RECORD COORDINATE INFORMATION, REFERENCED TO THE PROJECT DATUM. ELECTRONIC DATA SHALL BE COMPUTER-AIDED DESIGN (CAD) FILES INCLUDING NATIVE FILE FORMATS (DWG).
- PLANS SUBMITTED AT THE END OF THE PROJECT SHALL BE REVIEWED FOR COMPLETENESS. ALL REQUIREMENTS LISTED ABOVE APPLY.
- IF DESIGN FEATURES WERE INSTALLED EXACTLY PER THE DESIGN PLANS TIES TO THE FEATURE ARE STILL REQUIRED TO BE PROVIDED BY THE CONTRACTOR FOR THE OWNERS USE. ANY FEATURE NOT INDICATED AS DIFFERENT IN RED WILL BE CONSIDERED TO BE EXACTLY PER DESIGN.
- RECORD INFORMATION SHALL INCLUDE BOTH VERTICAL AND HORIZONTAL LOCATIONS. THIS INCLUDES BUT IS NOT LIMITED TO FINISHED FLOOR ELEVATIONS, RIMS AND INVERTS OF STRUCTURES AND PIPING, INVERTS AT CROSSINGS, ETC.
- ANY UTILITIES ENCOUNTERED THAT ARE NOT SHOWN ON THE PLANS SHALL BE ADDED TO THE PLANS WITH APPROPRIATE TIES.
- TIES SHALL INCLUDE ALL UTILITIES INSTALLED BY CONTRACTOR WHICH INCLUDE BUT ARE NOT LIMITED TO SEWER, WATER, STORM, ELECTRIC, CABLE, TELEPHONE, GAS, ETC.
- RECORD DRAWINGS SHALL BE SUPPLIED ON BOTH HARD COPY AND ELECTRONIC DATA. ELECTRONIC DATA SHALL BE COMPUTER-AIDED DESIGN (CAD) FILES INCLUDING NATIVE FILE FORMATS (DWG).
- THE CONTRACTOR SHALL SUBMIT ON A WEEKLY BASIS PROJECT PHOTOGRAPHS. THE INFORMATION WILL BE SUBMITTED TO THE ENGINEER IN ELECTRONIC FORMAT WITH EACH PICTURE BEING LABELED BY DATE, LOCATION AND ACTIVITY. AT A MINIMUM THE CONTRACTOR WILL SUBMIT PICTURES OF ALL THRUST BLOCKS, CONNECTIONS TO EXISTING FACILITIES AND STRUCTURES BEFORE AND AFTER BACKFILL. PROVIDE AUXILIARY LIGHTING AS REQUIRED TO PRODUCE CLEAR, WELL-LIT PHOTOGRAPHS WITHOUT OBSCURING SHADOWS. THE CONTRACTOR SHALL MAINTAIN ONE CHECK SET OF PHOTOGRAPHS AT THE SITE FOR REFERENCE. UPON REQUEST THE CONTRACTOR SHALL PROVIDE PICTURES OF VARIOUS AREAS DEEMED NECESSARY BY THE ENGINEER OR OWNER.
- CERTIFICATIONS BY THE ENGINEER AND SUCCESSFUL TEST RESULTS DO NOT RELIEVE THE CONTRACTOR OF FULL COMPLIANCE WITH THE DESIGN PLANS, SPECIFICATIONS AND PERMITS SHOULD A DEFICIENCY BE DISCOVERED AFTER SAID CERTIFICATION OR TESTING.

CONSTRUCTION NOTES FOR CONTRACTOR & CLIENT/OWNER:

- CONTRACT DOCUMENTS, THESE PLANS PREPARED BY TRUDELL CONSULTING ENGINEERS (TCE), AND ARE INTENDED TO BE USED IN CONJUNCTION WITH THE STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT, 8C-700 PREPARED BY THE ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE (EJCDC), LATEST EDITION. COPIES ARE AVAILABLE AT WWW.NSPE.ORG/EJCDC.
- UNDERGROUND IMPROVEMENTS: THE LOCATION OF EXISTING UNDERGROUND UTILITIES AND IMPROVEMENTS SHOWN ARE ASSUMED BASED ON RESEARCH, UTILITY PLANS PROVIDED BY OTHERS, AND/OR SURFACE EVIDENCE AVAILABLE AND WERE OBTAINED IN A MANNER CONSISTENT WITH THE ORDINARY STANDARD OF PROFESSIONAL CARE AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR THE DESIGN ENGINEER.
- DIFFERING SUBSURFACE OR PHYSICAL CONDITIONS: IF CONTRACTOR BELIEVES THAT ANY SUBSURFACE OR PHYSICAL CONDITION AT OR CONTIGUOUS TO THE SITE THAT IS UNCOVERED OR REVEALED EITHER: (1) IS OF SUCH A NATURE AS TO ESTABLISH THAT ANY "TECHNICAL DATA" ON WHICH CONTRACTOR RELIED IS MATERIALLY INACCURATE OR (2) IS OF SUCH A NATURE AS TO REQUIRE A CHANGE IN THE PLANS/CONTRACT DOCUMENTS OR (3) DIFFERS MATERIALLY FROM THAT SHOWN OR INDICATED IN THE PLANS/CONTRACT DOCUMENTS OR (4) IS OF AN UNUSUAL NATURE AND DIFFERS MATERIALLY FROM CONDITIONS ORDINARILY ENCOUNTERED AND GENERALLY RECOGNIZED AS INHERENT IN WORK OF THE CHARACTER PROVIDED FOR IN THE PLANS/CONTRACT DOCUMENTS, THEN CONTRACTOR SHALL PROMPTLY AFTER BECOMING AWARE THEREOF AND BEFORE FURTHER DISTURBING THE SUBSURFACE OR PHYSICAL CONDITIONS OR PERFORMING ANY WORK IN CONNECTION THEREWITH (EXCEPT IN AN EMERGENCY), NOTIFY OWNER AND ENGINEER ABOUT SUCH CONDITION. CONTRACTOR SHALL NOT FURTHER DISTURB SUCH CONDITION OR PERFORM ANY WORK IN CONNECTION THEREWITH (EXCEPT AS AFORESAID) UNTIL RECEIPT OF WRITTEN ORDER TO DO SO. ALL PARTIES INVOLVED (OWNER, ENGINEER, ARCHITECT AND MUNICIPALITY IF APPLICABLE) SHALL AGREE UPON HOW TO PROCEED AND ANY RELATED COST IMPLICATIONS.
- UTILITIES: PRIVATE AND PUBLIC UTILITIES SUCH AS ELECTRIC, TELEPHONE, GAS, CABLE, FIBER OPTIC ETC. ARE THE RESPONSIBILITY OF THE RESPECTIVE UTILITY COMPANY. ANY INFORMATION SHOWN BY TCE SHOULD BE CONSIDERED PRELIMINARY (USUALLY TO ASSIST WITH PERMITTING) FINAL DESIGN. CONSTRUCTION AND MAINTENANCE ARE THE RESPONSIBILITY OF RESPECTIVE UTILITY COMPANIES. COMPLIANCE WITH EASEMENTS AND REGULATIONS (STATE AND LOCAL) ARE THE RESPONSIBILITY OF RESPECTIVE UTILITY COMPANY.
- DIGSAFE: IN ACCORDANCE WITH VERMONT STATE LAW (VSA TITLE 30 CHAPTER 86 AND PSB RULE 3.800) THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT DIGSAFE SYSTEMS, INC. "DIGSAFE" AT LEAST 48 HOURS, EXCLUDING SATURDAYS, SUNDAYS, AND LEGAL HOLIDAYS, BUT NOT MORE THAN 30 DAYS BEFORE COMMENCING EXCAVATION ACTIVITIES, EXCEPT IN AN EMERGENCY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRE-MARKING THE SITE AND MAINTAINING DESIGNATED MARKINGS. FOR MORE INFORMATION ON DIGSAFE REQUIREMENTS SEE WWW.DIGSAFE.COM.
- JOB SITE SAFETY: NEITHER THE PROFESSIONAL ACTIVITIES OF TRUDELL CONSULTING ENGINEERS (TCE), NOR THE PRESENCE OF TCE OR ITS EMPLOYEES AND SUB CONTRACTANTS AT A CONSTRUCTION SITE SHALL RELIEVE THE GENERAL CONTRACTOR AND ANY OTHER ENTITY OF THEIR OBLIGATIONS, DUTIES AND RESPONSIBILITIES INCLUDING, BUT NOT LIMITED TO, CONSTRUCTION MEANS, METHODS, SEQUENCE, TECHNIQUES OR PROCEDURES NECESSARY FOR PERFORMING, SUPERINTENDING OR COORDINATING ALL PORTIONS OF THE WORK OF CONSTRUCTION IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND ANY HEALTH OR SAFETY PRECAUTIONS REQUIRED BY ANY REGULATORY AGENCIES. TCE AND ITS PERSONNEL HAVE NO AUTHORITY TO EXERCISE ANY CONTROL OVER ANY CONSTRUCTION CONTRACTOR OR OTHER ENTITY OR THEIR EMPLOYEES IN CONNECTION WITH THEIR WORK OR ANY HEALTH OR SAFETY PRECAUTIONS. THE CLIENT AGREES THAT THE GENERAL CONTRACTOR IS SOLELY RESPONSIBLE FOR JOB SITE SAFETY, AND WARRANTS THAT THIS INTENT SHALL BE MADE EVIDENT IN THE CLIENTS AGREEMENT WITH THE GENERAL CONTRACTOR. THE CLIENT ALSO AGREES THAT THE CLIENT, TCE AND TCE'S CONSULTANTS SHALL BE INDEMNIFIED AND SHALL BE MADE ADDITIONALLY INSURED UNDER THE GENERAL CONTRACTOR'S GENERAL LIABILITY INSURANCE POLICY.
- CODES AND STANDARDS COMPLIANCE: TCE SHALL EXERCISE USUAL AND CUSTOMARY PROFESSIONAL CARE IN ITS EFFORTS TO COMPLY WITH CODES, STANDARDS, REGULATIONS AND ORDINANCES IN EFFECT. THE OWNER ACKNOWLEDGES THAT SUCH REQUIREMENTS MAY BE SUBJECT TO VARIOUS AND CONTRADICTORY INTERPRETATIONS. TCE, THEREFORE, WILL USE ITS REASONABLE PROFESSIONAL EFFORTS AND JUDGMENT TO INTERPRET APPLICABLE REQUIREMENTS AS THEY APPLY TO THE PROJECT. TCE, HOWEVER, CANNOT AND DOES NOT WARRANT OR GUARANTEE THAT THE PROJECT WILL COMPLY WITH ALL INTERPRETATIONS OF SUCH REQUIREMENTS.
- CONSTRUCTION OBSERVATION: TCE MAY VISIT THE PROJECT AT APPROPRIATE INTERVALS DURING CONSTRUCTION TO BECOME GENERALLY FAMILIAR WITH THE PROGRESS AND QUALITY OF THE CONTRACTOR'S WORK, AND TO DETERMINE IF THE WORK IS PROCEEDING IN GENERAL ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE OWNER HAS NOT RETAINED TCE TO MAKE DETAILED INSPECTIONS OR TO PROVIDE EXHAUSTIVE OR CONTINUOUS PROJECT REVIEW AND OBSERVATION SERVICES. TCE DOES NOT GUARANTEE THE PERFORMANCE OF, AND SHALL NOT HAVE RESPONSIBILITY FOR, THE ACTS OR OMISSIONS OF ANY CONTRACTOR, SUB-CONTRACTOR, SUPPLIER OR ANY OTHER ENTITY FURNISHING MATERIALS OR PERFORMING ANY WORK ON THE PROJECT. TCE SHALL NOT SUPERVISE, DIRECT OR HAVE CONTROL OVER THE CONTRACTOR'S WORK NOR HAVE ANY RESPONSIBILITY FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES OF THE CONTRACTOR. IF THE OWNER DESIRES MORE EXTENSIVE PROJECT OBSERVATION OR FULL-TIME PROJECT REPRESENTATION, THE OWNER SHALL REQUEST SUCH SERVICES BE PROVIDED BY TCE AS ADDITIONAL SERVICES.
- UTILITIES SHOWN ARE APPROXIMATE AND DO NOT NECESSARILY REPRESENT ALL UTILITIES LOCATED ON OR ADJACENT TO THE AREA SURVEYED. THE CONTRACTOR SHALL FIELD VERIFY ALL UTILITY CONFLICTS. ALL DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER.
- ALL EXISTING UTILITIES NOT INCORPORATED INTO THE FINAL DESIGN ARE TO BE REMOVED OR ABANDONED AS INDICATED ON THE PLANS.
- THE CONTRACTOR SHALL MAINTAIN AS-BUILT PLANS (WITH TIES), FOR ALL UNDERGROUND UTILITIES. THESE PLANS SHALL BE SUBMITTED TO THE OWNER AT THE COMPLETION OF THE PROJECT.
- THE CONTRACTOR SHALL REPAIR/RESTORE ALL DISTURBED AREAS (ON OR OFF THE SITE) AS A DIRECT OR INDIRECT RESULT OF THE CONSTRUCTION.
- ALL GRASSED AREAS SHALL BE MAINTAINED UNTIL FULL VEGETATION IS ESTABLISHED.
- MAINTAIN ALL TREES OUTSIDE OF CONSTRUCTION LIMITS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK NECESSARY FOR COMPLETE AND OPERABLE FACILITIES AND UTILITIES.
- IN ADDITION TO THE REQUIREMENTS SET IN THESE PLANS AND SPECIFICATIONS, THE CONTRACTOR SHALL COMPLETE THE WORK IN ACCORDANCE WITH ALL PERMIT CONDITIONS, LOCAL PUBLIC WORKS STANDARDS AND ALL CONSTRUCTION SAFETY REGULATIONS.
- ANY DEWATERING NECESSARY FOR THE COMPLETION OF THE SITEWORK SHALL BE CONSIDERED AS PART OF THE CONTRACT AND SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
- IF THERE ARE ANY CONFLICTS OR INCONSISTENCIES WITH THE PLANS OR SPECIFICATIONS, THE CONTRACTOR SHALL CONTACT THE ENGINEER FOR VERIFICATION BEFORE WORK CONTINUES ON THE REVIS# IN QUESTION.
- ALL SYSTEM COMPONENTS (TANKS, PIPES, JOINTS) SHALL BE WATERTIGHT.
- CONTRACTOR TO ADJUST ANY POTABLE WATER LINE CROSSINGS AND CONSULT WITH ENGINEER TO MEET REQUIREMENTS SHOWN ON THE DETAIL SHEET "WATER/SEWER CROSSING" DETAIL.
- SEWER LATERAL CONNECTIONS ARE SHOWN FOR CLARITY. CONTRACTOR TO CONSULT WITH ENGINEER AND SUPPLY BENDS, CLEANOUTS, ETC. AS NECESSARY TO FACILITATE PROPER CONNECTION BETWEEN FOUNDATION WALL AND SEWER MAIN LINE.
- CONTRACTOR IS RESPONSIBLE FOR COORDINATION WITH ALL RELEVANT PARTIES (INCLUDING, BUT NOT LIMITED TO OWNER, ARCHITECT AND UTILITY COMPANIES) TO DETERMINE FINAL LAYOUT AND DESIGN.
- THRUST BLOCKS FOR PRESSURE LINES NOT SHOWN FOR CLARITY. PROVIDE THRUST BLOCKS AT ALL BENDS, TEE AND REDUCES. PROJECT ENGINEER TO OBSERVE ALL THRUST BLOCKS PRIOR TO BACKFILL.
- SEWER CONNECTIONS TO EXISTING MANHOLES SHALL INCLUDE WATER TIGHT CONNECTIONS, INCLUDING INVERT TO PROVIDE SMOOTH FLOW STREAM AND TESTING TO ENSURE STRUCTURE IS WATER TIGHT. IF AN EXISTING MANHOLE IS FOUND NOT TO BE WATER TIGHT IT SHALL BE EXPOSED AND REPAIRED ON THE OUTSIDE, PRIOR TO CONNECTING TO EXISTING MANHOLES. SUBMIT SHOP DRAWINGS ON CORE LOCATION, ANY REQUIRED PIPING (FOR DROP MANHOLES) AND CONNECTIONS TO INVERT FORM.
- FINAL RIMS OF SEWER MANHOLES AND WATER VALVES SHALL BE CONFIRMED AND COORDINATED WITH FINAL SITE GRADING. MINOR ADJUSTMENTS FROM DESIGN GRADES MAY BE REQUIRED BY OWNER OR ENGINEER AND SHALL BE INCLUDED.
- ROCK REMOVAL WORK FOR BOULDERS UNDER 2.5 CUBIC YARDS IS INCLUDED AS PART OF EXCAVATION. ANY ROCK REMOVAL FOR 2.5 CUBIC YARDS OR GREATER SHALL BE TREATED AS LEDGE REMOVAL.
- THE GENERAL CONTRACTOR IS REQUIRED TO CONFORM TO THE STRICTEST INTERPRETATION OF THE CONTRACT DRAWING, SPECIFICATION, PERMITS AND CONSTRUCTION CONTRACT. ALL EARTH MATERIAL RECEIVED OR DISPOSED FROM OUTSIDE SOURCES SHALL COMPLY WITH APPLICABLE PERMITS AND REGULATIONS. SHOP DRAWING SUBMITTALS SHALL INCLUDE CONTRACTOR'S CERTIFICATION STATEMENT OF COMPLIANCE AND COPIES OF RELEVANT PERMITS FOR OUTSIDE SOURCES.
- CONTRACTOR SHALL PAY FOR ALL REQUIRED TESTING. THIS SHALL INCLUDE BUT IS NOT LIMITED TO: SOIL TESTING, COMPACTATION TESTING, SIEVE ANALYSIS, CONCRETE TESTING, ASPHALT PENETRATION TESTING, BACTERIOLOGICAL TESTING FOR WATER AND OTHER TESTING AS PART OF STANDARD PRACTICE FOR A CONSTRUCTION PROJECT OF THIS NATURE, UNLESS INDICATED OTHERWISE AND APPROVED BY THE OWNER.

CONSTRUCTION PHASE:

LISTED BELOW IS A BRIEF SUMMARY OF CONSTRUCTION PHASE REQUIREMENTS. THIS LIST IS NOT INTENDED TO BE ALL-INCLUSIVE. CONSTRUCTION SPECIFICATIONS, PERMIT REQUIREMENTS AND SUBSEQUENT CONTRACTUAL AGREEMENTS FROM PARTIES INVOLVED SHALL PREVAIL.

PRE-CONSTRUCTION

- OWNER TO ESTABLISH SCOPE OF SERVICES WITH PROJECT ENGINEER(S)
- OWNER TO IDENTIFY WORK SCOPE AND SCHEDULE
- UPON OWNER REQUEST, ASSIST WITH CONTRACTOR BID AND SELECTION PROCESS
- FINALIZE PLANS FOR CONSTRUCTION READINESS INCLUDING SPECIFICATIONS
- MEETING BETWEEN OWNER, ENGINEER(S), CONTRACTOR(S), ARCHITECT(S), REGULATORY AUTHORITIES AND OTHER PERTINENT PARTIES TO REVIEW AND DISCUSS THE WORK

PRE-CONSTRUCTION MEETING

- CONTRACTOR TO IDENTIFY SUBCONTRACTORS
- CONTRACTOR TO ESTABLISH SCHEDULE
- CONTRACTOR TO DESIGNATE RESPONSIBLE PERSONNEL
- CONFIRM PROCEDURE FOR RFIs, CHANGE ORDERS, EXTRAS AND PAY REQUESTS
- CONTRACTOR TO SUBMIT SHOP DRAWINGS
- CONTRACTOR TO OUTLINE SAFETY, SECURITY, AND WORKING HOURS
- CONTRACTOR OR OWNER TO IDENTIFY TESTING COMPANY

CONSTRUCTION PHASE

- INITIAL CONTROL SUPPLIED BY OWNER AND CONTRACTOR RESPONSIBLE FOR LAYOUT
- OWNER TO PROVIDE PROJECT ENGINEER TO OBSERVE CONSTRUCTION PERIODICALLY, DURING CRITICAL PHASES AND TESTING.
- WEEKLY JOB MEETINGS DURING CONSTRUCTION
- OWNER TO PROVIDE PROJECT ENGINEER TO REVIEW AND DISCUSS PLANS, ANSWER QUESTIONS, RESPOND TO CHANGES AND OTHER BUSINESS COMMON TO CONSTRUCTION SERVICES.
- OBSERVE TESTING AND COLLECT RESULTS
- OWNER AND CONTRACTOR TO COMPLY WITH PERMITS

Upon finding that the final plans complied with all requirements of the Williston Development Bylaw and all conditions imposed on the approval of Discretionary Permit 12-22, the Williston Development Review Board/Administrator approved the final plans for S.D. Ireland on the 20th day of Dec, 2016.

[Signature]
 President/member or Administrator's signature



Revisions	No.	Description	Date	By

TAX ID: 02-097-009-000

Use of These Drawings
 1. Unless otherwise noted, these Drawings are intended for preliminary planning, coordination with other disciplines or utilities, and/or approval from the regulatory authorities. They are not intended as construction drawings unless noted as such or marked approved by a regulatory authority.
 2. By use of these drawings for construction of the Project, the Owner represents that they have reviewed, approved, and accepted the drawings, obtained all necessary permits, and have met with all applicable parties/disciplines, including but not limited to, the Engineer and the Architect, to ensure these plans are properly coordinated including, but not limited to, contract documents, specifications, owner/contractor agreements, building and mechanical plans, private and public utilities, and other permit requirements for construction.
 3. Owner and Architect, are responsible for final design and location of buildings shown, including an area measured a minimum five (5) feet around any building and coordinating final utility connections shown on these plans.
 4. Prior to using these plans for construction layout, the user shall contact TCE to ensure the plan contains the most current revisions.
 5. These Drawings are specific to the Project and are not transferable. As instruments of service, these drawings, and copies thereof, furnished by TCE are its exclusive property. Changes to the drawings may only be made by TCE. If errors or omissions are discovered, they should be brought to the attention of TCE immediately.
 6. It is the user's responsibility to ensure this copy contains the most current revisions. If unsure, please contact TCE.



Project Title
SD Ireland
 193 Industrial Avenue
 Williston, Vermont

Sheet Title	
Date:	01/28/17
Scale:	Shown
Project Number:	16-206
Drawn By:	NPC/RMP/ALR
Project Engineer:	ALR
Approved By:	JPP
Field Book:	289

C1-01

Project Reference: 160816 x 150817

LEGEND NOTE:

SOME INFORMATION MAY BE PROVIDED BY OTHERS AND COULD BE SHOWN WITH A DIFFERENT SYMBOL NOT SHOWN ON THIS LEGEND. HOWEVER, THEY ARE LABELED ON RESPECTIVE PLANS. IN SOME CASES A CHANGE IN SCALE OR PRINTER CAN ALTER INFORMATION TO NOT SHOW AN EXACT MATCH ON THIS LEGEND. IF ANY QUESTIONS EXIST CONTACT THE ENGINEER TO CLARIFY.

PROJECT INFORMATION:

- OWNER OF RECORD: ILH, LLC
P.O. BOX 2286
SOUTH BURLINGTON, VERMONT 05407
- TAX PARCEL ID: 02-097-009-000
- PHYSICAL ADDRESS OF PROPERTY: S.D. IRELAND
193 INDUSTRIAL AVENUE
WILLISTON, VERMONT 05495
- PARCEL SIZE: 50.54 AC
- ZONING DISTRICT: (ZDW (INDUSTRIAL WEST ZONING DISTRICT))

APPLICANT:

ILH, LLC
SCOTT IRELAND
P.O. BOX 2286
SOUTH BURLINGTON, VERMONT 05407
PHONE: (802) 863-6222

CIVIL ENGINEER:

TRUDELL CONSULTING ENGINEERS (TCE)
ATTN: JEREMY MATOSKY, PE, CPESC
478 BLAIR PARK ROAD
WILLISTON, VT 05495
PHONE: (802) 879-6331



Revisions	No.	Description	Date	By
	1	Remove Septic Tank	06/09/2017	ALR

TAX ID: 02-097-009-000

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Project Title

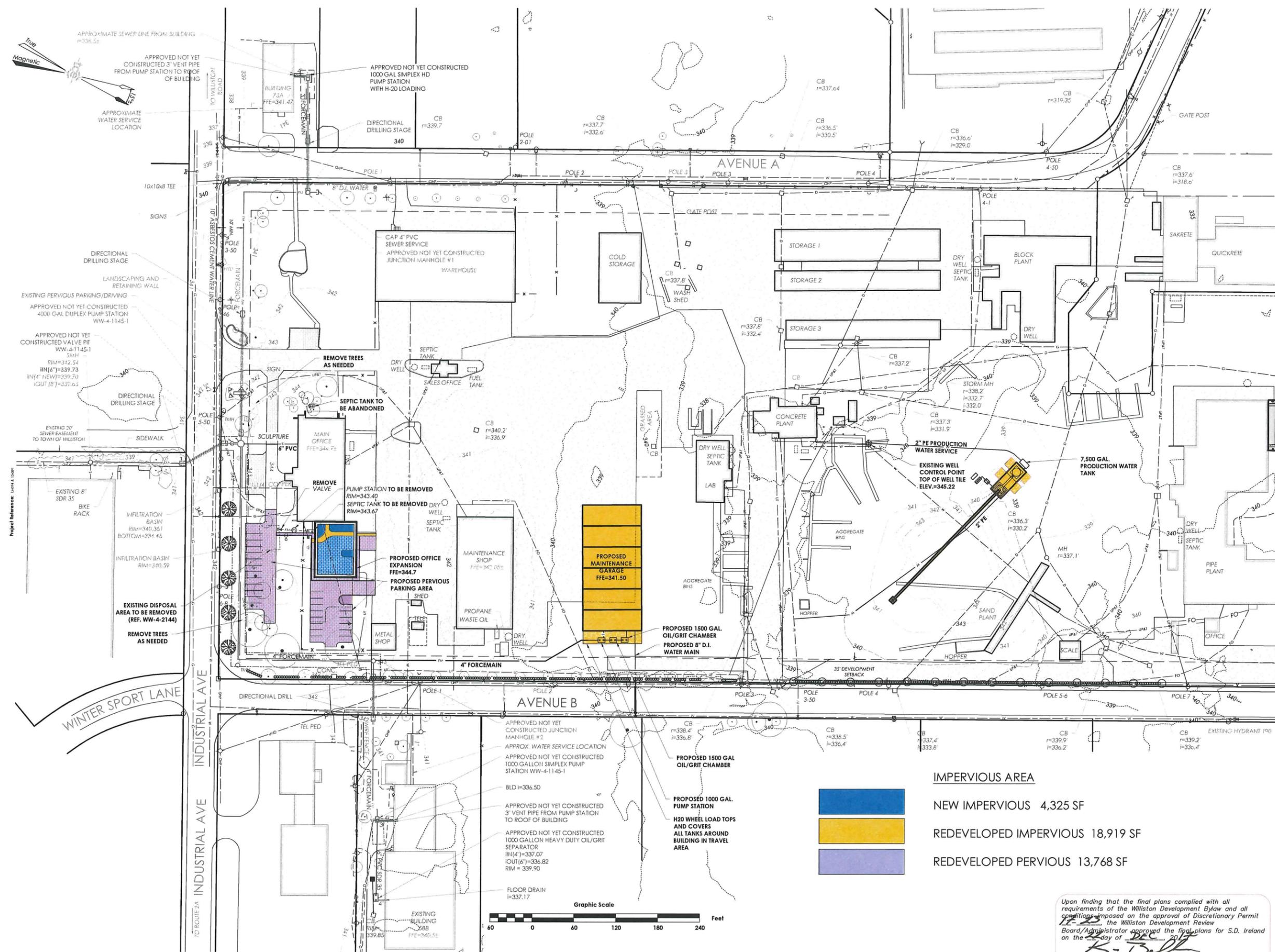
SD Ireland
 193 Industrial Avenue
 Williston, Vermont

Sheet Title

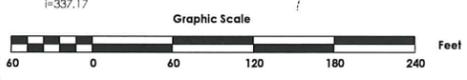
Overall Site Plan

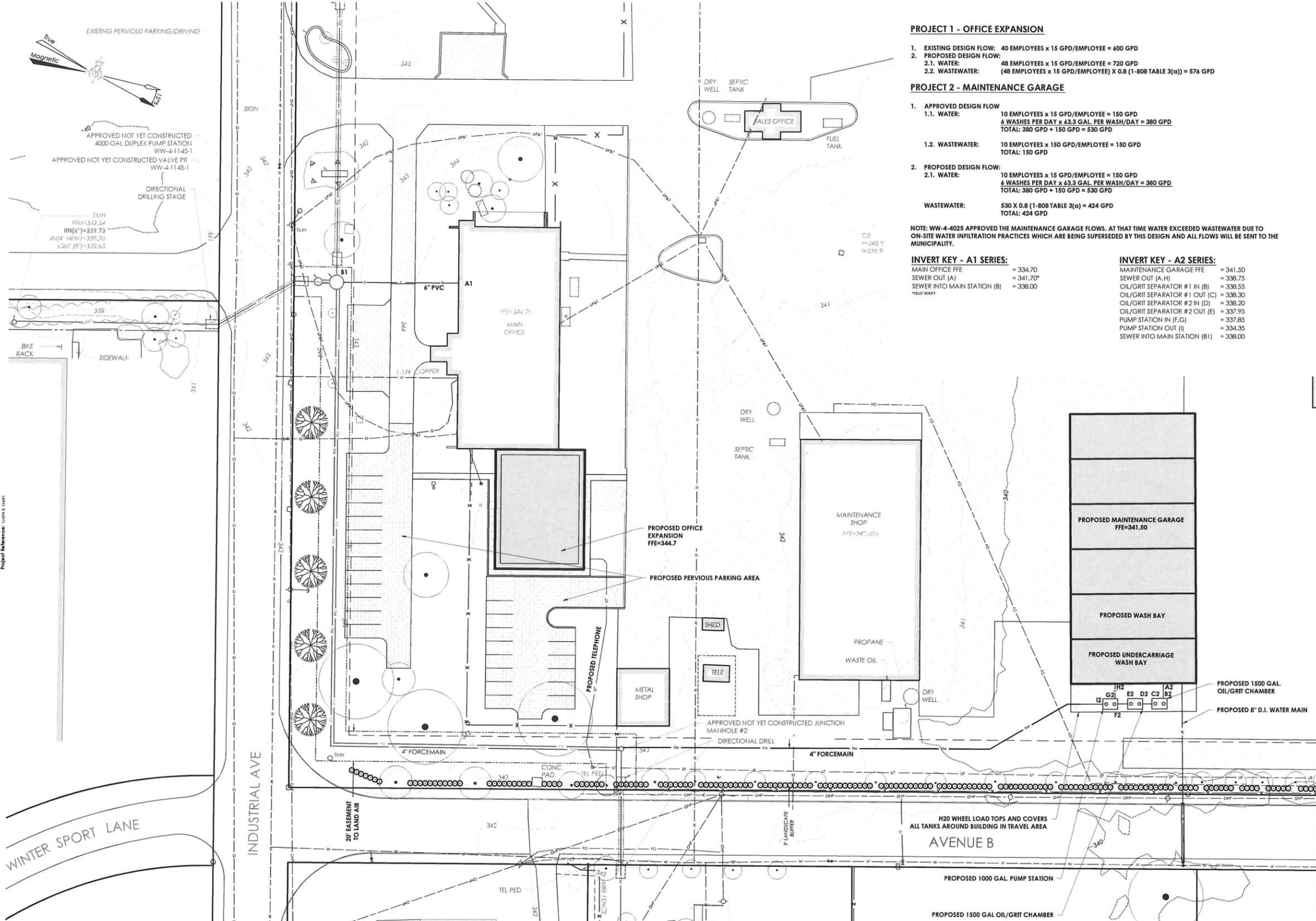
Date:	01/26/17
Scale:	1" = 60'
Project Number:	16-204
Drawn By:	NPC/RMP/ALR
Project Engineer:	ALR
Approved By:	JPP
Field Book:	289

C2-01



Upon finding that the final plans complied with all requirements of the Williston Development Bylaw and all conditions imposed on the approval of Discretionary Permit the Williston Development Review Board/Administrator approved the final plans for S.D. Ireland on the 26th day of Dec 2017.
K. Bill
 Presiding member or Administrator's signature





PROJECT 1 - OFFICE EXPANSION

- 1. EXISTING DESIGN FLOW: 40 EMPLOYEES x 15 GPD/EMPLOYEE = 600 GPD
- 2. PROPOSED DESIGN FLOW:
 - 2.1. WATER: 48 EMPLOYEES x 15 GPD/EMPLOYEE = 720 GPD
 - 2.2. WASTEWATER: (48 EMPLOYEES x 15 GPD/EMPLOYEE) X 0.8 (1-808 TABLE 3(a)) = 576 GPD

PROJECT 2 - MAINTENANCE GARAGE

- 1. APPROVED DESIGN FLOW
 - 1.1. WATER: 10 EMPLOYEES x 15 GPD/EMPLOYEE = 150 GPD
 - 4 WASHES PER DAY x 43.3 GAL. PER WASH/DAY = 380 GPD
 - TOTAL: 380 GPD + 150 GPD = 530 GPD
- 1.2. WASTEWATER: 10 EMPLOYEES x 150 GPD/EMPLOYEE = 150 GPD
- TOTAL: 150 GPD
- 2. PROPOSED DESIGN FLOW:
 - 2.1. WATER: 10 EMPLOYEES x 15 GPD/EMPLOYEE = 150 GPD
 - 4 WASHES PER DAY x 43.3 GAL. PER WASH/DAY = 380 GPD
 - TOTAL: 380 GPD + 150 GPD = 530 GPD
- WASTEWATER: 530 X 0.8 (1-808 TABLE 3(a)) = 424 GPD
- TOTAL: 424 GPD

NOTE: WW-4-4025 APPROVED THE MAINTENANCE GARAGE FLOWS. AT THAT TIME WATER EXCEEDED WASTEWATER DUE TO ON-SITE WATER INFILTRATION PRACTICES WHICH ARE BEING SUPERSEDED BY THIS DESIGN AND ALL FLOWS WILL BE SENT TO THE MUNICIPALITY.

INVERT KEY - A1 SERIES:

MAIN OFFICE FFE	= 334.70
SEWER OUT (A)	= 341.70"
SEWER INTO MAIN STATION (B)	= 338.00

INVERT KEY - A2 SERIES:

MAINTENANCE GARAGE FFE	= 341.50
SEWER OUT (A,H)	= 338.75
OIL/GRIT SEPARATOR #1 IN (B)	= 338.55
OIL/GRIT SEPARATOR #1 OUT (C)	= 338.30
OIL/GRIT SEPARATOR #2 IN (D)	= 338.20
OIL/GRIT SEPARATOR #2 OUT (E)	= 337.95
PUMP STATION IN (F,G)	= 337.85
PUMP STATION OUT (I)	= 334.35
SEWER INTO MAIN STATION (B1)	= 338.00

MATCHLINE C2-03

MATCHLINE C2-03



No.	Description	Date	By
1	Remove Septic Tank	08/09/2017	ALR

TAX ID: 02-097-009-000

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Project Title: _____

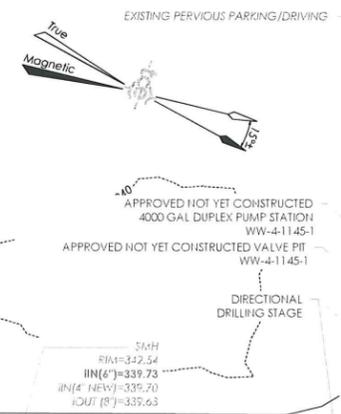
SD Ireland
 193 Industrial Avenue
 Williston, Vermont

Sheet Title: _____

**Office & Maintenance
 Garage Site Plan**

Date:	01/26/17
Scale:	1" = 30'
Project Number:	16-206
Drawn By:	NPC/RMP/ALR
Project Engineer:	ALR
Approved By:	JPP
Field Book:	289

C2-02

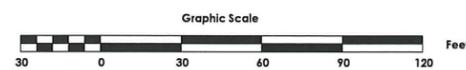


5M-H
 STA=342.54
 IN(6")=339.73
 IN(4")=339.70
 OUT (8")=339.63



Project Reference: 1/2016-1/2017

"I HEREBY CERTIFY THAT THE DESIGN RELATED INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT, AND THAT, IN THE EXERCISE OF MY REASONABLE PROFESSIONAL JUDGMENT, THE DESIGN INCLUDED IN THIS APPLICATION FOR A PERMIT COMPLIES WITH THE VERMONT WASTEWATER SYSTEM AND POTABLE WATER SUPPLY RULES AND THE VERMONT WATER SUPPLY RULES (REF. ENVIRONMENTAL PROTECTION RULES CHAPTER 1 S 1-302 (b)(1))."



Upon finding that the final plans complied with all requirements of the Williston Development Bylaw and all conditions imposed on the approval of Discretionary Permit 17-23 the Williston Development Review Board/Administrator approved the final plans for S.D. Ireland on the 26 day of 01, 2017.

[Signature]
 Presiding member of Administrator's signature

Revisions

No.	Description	Date	By

TAX ID: 02-097-009-000

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Project Title

SD Ireland
 193 Industrial Avenue
 Williston, Vermont

Sheet Title

Batch Plant Site Plan

Date: 01/26/17
 Scale: 1" = 30'
 Project Number: 16-206
 Drawn By: NPC/RMP/ALR
 Project Engineer: ALR
 Approved By: JPP
 Field Book: 289

C2-03

BASIS OF DESIGN FOR IN-GROUND CONVENTIONAL DISPOSAL SYSTEM:
 THE INTENT OF THIS DESIGN IS TO SHOW A STATE COMPLIANT WASTEWATER DISPOSAL SYSTEM FOR THE PROPOSED BUSINESS WITH 34 INCHES OR MORE OF NATURALLY OCCURRING SOILS BETWEEN THE DISPOSAL TRENCH BOTTOM AND EVIDENCE OF THE SEASONAL HIGH GROUNDWATER TABLE AND 48 INCHES TO ANY SIGNS OF LEDGE. THE DESIGN IS BASED ON THE PRESCRIPTIVE APPROACH OF THE STATE ENVIRONMENTAL PROTECTION RULES.

1. SEWAGE FLOWS: 1 EMPLOYEE x 15 GPD/EMPLOYEE = 15 GPD
2. APPLICATION RATE: $3/\sqrt{t} = 3/\sqrt{5} = 1.34$ GPD/SF, WHERE t = SECOND SLOWEST PERCOLATION RATE
3. REQUIRED DISPOSAL FIELD AREA: 15 GPD / 1.34 GPD / SF = 11.2 SF
4. PROVIDED DISPOSAL AREA = 4 FT x 20 FT = 80 SF

DRILLED WATER SUPPLY
 USE EXISTING ON-SITE WELL FOR 1 EMPLOYEE @ 15 GPD*
 *15 GPD EMPLOYEE IS AN EXISTING EMPLOYEE, NOT A PROPOSED NEW FLOW THEREFORE NO NET INCREASE IN DEMAND.

SOIL TEST PIT INFORMATION:

TP-1
 0-30" GRAVEL FILL
 30-54" BROWN MEDIUM SAND TAN IN COLOR, LOOSE, PERMEABLE, PEBBLES
 54-61" FINE GRAVEL, GREY/TAN COLOR, COARSE SAND MIXED, FRIABLE
 61-100" GREY/BROWN COARSE SAND, FEW 2" STONES
 NO SHWT/LEDGE

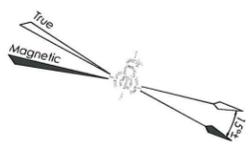
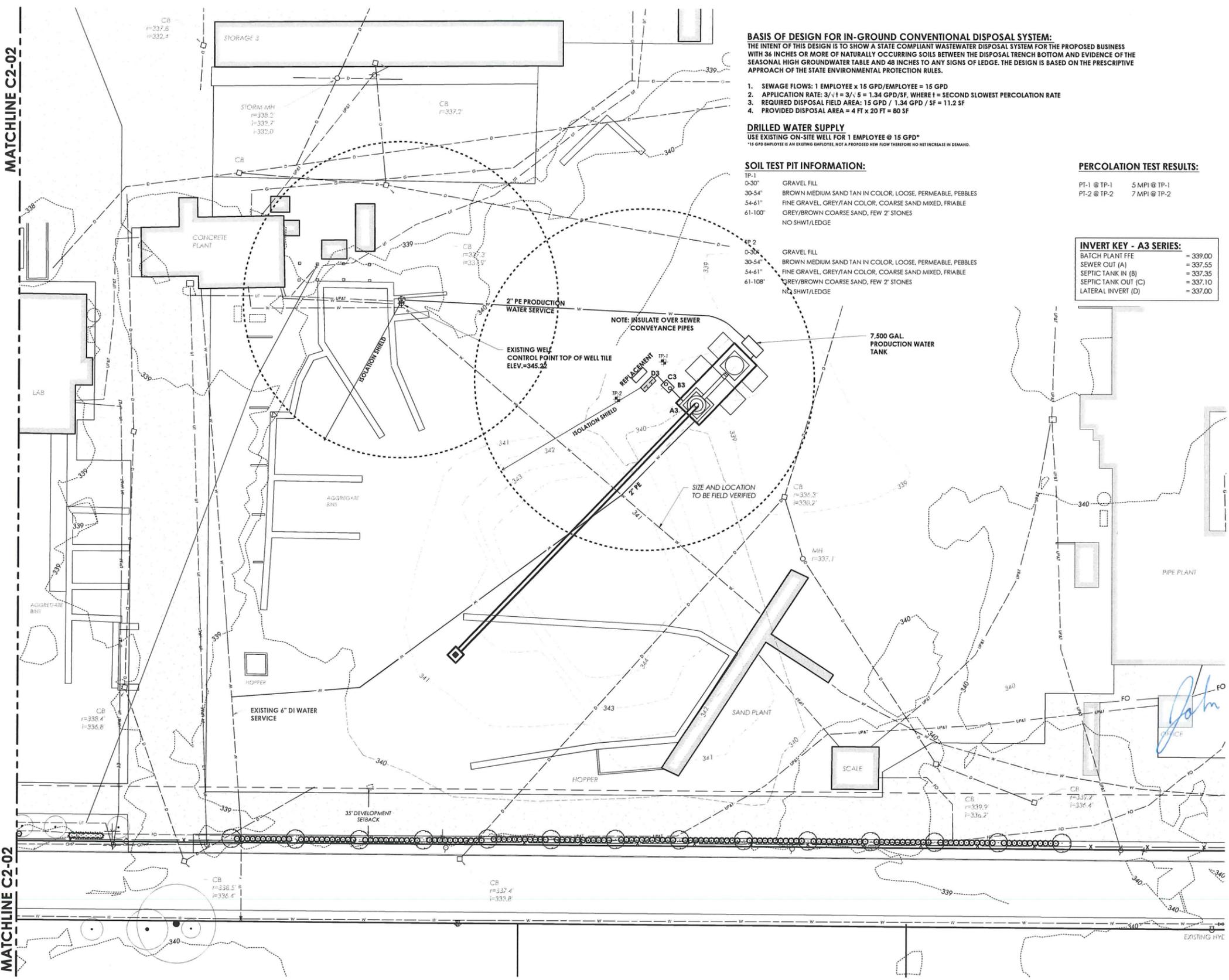
PERCOLATION TEST RESULTS:

PI-1 @ TP-1 5 MPI @ TP-1
 PI-2 @ TP-2 7 MPI @ TP-2

INVERT KEY - A3 SERIES:

BATCH PLANT FFE = 339.00
 SEWER OUT (A) = 337.55
 SEPTIC TANK IN (B) = 337.35
 SEPTIC TANK OUT (C) = 337.10
 LATERAL INVERT (D) = 337.00

TP-2
 0-30" GRAVEL FILL
 30-54" BROWN MEDIUM SAND TAN IN COLOR, LOOSE, PERMEABLE, PEBBLES
 54-61" FINE GRAVEL, GREY/TAN COLOR, COARSE SAND MIXED, FRIABLE
 61-108" GREY/BROWN COARSE SAND, FEW 2" STONES
 NO SHWT/LEDGE

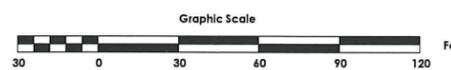


MATCHLINE C2-02

MATCHLINE C2-02

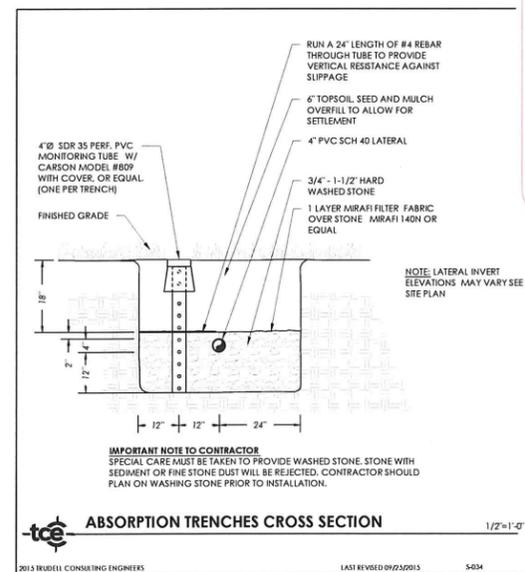
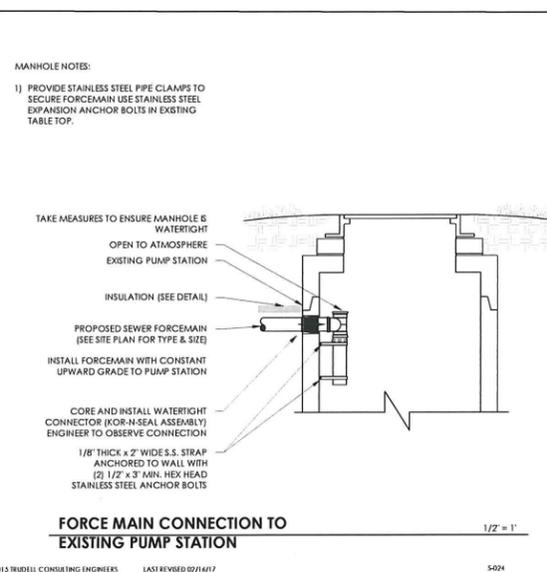
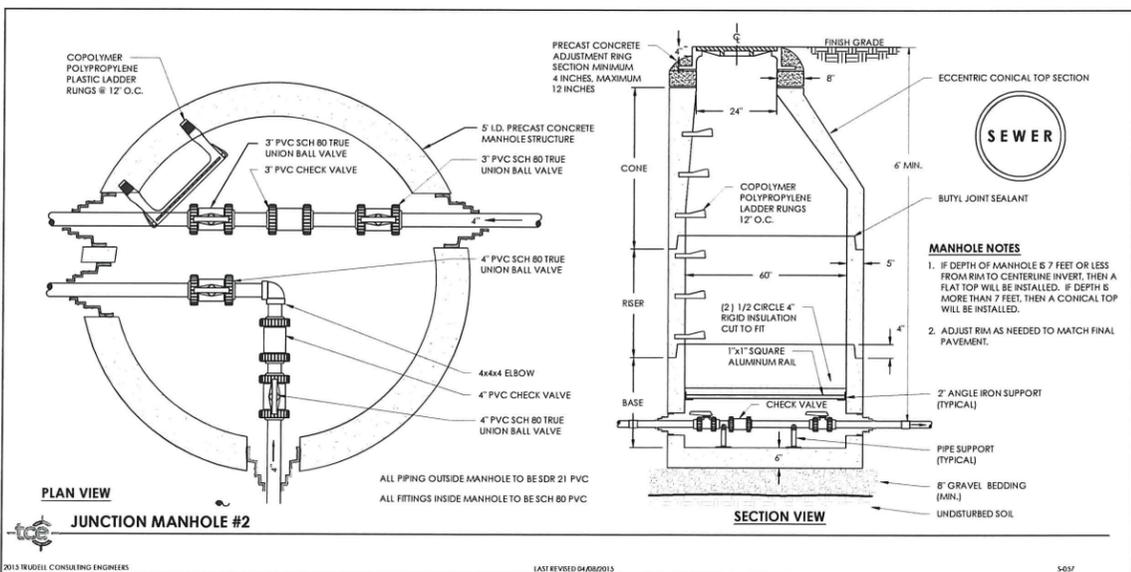
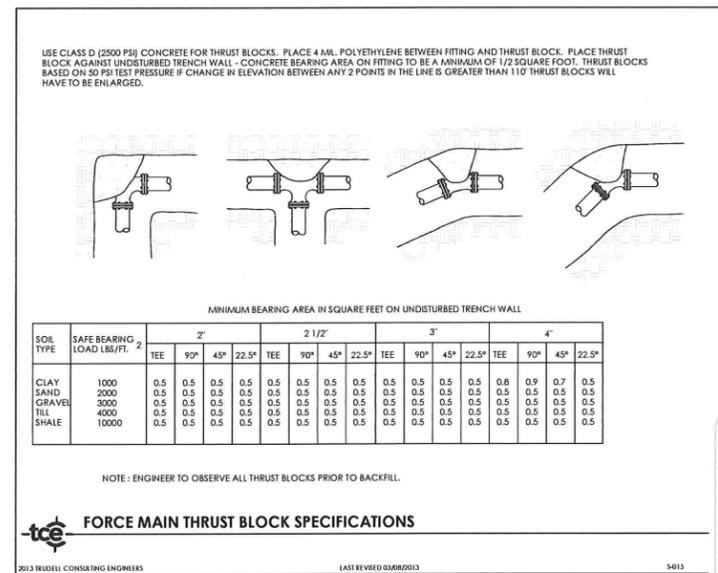
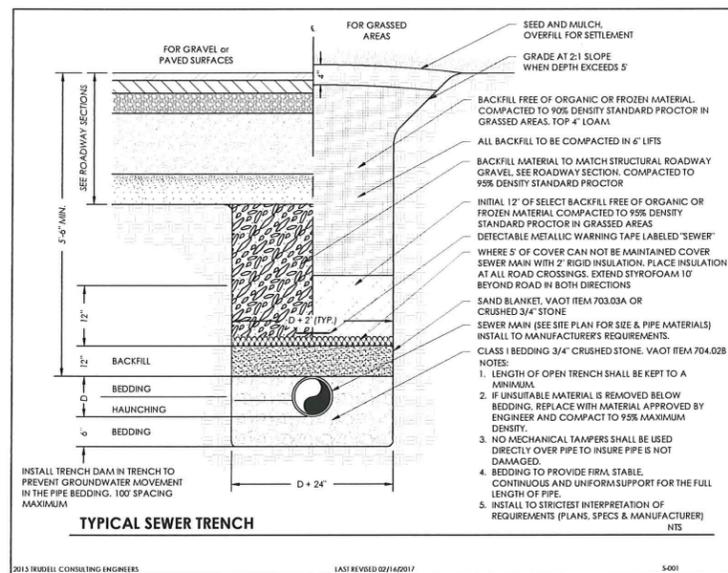
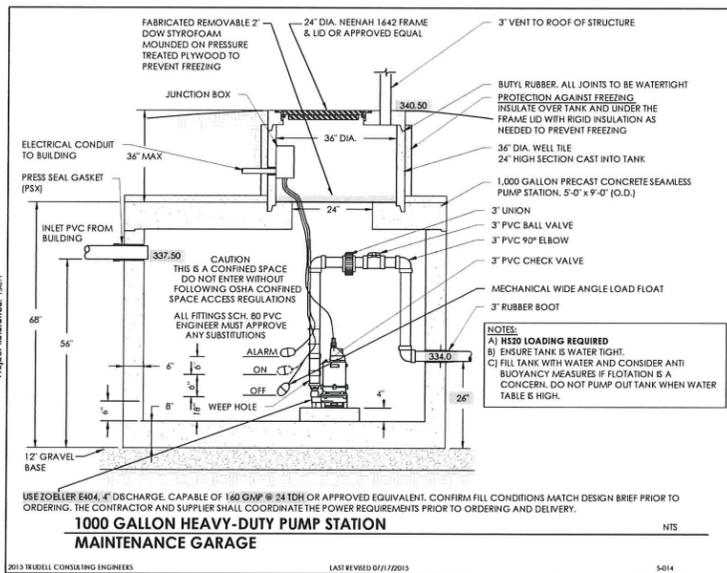
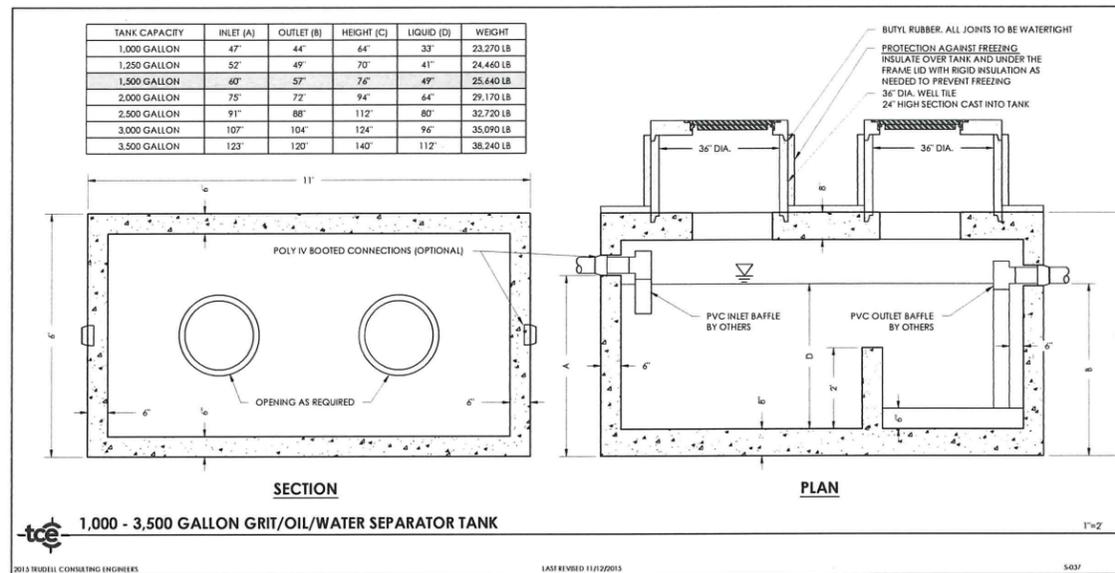
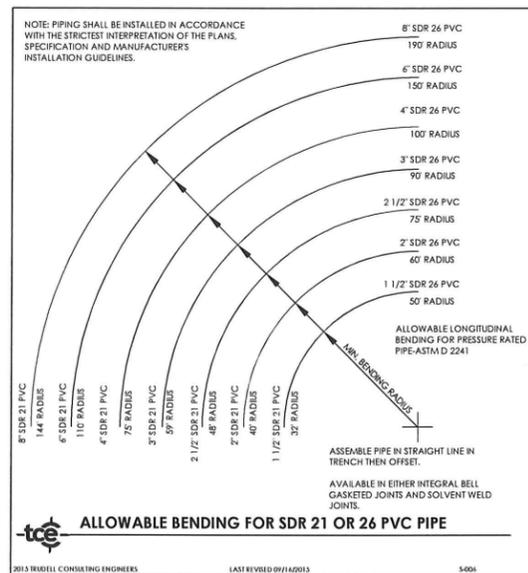
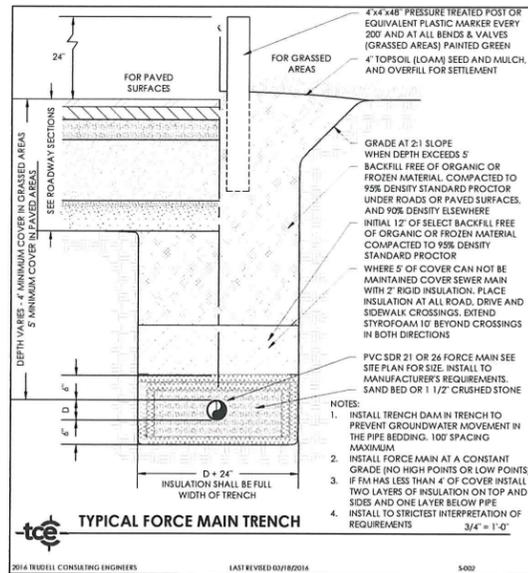
Project Reference: JOHN X. LAMOT

I HEREBY CERTIFY THAT THE DESIGN RELATED INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT, AND THAT, IN THE EXERCISE OF MY REASONABLE PROFESSIONAL JUDGMENT, THE DESIGN INCLUDED IN THIS APPLICATION FOR A PERMIT COMPLIES WITH THE VERMONT WASTEWATER SYSTEM AND POTABLE WATER SUPPLY RULES AND THE VERMONT WATER SUPPLY RULES (REF. ENVIRONMENTAL PROTECTION RULES CHAPTER 1 § 1-302 (b)(1)).



Upon finding that the final plans complied with all requirements of the Williston Development Bylaw and all conditions imposed on the approval of Discretionary Permit 17-23, the Williston Development Review Board/Administrator approved the final plans for S.D. Ireland on the 24 day of 2017.

[Signature]
 Presiding member or Administrator's signature



Revisions

No.	Description	Date	By

TAX ID: 02-097-009-000

Use of These Drawings

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2. By use of these drawings for construction of the Project, the Owner represents that they have reviewed, approved, and accepted the drawings, obtained all necessary permits, and have met with all applicable parties/disciplines, including but not limited to, the Engineer and the Architect, to insure these plans are properly coordinated including, but not limited to, contract documents, specifications, owner/contractor agreements, building and mechanical plans, private and public utilities, and other pertinent permits for construction.

3. Owner and Architect, are responsible for final design and location of buildings shown, including an area measured a minimum five (5) feet around any building and coordinating final utility connections shown on these plans.

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Project Title

SD Ireland

193 Industrial Avenue
Williston, Vermont

Sheet Title

Sanitary Details

Date: 01/24/17

Scale: Shown

Project Number: 16-206

Drawn By: RMP

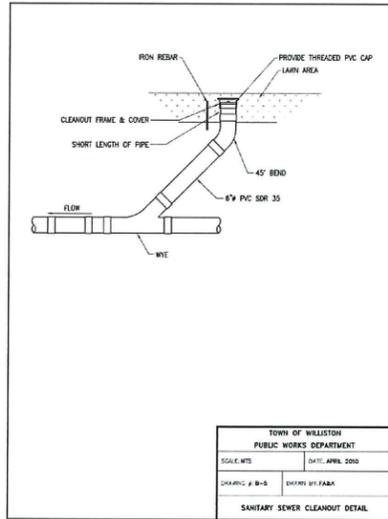
Project Engineer: AIR

Approved By: JPP

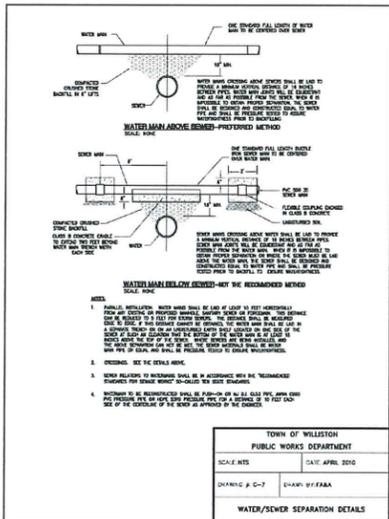
Field Book: 289

Upon finding that the final plans compiled with all requirements of the Williston Development, Blow and all requirements of the State of Vermont, the approval of the Williston Board of Administrators, approved the final plans for S.D. Ireland on the day of Dec 20, 2016.

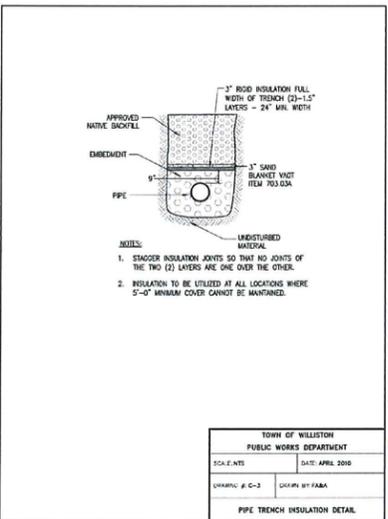
[Signature]
Planning Manager, Administrator's signature



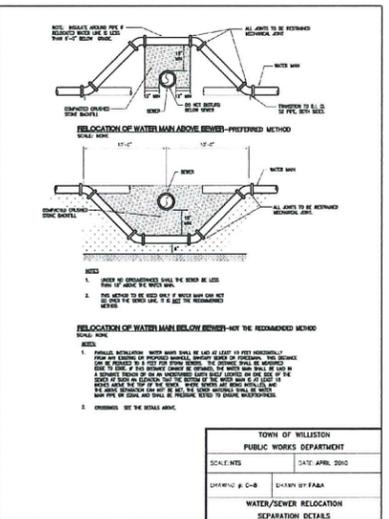
TOWN OF WILLISTON
PUBLIC WORKS DEPARTMENT
SCALE: 1/2" = 1'-0"
DATE: APRIL 2010
DRAWING # C-10
DESIGN BY: FABR
SANITARY SEWER CLEANOUT DETAIL



TOWN OF WILLISTON
PUBLIC WORKS DEPARTMENT
SCALE: 1/2" = 1'-0"
DATE: APRIL 2010
DRAWING # C-7
DESIGN BY: FABR
WATER/SEWER SEPARATION DETAILS



TOWN OF WILLISTON
PUBLIC WORKS DEPARTMENT
SCALE: 1/2" = 1'-0"
DATE: APRIL 2010
DRAWING # C-3
DESIGN BY: FABR
PIPE TRENCH INSULATION DETAIL



TOWN OF WILLISTON
PUBLIC WORKS DEPARTMENT
SCALE: 1/2" = 1'-0"
DATE: APRIL 2010
DRAWING # C-8
DESIGN BY: FABR
WATER/SEWER RELOCATION SEPARATION DETAILS

USE CLASS D (2500 PSI) CONCRETE FOR THRUST BLOCKS. PLACE 4 MIL. POLYETHYLENE BETWEEN FITTING AND THRUST BLOCK. PLACE THRUST BLOCK AGAINST UNDISTURBED TRENCH WALL. CONCRETE BEARING AREA ON FITTING TO BE A MINIMUM OF 1/2 SQUARE FOOT. THRUST BLOCKS BASED ON 200 PSI WORKING PRESSURE PLUS SURGE ALLOWANCE OF 100 PSI. IF GREATER THAN 200 PSI SEE PROJECT ENGINEER FOR SIZE.

NOTE:

- FOR REDUCERS, PROVIDE BEARING AREA FOR THE SOIL TYPE BASED ON 4000 LBS FOR EACH 2" REDUCTION IN SIZE.
- PROJECT ENGINEER TO OBSERVE ALL THRUST BLOCKS PRIOR TO BACKFILL. PICTURES MAY BE USED AT ENGINEERS DISCRETION.
- ALSO INCLUDE RETAINER GLANDS ON ALL BENDS, TEES, CAPS ETC.

SOIL TYPE	SAFE BEARING LOAD (LBS/FT ²)	MINIMUM BEARING AREA IN SQUARE FEET ON UNDISTURBED TRENCH WALL					
		2", 3" & 4"		6"		10"	
		90°	45°	22.5°	90°	45°	22.5°
CLAY	1000	5.0	7.0	4.0	10.5	15.0	8.0
SAND	2000	2.5	3.5	2.0	5.5	7.5	4.0
GRAVEL	3000	2.0	2.5	1.5	4.0	5.0	3.0
SILT	4000	1.5	2.0	1.0	3.0	4.0	2.0
SHALE	10000	0.5	1.0	0.5	1.0	1.5	1.0

TYPICAL WATER MAIN THRUST BLOCKS

2014 TRUDELL CONSULTING ENGINEERS
LAST REVISED 04/24/2014
W403

Revisions
No. Description Date By

1000-3500 GALLON PRECAST SEPTIC TANK WITH FILTER

1/2" = 1'-0"

2014 TRUDELL CONSULTING ENGINEERS
LAST REVISED 04/29/2014
S402

TYPICAL TAPPING VALVE

2014 TRUDELL CONSULTING ENGINEERS
LAST REVISED 04/24/2014
W407

TYPICAL COPPER SERVICE CONNECTION

2014 TRUDELL CONSULTING ENGINEERS
LAST REVISED 12/29/2014
W402

PAVEMENT CUT TRENCH

2013 TRUDELL CONSULTING ENGINEERS
LAST REVISED 03/27/2013
SD-010

TYPICAL WATER TRENCH

2014 TRUDELL CONSULTING ENGINEERS
LAST REVISED 04/05/2014
W401

TAX ID: 02-097-009-000
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Project Title
SD Ireland
193 Industrial Avenue
Williston, Vermont

Sheet Title
Sanitary & Water Details

Date: 01/24/17
Scale: Shown
Project Number: 16-206
Drawn By: RMP
Project Engineer: ALR
Approved By: JPP
Field Book: 289

IMPORTANT NOTE
CHECK WITH STATE ENGINEER TO VERIFY SETBACK DISTANCES. SETBACK DISTANCES CAN VARY FROM WHAT IS SHOWN HEREON BASED ON THE SITE AND SCOPE OF THE PROJECT OR NEWLY PUBLISHED RULES FROM OTHER STATE AGENCIES.

ITEM	HORIZONTAL DISTANCE (FEET) *		
	DISPOSAL FIELD	SEPTIC TANK	SEWER
DRILLED WELL	b	50	50
GRAVEL PACK WELL, SHALLOW WELL OR SPRING	b	75	75
LAKES, PONDINGS, IMPOUNDMENTS	50 ¹	25	25
RIVERS AND STREAMS	50	25	10
DRAINAGE SWALES, ROADWAY DITCHES	25	-	-
MAIN OR MUNICIPAL WATER LINES	50	50	d
ATMOSPHERIC WATER STORAGE TANKS	50	50	50
SERVICE WATER LINES	25	25	d
ROADWAYS, DRIVEWAYS, PARKING LOTS	10	5	c
TOP OF EMBANKMENT OR SLOPE GREATER THAN 30%	25	10	-
PROPERTY LINE (a)	25 ²	10	10
TREES	10	10	10
OTHER DISPOSAL FIELD OR REPLACEMENT SYSTEM	10 ³	-	-
FOUNDATION DRAINS, FOOTING DRAINS, CURTAIN DRAINS	5 ⁴	10	-
PUBLIC WATER SUPPLY (e)	f	f	f
SUCTION WATER LINE	100	50	50

* THESE DISTANCES MAY BE REDUCED WHEN EVIDENT THAT THE DISTANCE IS UNNECESSARY TO PROTECT AN ITEM OR INCREASED IF NECESSARY TO PROVIDE ADEQUATE PROTECTION.
 ** INDIRECT DISCHARGE REQUIREMENTS SUPERSEDE THIS IF DIFFERENT.
 *** WATER SUPPLY RULES SUPERSEDE THIS IF DIFFERENT.

ISOLATION DISTANCES
ENVIRONMENTAL PROTECTION RULES, CHAPTER 21, EFFECTIVE 9/29/07 SECTION 1-807

2013 TRUDELL CONSULTING ENGINEERS LAST REVISED 09/16/13 VN-003

GENERAL CRITERIA REGARDING ISOLATION DISTANCES

- ISOLATION DISTANCES APPLY REGARDLESS OF PROPERTY LINE LOCATION AND OWNERSHIP.
- SEPARATION BETWEEN POTABLE WATER SUPPLIES AND LEACH-FIELDS SHALL BE DETERMINED BY THE METHODS OF THE VERMONT WATER SUPPLY RULE, APPENDIX A, PART 1, SECTION 11.4.
- SEWERS UNDER ROADS, DRIVEWAYS, OR PARKING LOTS MAY REQUIRE PROTECTIVE CONDUITS OR SLEEVES.
- SEPARATION OF PRESSURE WATER LINES CONSIDERED AS "SERVICE CONNECTIONS" AND SEWER LINES SHALL ADHERE TO THE VERMONT PLUMBING RULES. SEPARATION OF PRESSURE WATER LINES (CONSIDERED TO BE PART OF A PUBLIC WATER SYSTEM AS DEFINED BY THE VERMONT WATER SUPPLY RULE) AND SEWER LINES SHALL ADHERE TO THE REQUIREMENTS OF THE VERMONT WATER SUPPLY RULE.
- THIS REFERS TO PUBLIC COMMUNITY WATER SYSTEMS, AS DEFINED IN THE VERMONT WATER SUPPLY RULE. CONTACT THE DEPARTMENT OF ENVIRONMENTAL CONSERVATION'S WATER SUPPLY DIVISION, 103 SOUTH MAIN STREET, WATERBURY, VERMONT.

SPECIFIC CRITERIA FOR ISOLATION DISTANCES

- THE ISOLATION DISTANCE TO SURFACE WATERS SHALL BE MEASURED FROM THE NEAREST PORTION OF THE LEACHFIELD, WHICH WILL BE THE TOE OF THE SYSTEM FOR MOUND AND AT-GRADE SYSTEMS. THE ISOLATION DISTANCE MUST BE SATISFIED ON A YEAR-ROUNDBASIS. THEREFORE THE EDGE OF THE SURFACE WATER IS THE ANNUAL HIGH WATER LEVEL.
- FOR MOUND WASTEWATER DISPOSAL SYSTEMS, THE LIMIT OF FILL MUST BE 25 FEET FROM ANY DOWNHILL PROPERTY LINE AND 10 FEET FROM ALL PROPERTY LINES ON THE SIDE OR UPHILL.
- NO DISPOSAL FIELD OR REPLACEMENT AREA SHALL BE CLOSER THAN 10 FEET TO ONE ANOTHER EXCEPT AS ALLOWED FOR TRENCH SYSTEMS IN SECTION 1-807(f).
- IF A CURTAIN OR FOUNDATION DRAIN IS DOWN-SLOPE OF THE DISPOSAL FIELD, THE DISPOSAL FIELD CANNOT BE CLOSER THAN 75 FEET TO THE DRAIN. IF THE CURTAIN OR FOUNDATION DRAIN IS UP-SLOPE OF THE DISPOSAL FIELD, IT SHALL BE 35' IF POSSIBLE AND A MINIMUM OF 20 FEET TO THE DISPOSAL FIELD. THE ISOLATION DISTANCES FOR MOUND SYSTEMS SHALL BE FROM THE EDGE OF THE MINIMUM BASAL AREA OR THE EDGE OF THE ABSORPTION TRENCH OR BED WHICHEVER IS CLOSER. THIS DISTANCE IS MEASURED FROM THE NEAREST POINT. THE CONSULTANT PROVIDES ADEQUATE DATA AND ANALYSIS TO SHOW THAT EFFLUENT FROM THIS SOIL BASED SYSTEM WILL NOT ENTER THE DRAIN OR INCREASED IF EFFLUENT WILL ENTER THE DRAIN.

* THESE DISTANCES MAY BE REDUCED WHEN EVIDENT THAT THE DISTANCE IS UNNECESSARY TO PROTECT AN ITEM OR INCREASED IF NECESSARY TO PROVIDE ADEQUATE PROTECTION.
 ** INDIRECT DISCHARGE REQUIREMENTS SUPERSEDE THIS IF DIFFERENT.
 *** WATER SUPPLY RULES SUPERSEDE THIS IF DIFFERENT.

ISOLATION DISTANCES
ENVIRONMENTAL PROTECTION RULES, CHAPTER 21, EFFECTIVE 9/29/07 SECTION 1-807

2013 TRUDELL CONSULTING ENGINEERS LAST REVISED 09/16/13 VN-003

PRESSURE TEST
UPON COMPLETION OF CONSTRUCTION OF A FORCE MAIN, THE LINE SHALL BE PRESSURE AND LEAKAGE TESTED IN ACCORDANCE WITH THE FOLLOWING PROCEDURE:

AFTER THE PIPE HAS BEEN LAID, ALL NEWLY LAID PIPE OR ANY VALVED SECTION THEREOF SHALL BE SUBJECTED TO A HYDROSTATIC PRESSURE OF AT LEAST 1.5 X THE HIGHEST WORKING PRESSURE IN THE SECTION

- TEST PRESSURE RESTRICTIONS. TEST PRESSURES SHALL:
 - NOT BE LESS THAN 50 PSI AT THE HIGHEST POINT ALONG THE TEST SECTION.
 - NOT EXCEED PIPE OR THRUST RESTRAINT DESIGN PRESSURES.
 - BE AT LEAST 2 (TWO) HOUR DURATION.
 - NOT VARY BY MORE THAN ± 5 PSI.
 - NOT EXCEED TWICE THE RATED PRESSURE OF THE VALVES WHEN THE PRESSURE BOUNDARY OF THE TEST SECTION INCLUDES CLOSED GATE VALVES.
- PRESSURIZATION.
 - EACH VALVED SECTION OF PIPE SHALL BE FILLED WITH WATER SLOWLY AND THE SPECIFIED TEST PRESSURE BASED ON THE ELEVATION OF THE LOWEST POINT IN THE LINE OR SECTION UNDER TEST AND CORRECTED TO THE ELEVATION OF THE TEST GAUGE. SHALL BE APPLIED BY MEANS OF A PUMP CONNECTED TO THE PIPE.
 - AIR REMOVAL: BEFORE APPLYING THE SPECIFIED TEST PRESSURE, AIR SHALL BE EXPULSED COMPLETELY FROM THE PIPE VALVES.
 - EXAMINATION: ALL EXPOSED PIPE, FITTINGS, VALVES, AND JOINTS SHALL BE EXAMINED CAREFULLY DURING THE TEST. ANY DAMAGED OR DEFECTIVE PIPE, FITTINGS, OR VALVES, THAT ARE DISCOVERED FOLLOWING THE PRESSURE TEST SHALL BE REPAIRED OR REPLACED WITH SOUND MATERIAL AND THE TEST SHALL BE REPEATED AT NO EXPENSE TO OWNER.

LEAKAGE TEST
A LEAKAGE TEST SHALL BE CONDUCTED CONCURRENTLY WITH THE PRESSURE TESTS.

- LEAKAGE SHALL BE DEFINED AS THE QUANTITY OF WATER THAT MUST BE SUPPLIED INTO THE NEWLY LAID PIPE OR ANY VALVED SECTION THEREOF TO MAINTAIN PRESSURE WITHIN 5 PSI OF THE SPECIFIED TEST PRESSURE AFTER THE AIR IN THE PIPELINE HAS BEEN EXPULSED AND THE PIPE HAS BEEN FILLED WITH WATER.
- ALLOWABLE LEAKAGE: NO PIPE INSTALLATION WILL BE ACCEPTED IF THE LEAKAGE IS GREATER THAN THAT DETERMINED BY THE FOLLOWING FORMULA:

$$L = \frac{ND \cdot P}{7400}$$

WHERE:
 L IS THE ALLOWABLE LEAKAGE, IN GALLONS PER HOUR;
 N IS THE NUMBER OF JOINTS IN THE LENGTH OF PIPELINE TESTED;
 D IS THE NOMINAL DIAMETER OF THE PIPE IN INCHES; AND
 P IS THE AVERAGE TEST PRESSURE DURING THE LEAKAGE TEST, IN POUNDS PER SQUARE INCH GAUGE.

NOTE: IN THE EVENT THAT THE FORCE MAIN IS RELATIVELY SHORT (100 FEET OR LESS), THE PROJECT ENGINEER CAN UTILIZE DISCRETION IN TEST REQUIREMENTS.

TESTING FORCE MAINS
(ENVIRONMENTAL PROTECTION RULES CH1, EFFECTIVE 9/29/07 SECTION 1-A-05(d))

2013 TRUDELL CONSULTING ENGINEERS LAST REVISED 09/16/13 VN-003

CONTRACTOR'S CERTIFICATION REQUIRED

PRIOR TO THE DESIGN ENGINEER CERTIFYING THAT THE INSTALLATION HAS BEEN INSTALLED IN ACCORDANCE WITH THE PERMITTED DESIGN, THE CONTRACTOR SHALL PROVIDE A CERTIFICATION THAT THE WASTEWATER SYSTEM WAS INSTALLED AND TESTED IN ACCORDANCE WITH THE APPROVED DESIGN PLANS. STATE PERMITS REQUIRE THERE SHALL BE NO DEVIATIONS FROM THE APPROVED PLANS WITHOUT PRIOR APPROVALS. THE DESIGN ENGINEER SHALL BE NOTIFIED AND ALLOWED TO OBSERVE THE CRITICAL PHASES OF CONSTRUCTION INCLUDING ANY REQUIRED TESTS. LIKEWISE, THE DESIGN ENGINEER SHALL BE NOTIFIED OF ANY DEVIATIONS FROM THE APPROVED PLANS. SINCE THE DESIGN ENGINEER DOES NOT CUSTOMARILY OBSERVE ALL PHASES OF THE WORK, OR ALL TESTING, HE MAY RELY ON THE CONTRACTOR'S CERTIFICATION AS THE BASIS FOR FINAL CERTIFICATION. THE CONTRACTOR SHALL THEREFORE SIGN AND RETURN A COPY OF THE FOLLOWING CERTIFICATION UPON COMPLETION OF THE WORK:

"I HEREBY CERTIFY THAT I HAVE INSTALLED, PROPERLY TESTED, AND SUCCESSFULLY PASSED THOSE TESTS, AND THE WASTEWATER DISPOSAL AND COLLECTION SYSTEM(S) ARE BUILT IN ACCORDANCE WITH THE APPROVED DESIGN PLANS AND APPLICABLE PERMIT CONDITIONS."

CONTRACTOR NAME _____

AUTHORIZED AGENTS NAME _____

SIGNATURE _____ DATE _____

NOTE ANY DEVIATIONS FROM APPROVED PLANS HERE: _____

NOTE THE CERTIFICATION AND THE PROJECT ENGINEER'S SUBSEQUENT CERTIFICATION DOES NOT VOID THE CONTRACTOR FROM REMEDY OR REPLACEMENT OF DISCREPANCIES DISCOVERED AT A LATER DATE. THE CONTRACTOR REMAINS RESPONSIBLE INCLUDING CUSTOMARY GUARANTEE AND WARRANTY PERIODS.

CONTRACTOR CERTIFICATION FOR WASTEWATER SYSTEM

2013 TRUDELL CONSULTING ENGINEERS LAST REVISED 09/26/14 VN-002

Upon finding that the final plans comply with all requirements of the Williston Development Blaw and all requirements imposed on the approval of Discretionary Permit for the Williston Development Review Board/Administrator approved the plans on the day of 2014.

John J. Blaw
 Providing Professional Administrator's signature



Revisions
 No. Description Date By

TAX ID: 02-097-009-000

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- CONTRACT DOCUMENTS: THESE PLANS WERE PREPARED BY TRUDELL CONSULTING ENGINEERS (TCE) AND ARE INTENDED TO BE USED IN CONJUNCTION WITH THE STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT, #C-700 PREPARED BY THE ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE (EJCDC), LATEST EDITION. COPIES ARE AVAILABLE AT WWW.EJCDC.ORG/EJCDC.
- UNDERGROUND IMPROVEMENTS: THE LOCATION OF EXISTING UNDERGROUND UTILITIES AND IMPROVEMENTS SHOWN ARE ASSUMED BASED ON RESEARCH, UTILITY PLANS PROVIDED BY OTHERS, AND/OR SURFACE EVIDENCE AVAILABLE AND WERE OBTAINED IN A MANNER CONSISTENT WITH THE ORDINARY STANDARD OF PROFESSIONAL CARE AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR THE DESIGN ENGINEER.
- DIFFERING SURFACE OF PHYSICAL CONDITIONS: IF CONTRACTOR BELIEVES THAT ANY SURFACE OR PHYSICAL CONDITION AT OR CONTIGUOUS TO THE SITE THAT IS UNCOVERED OR REVEALED EITHER: (1) BY OR SUCH A NATURAL AS TO ESTABLISH THAT ANY "TECHNICAL DATA" ON WHICH CONTRACTOR RELIED IS MATERIALLY INACCURATE OR (2) IS OF SUCH A NATURE AS TO REQUIRE A CHANGE IN THE PLANS/CONTRACT DOCUMENTS; OR (3) DIFFERS MATERIALLY FROM THAT SHOWN OR INDICATED IN THE PLANS/CONTRACT DOCUMENTS; OR (4) IS OF AN UNUSUAL NATURE, AND DIFFERS MATERIALLY FROM CONDITIONS ORDINARILY ENCOUNTERED AND GENERALLY RECOGNIZED AS INHERENT IN WORK OF THE CHARACTER PROVIDED FOR IN THE PLANS/CONTRACT DOCUMENTS; THEN CONTRACTOR SHALL PROMPTLY AFTER BECOMING AWARE THEREOF AND BEFORE FURTHER DISTURBING THE SURFACE OR PHYSICAL CONDITIONS OR PERFORMING ANY WORK IN CONNECTION THEREWITH (EXCEPT IN AN EMERGENCY), NOTIFY OWNER AND ENGINEER ABOUT SUCH CONDITION. CONTRACTOR SHALL NOT FURTHER DISTURB SUCH CONDITION OR PERFORM ANY WORK IN CONNECTION THEREWITH (EXCEPT AS AFORESAID) UNTIL RECEIPT OF WRITTEN ORDER TO DO SO. ALL PARTIES INVOLVED (OWNER, ENGINEER, ARCHITECT, AND MUNICIPALITY IF APPLICABLE) SHALL AGREE UPON HOW TO PROCEED AND ANY RELATED COST IMPLICATIONS.
- UTILITIES: PRIVATE AND PUBLIC UTILITIES SUCH AS ELECTRIC, TELEPHONE, GAS, CABLE, FIBER OPTIC ETC. ARE THE RESPONSIBILITY OF THE RESPECTIVE UTILITY COMPANY. ANY INFORMATION SHOWN BY TCE SHOULD BE CONSIDERED PRELIMINARY (USUALLY TO ASSIST WITH PERMITTING), FINAL DESIGN, CONSTRUCTION AND MAINTENANCE ARE THE RESPONSIBILITY OF RESPECTIVE UTILITY COMPANIES. COMPLIANCE WITH EASEMENTS AND REGULATIONS (STATE AND LOCAL) ARE THE RESPONSIBILITY OF RESPECTIVE UTILITY COMPANY.
- DISSAFE: IN ACCORDANCE WITH VERMONT STATE LAW (VSA TITLE 30 CHAPTER 86 AND PSB RULE 3.800) THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT DISSAFE SYSTEMS, INC. "DISSAFE", AT LEAST 48 HOURS, EXCLUDING SATURDAYS, SUNDAYS, AND LEGAL HOLIDAYS, BUT NOT MORE THAN 30 DAYS BEFORE COMMENCING EXCAVATION ACTIVITIES. EXCEPT IN AN EMERGENCY, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRE-MARKING THE SITE AND MAINTAINING DESIGNATED MARKINGS. FOR MORE INFORMATION ON DISSAFE REQUIREMENTS SEE WWW.DISSAFE.COM. THE TOWN OF ESSEX, VERMONT, AND THE TOWN OF ESSEX WATER AND SEWER SYSTEMS ARE CONSIDERED A PRIVATE UTILITY AND ARE NOT INCLUDED IN THE DISSAFE SYSTEM. AS SUCH, THE CONTRACTOR SHALL CONTACT THE TOWN OF ESSEX AT LEAST 48 HOURS BEFORE COMMENCING WORK TO LOCATE ALL WATER AND SEWER UTILITIES WITHIN THE PROJECT LIMITS.
- JOBSITE SAFETY: NEITHER THE PROFESSIONAL ACTIVITIES OF TRUDELL CONSULTING ENGINEERS (TCE), NOR THE PRESENCE OF TCE OR ITS EMPLOYEES AND SUB CONSULTANTS AT A CONSTRUCTION SITE, SHALL RELIEVE THE GENERAL CONTRACTOR AND ANY OTHER ENTITY OF THEIR OBLIGATIONS, DUTIES AND RESPONSIBILITIES INCLUDING, BUT NOT LIMITED TO, CONSTRUCTION MEANS, METHODS, SEQUENCE, TECHNIQUES OR PROCEDURES NECESSARY FOR PERFORMING, SUPERINTENDING OR COORDINATING ALL PORTIONS OF THE WORK OF CONSTRUCTION IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND ANY HEALTH OR SAFETY PRECAUTIONS REQUIRED BY ANY REGULATORY AGENCIES. TCE AND ITS PERSONNEL HAVE NO AUTHORITY TO EXERCISE ANY CONTROL OVER ANY CONSTRUCTION OR OTHER ENTITY WITH THEIR WORK OR ANY HEALTH OR SAFETY PRECAUTIONS. THE CLIENT AGREES THAT THE GENERAL CONTRACTOR IS SOLELY RESPONSIBLE FOR JOBSITE SAFETY, AND WARRANTS THAT THIS INTENT SHALL BE MADE EVIDENT IN THE CLIENTS AGREEMENT WITH THE GENERAL CONTRACTOR. THE CLIENT ALSO AGREES THAT THE CLIENT, TCE AND TCE'S CONSULTANTS SHALL BE INDEMNIFIED AND SHALL BE MADE ADDITIONAL INSURED UNDER THE GENERAL CONTRACTOR'S GENERAL LIABILITY INSURANCE POLICY.
- CODES AND STANDARDS COMPLIANCE: SHALL EXERCISE USUAL AND CUSTOMARY PROFESSIONAL CARE IN HIS EFFORTS TO COMPLY WITH CODES, STANDARDS, REGULATIONS, AND ORDINANCES IN EFFECT. THE OWNER ACKNOWLEDGES THAT SUCH REQUIREMENTS MAY BE SUBJECT TO VARIOUS AND CONTRADICTORY INTERPRETATIONS. TCE, THEREFORE, WILL USE ITS REASONABLE PROFESSIONAL EFFORTS AND JUDGMENT TO INTERPRET APPLICABLE REQUIREMENTS AS THEY APPLY TO THE PROJECT. TCE, HOWEVER, CANNOT AND DOES NOT WARRANT OR GUARANTEE THAT THE PROJECT WILL COMPLY WITH ALL INTERPRETATIONS OF SUCH REQUIREMENTS.
- CONSTRUCTION OBSERVATION: TCE MAY VISIT THE PROJECT AT APPROPRIATE INTERVALS DURING CONSTRUCTION TO BECOME GENERALLY FAMILIAR WITH THE PROGRESS AND QUALITY OF THE CONTRACTOR'S WORK AND TO DETERMINE IF THE WORK IS BEING CONDUCTED IN GENERAL ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE OWNER HAS NOT RETAINED TCE TO MAKE DETAILED INSPECTIONS OR TO PROVIDE EXHAUSTIVE OR CONTINUOUS PROJECT REVIEW AND CONSTRUCTION OBSERVATION. THE CONTRACTOR (GENERAL CONTRACTOR) HAS RESPONSIBILITY FOR THE ACTS OR OMISSIONS OF ANY CONTRACTOR, SUB-CONTRACTOR, SUPPLIER OR ANY OTHER ENTITY FURNISHING MATERIALS OR SERVICES TO THE PROJECT. TCE WILL NOT BE RESPONSIBLE FOR THE ACTS OR OMISSIONS OF ANY CONTRACTOR, SUB-CONTRACTOR, SUPPLIER OR ANY OTHER ENTITY. TCE WILL NOT BE RESPONSIBLE FOR MORE EXTENSIVE PROJECT OBSERVATION OR FULL-TIME PROJECT REPRESENTATION. THE OWNER SHALL REQUEST SUCH SERVICES BE PROVIDED BY THE GENERAL CONTRACTOR. DISCREPANCIES HEREIN OR IN THE FIELD ARE ENCOUNTERED.

CONSTRUCTION NOTES FOR CONTRACTOR & CLIENT/OWNER

2013 TRUDELL CONSULTING ENGINEERS LAST REVISED 04/29/15 VN-014

- THE ENGINEER HAS DETERMINED A LOCATION FOR ON SITE SANITARY DISPOSAL ON THE PROPERTY, BASED ON A SITE INVESTIGATION AND SOIL TESTS. THE REQUIRED DISPOSAL AREA AND SYSTEM DESIGN WERE DETERMINED BY CODE REQUIREMENTS AND SUBMITTED TO APPROVING AUTHORITIES. UPON APPROVAL THE OWNER ASSUMES RESPONSIBILITY FOR PROPER CONSTRUCTION AND MAINTENANCE OF THE DISPOSAL SYSTEM.
- THE OWNER IS RESPONSIBLE FOR OPERATING THE DISPOSAL SYSTEM IN A MANNER WHICH WILL PROTECT THE PUBLIC HEALTH AND PREVENT POLLUTION.
- NEW DISPOSAL SYSTEMS REQUIRE ADJUSTMENTS OR MODIFICATIONS DURING START UP, AND DURING THE LIFE OF THE SYSTEM. THESE ADJUSTMENTS INCLUDE LEVELING UP THE DISTRIBUTION BOX, SEPTIC TANK, AND PUMP STATION, DUE TO SETTLEMENT OR FROST ACTION. FILL MAY BE ADDED TO REPAIR EROSION OR LEVEL SETTLED AREAS.
- ON SITE SANITARY DISPOSAL SYSTEMS REQUIRE REGULAR INSPECTION AND MAINTENANCE. THE SEPTIC TANK, BIO-FILTER AND DISTRIBUTION BOX SHOULD BE INSPECTED ANNUALLY AND PUMPED OUT AND CLEANED EVERY 3 YEARS. THE PUMPING AND ELECTRICAL SYSTEMS, IF APPLICABLE, SHOULD BE CHECKED FOR PROPER OPERATION AND LEAKING.
- THE LIFE OF THE DISPOSAL SYSTEM CAN BE AFFECTED BY A VARIETY OF OPERATIONAL AND ENVIRONMENTAL FACTORS. THE PRESENCE OF EXCESS GROUNDWATER AND SYSTEM PRODUCTION OF MATERIAL OTHER THAN HUMAN WASTES, OR EXCESSIVE SEWAGE FLOWS WILL ADVERSELY AFFECT OPERATION OF ANY DISPOSAL SYSTEM. SOIL SETTLEMENT, FREEZING OF COMPONENTS, AND CLOGGING DUE TO ORGANIC SOLIDS ACCUMULATION WILL REQUIRE REPAIRS.
- THE OWNER IS RESPONSIBLE FOR COMPLIANCE WITH STATE AND LOCAL OPERATION AND MAINTENANCE REQUIREMENTS. THE ENGINEER AND CONTRACTOR ASSUMES NO RESPONSIBILITY FOR THE IMPROPER USE AND/OR MAINTENANCE OF THE SYSTEM.
- WARNING: WITH SUCH FINE FILTRATION (SEPTIC TANK EFFLUENT FILTER), A SCHEDULED MAINTENANCE PROGRAM MUST BE FOLLOWED.
- THE OWNER IS RESPONSIBLE FOR ALL STATE AND LOCAL PERMITS AND REQUIRED CONDITIONS OF SAID PERMITS. THIS INCLUDES BUT IS NOT LIMITED TO ANNUAL INSPECTIONS AND REPORTING. THE OWNER IS ALSO RESPONSIBLE FOR RECORDING PERMITS IN THE TOWN LAND RECORDS OFFICE. IF CONSTRUCTION DOESN'T OCCUR IN THE TIME FRAMES ESTABLISHED BY SAID PERMITS THEN THE OWNER IS RESPONSIBLE FOR REVISING DESIGN PLANS AS NEEDED AND REPERMITTING. IF CHANGES IN THE REGULATIONS OCCUR ONCE THE PERMITS HAVE BEEN ISSUED, TRUDELL CONSULTING ENGINEERS DOES NOT OFFER ANY GUARANTEES THAT THE PERMIT WILL BE RE-APPROVED. CHANGING REQUIREMENT MAY PREVENT COMPLIANCE AND CAUSE CERTAIN PROPERTIES TO BE UN-DEVELOPABLE.
- IF THE SYSTEM IS DESIGNED USING THE PERFORMANCE BASED DESIGN ACCORDING TO PREVIOUS STATE PERMITS THE SYSTEM SHALL BE INSPECTED EACH SPRING FOR THREE CONSECUTIVE YEARS BY A LICENSED ENGINEER TO DEMONSTRATE THAT THE SYSTEM IS WORKING AS DESIGNED.

SUBSURFACE DISPOSAL FIELD OPERATION AND MAINTENANCE

2013 TRUDELL CONSULTING ENGINEERS LAST REVISED 09/16/13 VN-010

- CONTACT THE DESIGN ENGINEER PRIOR TO CONSTRUCTION FOR AN ON SITE MEETING WITH THE CONTRACTOR TO STATE OUT AND DISCUSS THE CONSTRUCTION OF THE PROPOSED DISPOSAL SYSTEM. CONTACT OTHER STATE AND LOCAL AUTHORITIES AS APPROPRIATE.
- REMOVE ALL ABOVE GROUND VEGETATION AND TOPSOIL FROM THE DISPOSAL FIELD AREA. THE TOPSOIL SHALL BE CLEANED OF ALL DEBRIS AND STOCKPILED FOR LATER USE.
- STARTING ON THE UPHILL SIDE OF THE DISPOSAL FIELD, EACH ABSORPTION TRENCH AND/OR SEEPAGE BED SHALL BE EXCAVATED TO THE RESPECTIVE SUBGRADE ELEVATION, THE SIDES AND BOTTOM OF EACH TRENCH AND/OR BED SHALL THEN BE RAKED.
- ONCE RAKED, A MINIMUM 12" OF 3/4" - 1 1/2" HARD WASHED STONE IS PLACED IN THE BOTTOM OF THE TRENCH AND/OR BED. USE THE BUCKET OF A CRAWLER TO INSTALL THE STONE. COMPLETE ONE ABSORPTION TRENCH AT A TIME. SPECIAL CARE MUST BE TAKEN TO PROVIDE CLEAN STONE. STONE WITH DRIFT OR STONE DUST MIXED IN WILL BE REJECTED.
- IN THE CENTER OF EACH TRENCH AND/OR BED, USE SHOVELS TO EXCAVATE 2" DEEP CHANNELS. LAY THE DISTRIBUTION PIPE LEVEL IN THE CHANNELS. LINESHALL BE CAPPTED UNLESS CONNECTED BY A REAR MANHOLE.
- CONTACT DESIGN ENGINEER UPON THE COMPLETION OF ALL TRENCHES AND/OR BEDS AND PRIOR TO BACKFILLING TO INSPECT THE DISTRIBUTION PFGING. CONTACT OTHER AUTHORITIES AS APPROPRIATE.
- EACH TRENCH AND/OR BED SHALL BE FINISHED BY PLACING A MINIMUM OF 2" OF STONE OVER THE DISTRIBUTION PIPE OR MORE IF INDICATED ON SECTION AND THEN ONE LAYER OF FILTER FABRIC OVER THE STONE.
- THE STOCKPILED TOPSOIL SHALL THEN BE USED TO COVER THE DISPOSAL FIELD, OVERLAP EACH TRENCH AND/OR BED TO ALLOW FOR SETTLEMENT. SEED AND MULCH THE TOPSOIL UPON PLACEMENT.
- UPON COMPLETION OF CONSTRUCTION, CONTACT THE DESIGN ENGINEER. IF THE DISPOSAL FIELD IS SATISFACTORY, THE DESIGN ENGINEER WILL PROVIDE WRITTEN CERTIFICATION THAT THE CONSTRUCTION WAS DONE IN GENERAL ACCORDANCE WITH THE APPROVED PLANS. THIS CERTIFICATION WILL BE SPECIFIC TO THE AMOUNT OF OBSERVATION BY THE ENGINEER AND WILL IN NO WAY RELIEVE THE CONTRACTOR OF THEIR WARRANTY OBLIGATIONS.
- SINCE THE DESIGN ENGINEER DOES NOT CUSTOMARILY OBSERVE ALL CONSTRUCTION, THE DESIGN ENGINEER WILL REQUIRE THE CONTRACTOR TO CERTIFY THEY BUILT AND TESTED THE SYSTEM PER THE DESIGN PLANS AND PERMIT CONDITIONS. THIS WILL NOT RELIEVE THE CONTRACTOR OF CUSTOMARY GUARANTEE AND WARRANTY OBLIGATIONS.

SUBSURFACE DISPOSAL FIELD CONSTRUCTION SPECIFICATIONS

2013 TRUDELL CONSULTING ENGINEERS LAST REVISED 09/26/14 VN-006

NOTES REGARDING SEWER CROSSING ROADS

- CONTRACTOR TO DISCUSS IN ADVANCE WITH OWNER, TOWN REPRESENTATIVE AND PROJECT ENGINEER, PROPOSED FORCEMAIN CROSSING TOWN ROADS.
- THERE ARE THREE ROAD CROSSINGS (AVENUE A, AVENUE B, AND INDUSTRIAL AVENUE) AND THREE APPLICABLE METHODS - DIRECTIONAL DRILL, JACK AND BORE OR OPEN CUT AND PATCH. THE TOWN HAS INDICATED OPEN CUT WILL NOT BE ALLOWED.
- PRIOR TO CONSTRUCTION AND AFTER A METHOD HAS BEEN DECLARED HAVE A PRE-CONSTRUCTION MEETING TO DISCUSS PROCEDURE, OTHER UTILITIES AND TRAFFIC CONTROL. ATTENDEES SHALL INCLUDE CONTRACTOR, TOWN, OWNER AND PROJECT ENGINEER.
- VERIFY LOCATION OF OTHER UTILITIES PRIOR TO STARTING WORK. CONTRACTOR TO CONFIRM DEPTH AND LOCATION OF UTILITY CROSSING TO AVOID CONFLICTS.
- REPORT ANY UNCHARTED UTILITIES TO ALL INVOLVED.
- INSTALL SEWER FORCEMAIN AND THEN RESTORE AREA TO ORIGINAL CONDITION. FOR LAWN AREAS TOPSOIL, FINE GRADE AND SEED AND MULCH.
- PROVIDE AS-BUILTS OF EXISTING AND NEW UTILITY WITH HORIZONTAL AND VERTICAL LOCATION.

WATER PRESSURE TEST

UPON COMPLETION OF INSTALLATION ALL TANKAGE SHALL BE TESTED WITH CLEAN WATER TO DEMONSTRATE THAT THE STRUCTURES ARE WATERIGHT. THE TESTING SHALL BE CONDUCTED BEFORE THE TANKAGE AND STRUCTURES ARE BACKFILLED. THE TEST SHALL BE CONDUCTED BY COMPLETELY FILLING THE TANKAGE TO THE TOP OF THE STRUCTURES AND PROVIDING A HYDROSTATIC HEAD OF AT LEAST TWO FEET ABOVE THE SURROUNDING GROUNDWATER LEVEL AT THE TIME OF TESTING. THE TEST SHALL BE AT LEAST 24 HOURS, WITH NO LEAKAGE RESULTING. IF ANY LEAKAGE OCCURS DURING THE TEST PERIOD THE TANKS SHALL BE REPAIRED AND RETESTED (PER ASTM C1227-9.2.2 STANDARDS).

VACUUM TEST

UPON COMPLETION OF INSTALLATION ALL TANKAGE SHALL BE TESTED TO DEMONSTRATE THAT THE STRUCTURES ARE WATERIGHT. THE TESTING SHALL BE CONDUCTED BEFORE THE TANKAGE AND STRUCTURES ARE BACKFILLED. THE TEST SHALL BE CONDUCTED BY SEALING THE EMPTY TANK AND APPLYING A VACUUM TO 2 INCHES (50MM) OF MERCURY. THE TANK IS APPROVED IF 90% OF THE VACUUM IS HELD FOR A MINIMUM OF 2 MINUTES (PER ASTM C1227-9.2.1 STANDARDS).

TANK LEAKAGE TESTING

2013 TRUDELL CONSULTING ENGINEERS LAST REVISED 3/4/013 VN-004

TESTING SEWER MANHOLES

"ALL TESTING SHALL BE PERFORMED IN THE PRESENCE OF THE TOWN ENGINEER OR PUBLIC WORKS DEPARTMENT AND TRUDELL CONSULTING ENGINEERS (TCE). CONTRACTOR SHALL PRETEST SUCCESSFULLY PRIOR TO CONTACTING THE ENGINEER. THE PRE-TEST IS TO ENSURE PASSING RESULTS PRIOR TO OFFICIAL TESTING OBSERVATION."

- EACH MANHOLE SHALL BE TESTED BY MEANS OF A WATER TEST OR VACUUM TEST PRIOR TO THE BACKFILLING OF THE STRUCTURE. IN ANY CASE THERE SHALL BE NO VISIBLE LEAKAGE INTO THE BASE OR WALLS OF A COMPLETED MANHOLE.
- AFTER THE MANHOLE HAS BEEN ASSEMBLED IN PLACE, ALL LIFTING HOLES AND EXTERIOR JOINTS SHALL BE FILLED AND PAINTED WITH AN APPROVED NON-SHRINKING MORTAR. THE TEST SHALL BE MADE PRIOR TO PLACING THE SHELVE AND INVERT. IF THE GROUNDWATER TABLE HAS BEEN ALLOWED TO RISE ABOVE THE BOTTOM OF THE MANHOLE, THE ENGINEER MAY DIRECT IT TO BE LOWERED FOR THE DURATION OF THE TEST. ALL PIPES AND OTHER OPENINGS INTO THE MANHOLES SHALL BE SUITABLY PLUGGED AND THE PLUGS BRACED TO PREVENT BLOWOUT.
- IF THE CONTRACTOR ELECTS TO BACKFILL PRIOR TO WATER TESTING, FOR ANY REASON, IT SHALL BE AT HIS OWN RISK AND IT SHALL BE INCUMBENT UPON THE CONTRACTOR TO DETERMINE THE REASON FOR ANY FAILURE OF THE TEST. NO ADJUSTMENT IN THE LEAKAGE ALLOWANCE WILL BE MADE FOR UNKNOWN CAUSES SUCH AS LEAKAGE OF PLUGS, ABSORPTION, ETC. I.E., IT WILL BE ASSUMED THAT ALL LOSS OF WATER DURING THE TEST IS A RESULTS OF LEAKS THROUGH THE JOINTS OR THROUGH THE CONCRETE. FURTHERMORE, THE CONTRACTOR SHALL TAKE ANY STEPS NECESSARY TO ASSURE THE ENGINEER THAT THE WATER TABLE IS BELOW THE BOTTOM OF THE MANHOLE THROUGHOUT THE TEST.
- IF THE GROUNDWATER TABLE IS ABOVE THE HIGHEST JOINT IN THE MANHOLE, AND IF THERE IS NO LEAKAGE INTO THE MANHOLE AS DETERMINED BY THE ENGINEER, SUCH A TEST CAN BE USED TO EVALUATE THE WATER TIGHTNESS OF THE MANHOLE. HOWEVER, IF THE ENGINEER IS NOT SATISFIED, THE CONTRACTOR SHALL LOWER THE WATER TABLE AND CARRY OUT THE TEST AS DESCRIBED HEREIN BEFORE.
- WATER TEST: THE MANHOLE SHALL THEN BE FILLED WITH WATER TO THE TOP OF THE CONE SECTION. A PERIOD OF ONE HOUR WILL BE PERMITTED TO ALLOW FOR ABSORPTION. AT THE END OF THIS PERIOD, THE MANHOLE SHALL BE REFILLED TO THE TOP OF THE CONE. IF NECESSARY, AND THE MEASURING TIME OF AT LEAST 6 HOURS BEGIN. AT THE END OF THE TEST PERIOD, THE MANHOLE SHALL BE REFILLED TO THE TOP OF THE CONE MEASURING THE VOLUME OF WATER USED. THIS AMOUNT SHALL BE CONVERTED TO A 24 HOUR RATE AND THE LEAKAGE DETERMINED ON THE BASIS OF DEPTH. THE LEAKAGE FOR EACH MANHOLE SHALL NOT EXCEED ONE GALLON PER VERTICAL FOOT FOR A 24 HOUR PERIOD. REPAIRS BY APPROVED METHODS MAY BE MADE, AS DIRECTED BY THE ENGINEER, TO BRING THE LEAKAGE WITHIN ALLOWABLE RATE OF ONE GALLON PER FOOT PER DAY. IF SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UNCOVER THE MANHOLE, AS NECESSARY, AND TO DISASSEMBLE, RECONSTRUCT OR REPLACE IT AS DIRECTED BY THE ENGINEER. THE MANHOLES SHALL THEN BE RETESTED.
- VACUUM TEST: THE CONTRACTOR SHALL FURNISH THE MANHOLE CONE SEAL, VACUUM PUMP, ALL NECESSARY GAUGES, HOSES, AND EQUIPMENT TO PERFORM THE TEST.
- FILL ALL LIFTING HOLES AND EXTERIOR JOINTS WITH APPROVED NON-SHRINKING MORTAR AND PLUG ALL OTHER OPENINGS INTO THE MANHOLE TO PREVENT DISPLACEMENT. THE COMPLETED MANHOLE SHALL NOT BE BACKFILLED PRIOR TO VACUUM TESTING. MANHOLES THAT HAVE BEEN BACKFILLED SHALL BE EXCAVATED TO EXPOSE THE ENTIRE EXTERIOR OR THE WATER TEST SHALL BE USED.
- INSTALL AN INFLATABLE RUBBER RING THE SIZE OF THE TOP OF THE MANHOLE BY INFLATING THE RING WITH AIR, TO A PRESSURE ADEQUATE TO PREVENT LEAKAGE OF AIR BETWEEN THE RING AND THE MANHOLE WALL.
- PUMP THE AIR OUT OF THE MANHOLE THROUGH AN OPENING IN THE TEST PLATE UNTIL A VACUUM IS CREATED INSIDE THE MANHOLE EQUAL TO 10 INCHES OF MERCURY USING AN APPROVED VACUUM GAUGE. THEN STOP THE REMOVAL OF AIR AND BEGIN THE TEST.
- THE VACUUM CAN NOT DROP BELOW 9 INCHES OF MERCURY WITHIN A 2 MINUTE TEST PERIOD. IF MORE THAN A 1 INCH DROP OCCURS WITHIN 2 MINUTES, THE MANHOLE HAS FAILED THE TEST, AND IT SHALL BE REPAIRED OR RECONSTRUCTED AND THEN RETESTED UNTIL IT PASSES AT NO EXPENSE TO OWNER.
- BACKFILL AROUND THE MANHOLE UPON SATISFACTORY TEST RESULTS.

TESTING MANHOLES (ENVIRONMENTAL PROTECTION RULES CH 1 EFFECTIVE 9/29/07 SECTION 1-A-03(1)(8))

TESTING MANHOLES (ENVIRONMENTAL PROTECTION RULES CH 1 EFFECTIVE 9/29/07 SECTION 1-A-03(1)(8))

2013 TRUDELL CONSULTING ENGINEERS LAST REVISED 09/16/13 VN-007

DISINFECTING WATER MAINS AND SYSTEMS

"ALL TESTING SHALL BE PERFORMED IN THE PRESENCE OF THE TOWN ENGINEER OR PUBLIC WORKS DEPARTMENT AND PROJECT ENGINEER (AS DESIGNATED BY OWNER)."

- PRIOR TO BENG PUT INTO SERVICE, WATER MAINS SHALL BE DISINFECTED ACCORDING TO THE LATEST EDITION OF AWWA SPECIFICATION C-651. THE TABLE METHOD IN AWWA STANDARD 651 IS NOT ACCEPTABLE.
- THE NEW LINE SHALL BE FLUSHED AT A VELOCITY OF NOT LESS THAN 2.5 FEET PER SECOND (OPEN 2-1/2 INCH HYDRANT CONNECTION). FLUSH FOR A PERIOD DETERMINED BY THE PROJECT ENGINEER FOR THE LENGTH OF MAIN TO BE DISINFECTED.
- CHLORINATION SHALL BE ACCOMPLISHED BY INTRODUCING A SODIUM HYPOCHLORITE SOLUTION FOR A RESULTANT CONCENTRATION OF GREATER THAN 25 PARTS PER MILLION OF FREE CHLORINE.
- USING A NOZZLE AT EACH END HYDRANT, CONTROL THE RATE OF FLOW INTO THE NEW MAIN AND PROPORTIONALLY FEED THE SODIUM HYPOCHLORITE SOLUTION INTO THE MAIN. AFTER THE SOLUTION HAS REACHED ALL POINTS IN THE SYSTEM, CLOSE THE VALVE SUPPLYING WATER FROM THE EXISTING MAIN AND THE END HYDRANTS. MAINTAIN THE HEAVILY CHLORINATED WATER IN THE MAIN FOR 24 HOURS DURING WHICH TIME ALL MAIN LINE VALVES SHOULD BE OPERATED. AFTER 24 HOURS THE MINIMUM CHLORINE RESIDUAL MUST BE AT LEAST 10 PARTS PER MILLION.
- FLUSH HEAVILY CHLORINATED WATER FROM THE LINE AND REFILL THE LINE FOR SERVICE (USE CHLORINE DIFFUSER, TAKE AND SUBMIT TWO BACTERIOLOGICAL SAMPLES (TAKEN 24 HOURS APART) OF THE WATER TO THE STATE OF VERMONT OR A STATE APPROVED TESTING LABORATORY. IF THE RESULTS ARE UNSATISFACTORY, THE DISINFECTION PROCEDURE WILL BE REPEATED UNTIL SATISFACTORY RESULTS ARE OBTAINED.
- FINISHED WATER STORAGE STRUCTURES SHALL BE DISINFECTED IF APPLICABLE, IN ACCORDANCE WITH CURRENT AWWA STANDARD C-652. TWO OR MORE SUCCESSIVE SETS OF SAMPLES, TAKEN AT 24 HOUR INTERVALS, SHALL INDICATE MICROBIOLOGICALLY SATISFACTORY WATER BEFORE THE FACILITY IS PLACED INTO OPERATION.
- DISPOSAL OF HEAVILY CHLORINATED WATER FROM THE DISINFECTION PROCESS SHALL BE DE-CHLORINATED OR OTHERWISE HANDLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE VERMONT AGENCY OF NATURAL RESOURCES.
- THE DISINFECTION PROCEDURE (AWWA CHLORINATION METHOD 3, SECTION 4.3 C-652) WHICH ALLOWS USE OF THE CHLORINATED WATER HELD IN THE STORAGE TANK FOR DISINFECTION PURPOSES IS NOT RECOMMENDED. WHEN THAT PROCEDURE IS USED, IT IS REQUIRED THAT THE INITIAL HEAVILY CHLORINATED WATER BE PROPERLY DISPOSED IN ORDER TO PREVENT RELEASE OF WATER WHICH MAY CONTAIN VARIOUS CHLORINATED ORGANIC COMPOUNDS INTO THE DISTRIBUTION SYSTEM.

DISINFECTION OF WATER SYSTEM

2013 TRUDELL CONSULTING ENGINEERS LAST REVISED 01/21/2013 VN-003

TESTING WATER MAINS

"ALL TESTING SHALL BE PERFORMED IN THE PRESENCE OF THE TOWN ENGINEER OR PUBLIC WORKS DEPARTMENT IF APPLICABLE OR PRIVATE OWNER/OPERATOR AND PROJECT ENGINEER (AS DESIGNATED BY OWNER). CONTRACTOR SHALL PRE-TEST SUCCESSFULLY PRIOR TO CONTACTING PROJECT ENGINEER. THE PRE-TEST IS TO ENSURE PASSING RESULTS PRIOR TO OFFICIAL TESTING OBSERVATION."

- AFTER THE PIPE HAS BEEN LAID AND 7 DAYS AFTER THE CONCRETE THRUST BLOCKS AND ANCHORS HAVE BEEN PLACED, THE WATER MAIN SHALL BE HYDROSTATICALLY TESTED ACCORDING TO THE LATEST EDITION OF THE AWWA SPECIFICATION C-600.
- CONTRACTOR SHALL SUPPLY ALL NECESSARY APPARATUS TO PERFORM THE HYDROSTATIC TEST.
- TEST PRESSURE SHALL BE 200 POUNDS PER SQUARE INCH OR 1.5 TIMES THE WORKING PRESSURE MEASURED AT OR NEAR THE HIGH POINT IN THE SYSTEM, WHICHEVER IS GREATER. TEST SHALL BE A MINIMUM OF 2 HOURS IN DURATION. TESTING ALLOWANCE SHALL BE DEFINED AS THE QUANTITY OF MAKEUP WATER THAT MUST BE SUPPLIED INTO THE NEWLY LAID PIPE OR ANY VALVED SECTION THEREOF TO MAINTAIN PRESSURE WITHIN 5 PSI (0.4 KPA) OF THE SPECIFIED TEST PRESSURE AFTER THE PIPE HAS BEEN FILLED WITH WATER AND THE AIR HAS BEEN EXPULSED. TESTING ALLOWANCE SHALL NOT BE MEASURED BY A DROP IN PRESSURE IN A TEST SECTION OVER A PERIOD OF TIME. REFER TO PIPE MANUFACTURERS RECOMMENDED TESTING PROCEDURE INCLUDING PIPE STABILIZATION PRIOR TO START OF TEST.
- THE PROJECT ENGINEER AND THE MUNICIPALITY SHALL BE CONTACTED 48 HOURS PRIOR TO TESTING.
- ALL VALVES SHOULD BE VERIFIED AS BEING OPEN OR CLOSED AS APPROPRIATE FOR THE PORTION OF THE WATER MAIN BEING TESTED.
- ALLOWABLE LEAKAGE SHALL BE COMPUTED BY THE FORMULA: $L = (D \cdot P) / 148,000$ WHERE: L IS LEAKAGE IN GALLONS PER HOUR, D IS THE LENGTH OF PIPE TESTED IN FEET, P IS THE NOMINAL DIAMETER OF THE PIPE IN INCHES AND P IS THE AVERAGE TEST PRESSURE IN POUNDS PER SQUARE INCH DURING THE TEST.
- REPLACE AND RETEST ANY WORK FOUND TO BE DEFECTIVE AT NO EXPENSE TO OWNER.

TESTING HYDRANTS (IF APPLICABLE)

- AFTER TESTING THE WATER MAINS, OPEN THE HYDRANT FULLY AND FILL WITH WATER. TO PREVENT CAPS FROM BEING BLOWN OFF, VENT AIR FROM ONE OF THE CAPS WHILE IT IS BEING FILLED. WHEN ALL THE AIR HAS ESCAPED, TIGHTEN THE CAP.
- ALLOW THE PRESSURE TO BUILD UP TO MAIN LINE PRESSURE AND CHECK FOR LEAKAGE AT FLANGES. NOZZLES AND THE OPERATING STEM. RECORD STATIC PRESSURE IN PSI.
- FLOW HYDRANT AND RECORD FLOW RATE IN GPM AND RESIDUAL PRESSURE IN PSI.
- CLOSE THE HYDRANT, REMOVE ONE NOZZLE CAP AND PLACE THE PALM OF YOUR HAND OVER THE OPENING. DRAINAGE SHOULD CREATE A NOTICEABLE SUCTION. IF NO SUCTION OR HYDRANT DOESN'T HAVE DRAIN, MANUALLY PUMP WATER OUT OF BARREL.
- AT PROJECT ANGEER DISCRETION ASSIST WITH FLOW TESTING. ENGINEER TO RECORD STATIC AND RESIDUAL PRESSURE AS WELL AS FLOW RATE.

TESTING WATER MAINS AND HYDRANTS

2014 TRUDELL CONSULTING ENGINEERS LAST REVISED 01/21/2016 VN-001

Project Title

SD Ireland
193 Industrial Avenue
Williston, Vermont



ENGINEERING • SURVEY
PLANNING • ENVIRONMENTAL
278 BLAIR PARK ROAD | WILLISTON, VERMONT 05150
802.879.4331 | WWW.TCEVT.COM

Revisions	No.	Description	Date	By
	1	Remove Septic Tank	08/09/2017	ALR

TAX ID: 02-097-009-000

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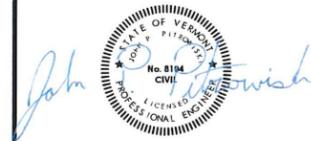
2. By use of these drawings for construction of the Project, the Owner represents that they have reviewed, approved, and accepted the drawings, obtained all necessary permits, and have met with all applicable parties/disciplines, including but not limited to, the Engineer and the Architect, to insure these plans are properly coordinated including, but not limited to, contract documents, specifications, owner/contractor agreements, building and mechanical plans, private and public utilities, and other pertinent permits for construction.

3. Owner and Architect, are responsible for final design and location of buildings shown, including an area measured a minimum five (5) feet around any building and coordinating final utility connections shown on these plans.

4. Prior to using these plans for construction layout, the user shall contact TCE to ensure the plan contains the most current revisions.

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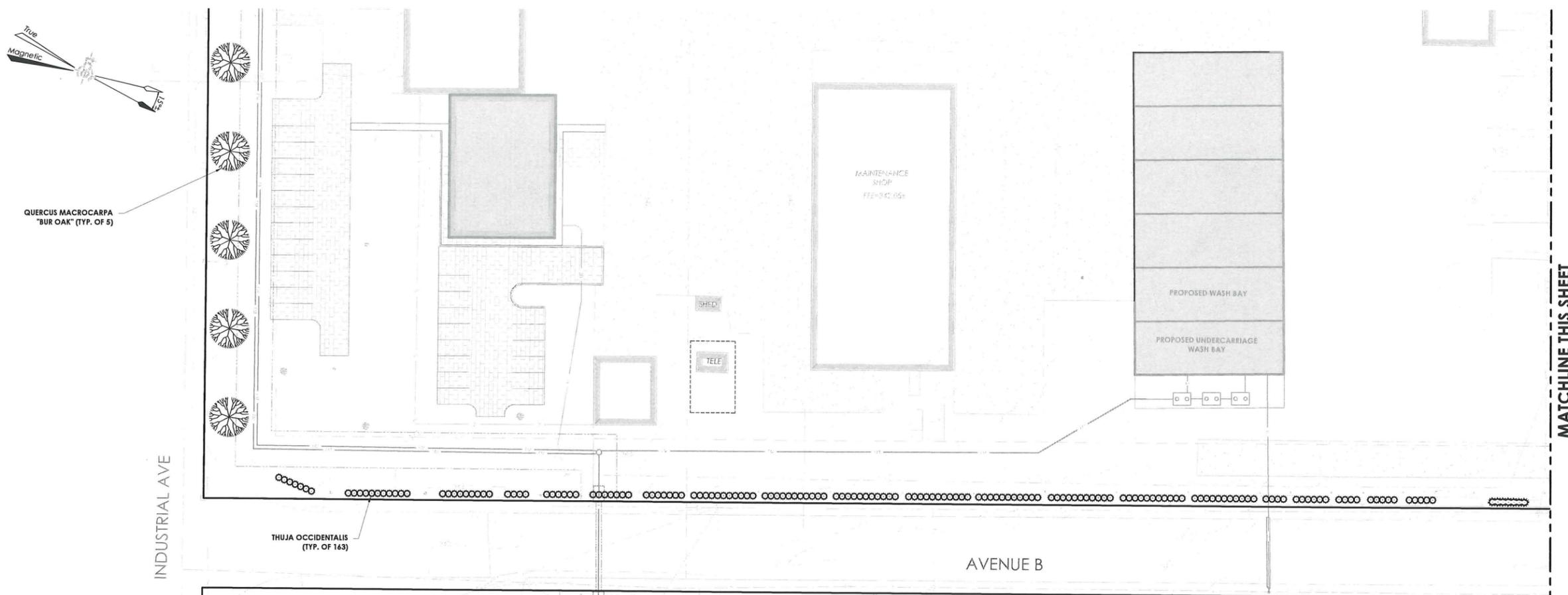


Project Title
SD Ireland
193 Industrial Avenue
Williston, Vermont

Sheet Title
Landscaping Plan

Date: 04/17/2017
Scale: 1" = 30'
Project Number: 16-206
Drawn By: NPC
Project Engineer: ALR
Approved By: JPP
Field Book: 289

L1-01

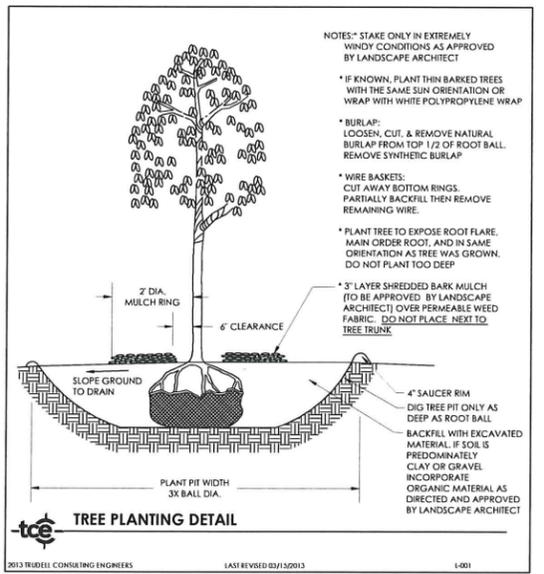


MATCHLINE THIS SHEET

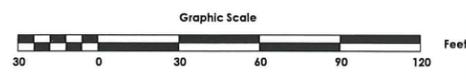
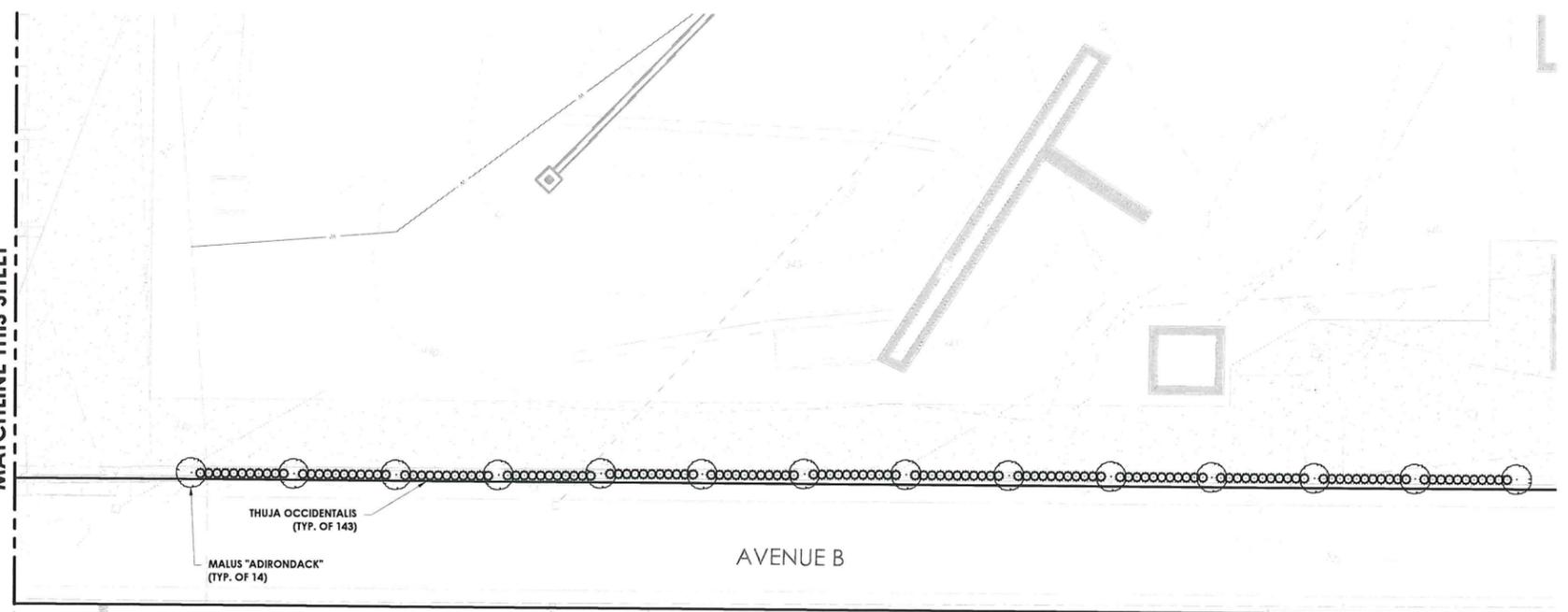
PLANT LIST

SD Ireland
2016-206
Prepared by Trudell Consulting Engineers
Ben Oxender
4/24/2017

SCIENTIFIC NAME	COMMON NAME	QUAN.	SIZE	COMMENTS
<i>Malus 'Adirondack'</i>	Adirondack Crabapple	14	1 1/2"-2"	B&B
<i>Quercus macrocarpa</i>	Bur Oak	6	2"-2 1/2"	B&B
<i>Thuja occidentalis</i>	Arborvitae	369	4'-5'	B&B



MATCHLINE THIS SHEET



Upon finding that the final plans complied with all requirements of the Williston Development Bylaw and all conditions imposed on the approval of Discretionary Permit 16-206, the Williston Development Review Board/Administrator approved the final plans for S.D. Ireland on the 22nd day of DEC, 2017.
K. B. [Signature]
Presiding member of Administrator's signature

TAX ID: 02-097-009-000

Project Reference:

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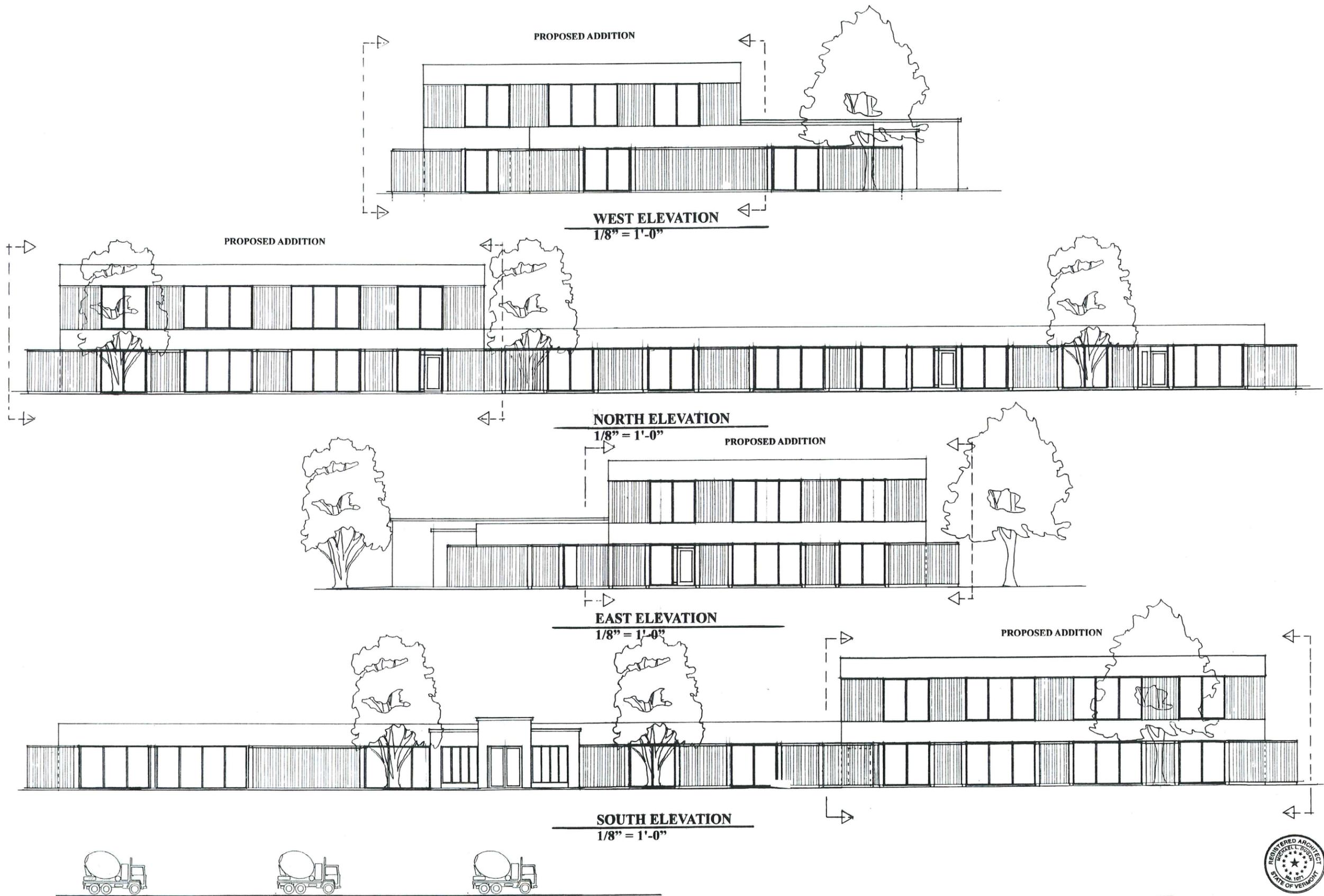
ELEVATIONS



SD IRELAND COMPANIES
CORPORATE HEADQUARTERS
193 INDUSTRIAL AVENUE
WILLISTON VERMONT

APRIL 10, 2017

A1



NOTE:
GENERAL CONTRACTOR IS TO VERIFY ALL DIMENSIONS ON THIS DRAWING PRIOR TO CONSTRUCTION.
GENERAL CONTRACTOR IS TO VERIFY ALL SITE CONDITIONS PRIOR TO CONSTRUCTION.

K. Blk, Z.A.
12/22/2017

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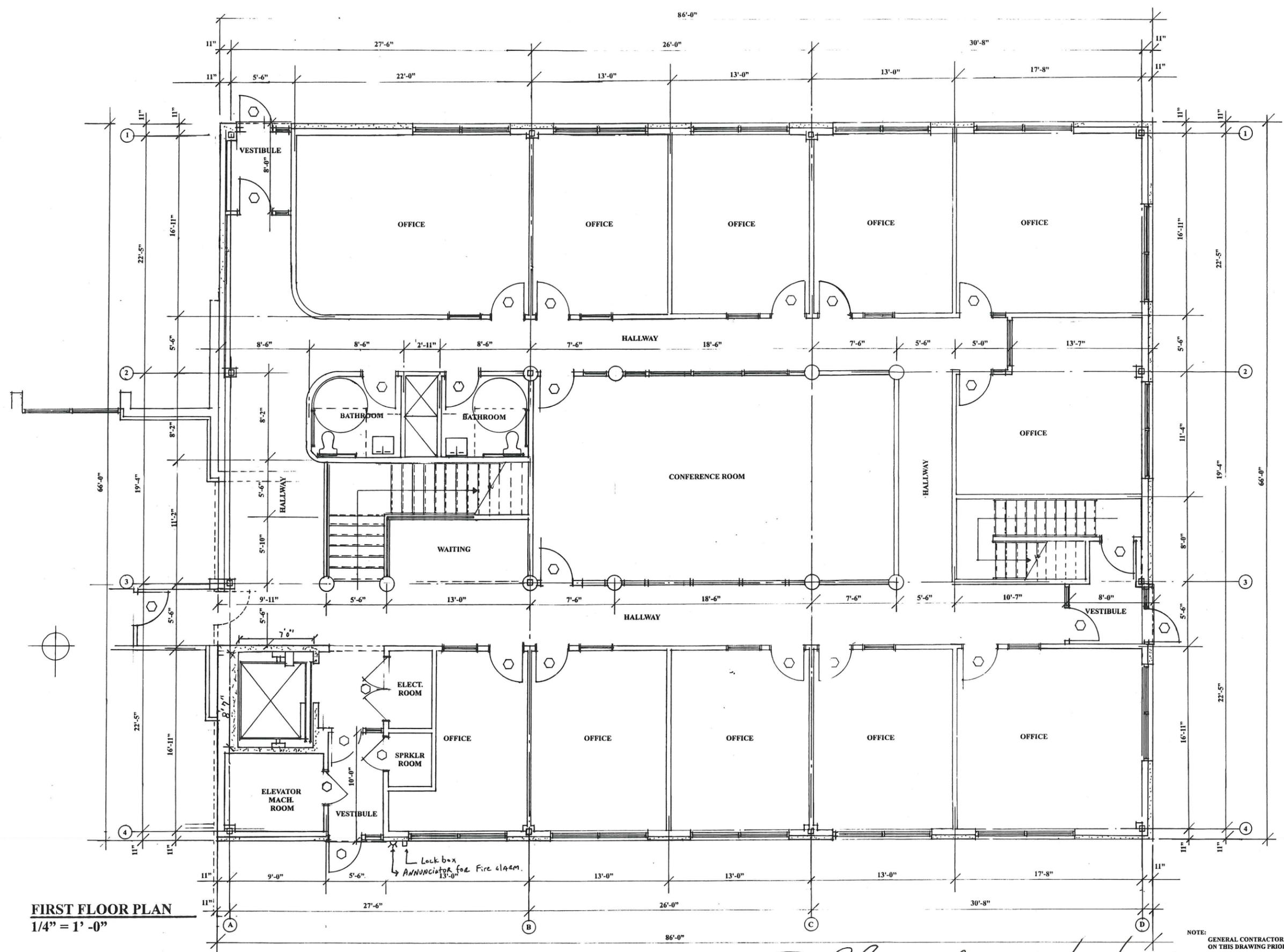
FIRST FLOOR PLAN



SD IRELAND COMPANIES
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 193 INDUSTRIAL AVENUE
 WILLISTON VERMONT

REV'D NOVEMBER 27, 2017
 PROGRESS PRINT 10.20.2017

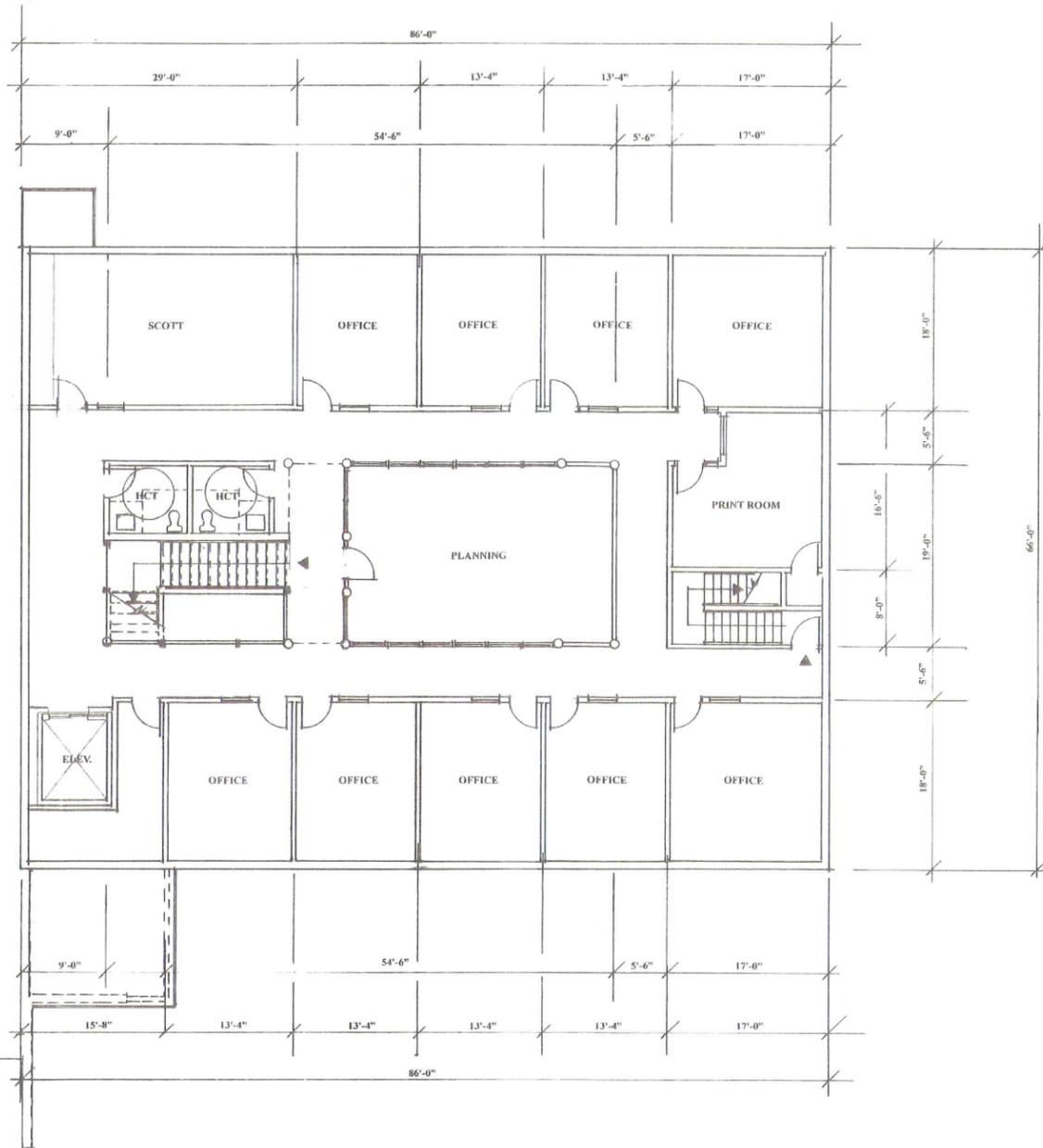
A1



FIRST FLOOR PLAN
 1/4" = 1' - 0"

NOTE:
 GENERAL CONTRACTOR IS TO VERIFY ALL DIMENSIONS ON THIS DRAWING PRIOR TO CONSTRUCTION.
 GENERAL CONTRACTOR IS TO VERIFY ALL SITE CONDITIONS PRIOR TO CONSTRUCTION.

K. Ball z.A. 12/22/2017



SECOND FLOOR PLAN
 1/8" = 1'-0"

CONSULTANT
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SECOND FLOOR PLAN



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 WILLISTON VERMONT



8-24-17

K. Balchi, Z.A. 12/22/2017

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 GENERAL CONTRACTOR IS TO VERIFY ALL SITE CONDITIONS PRIOR TO CONSTRUCTION.

A2