

Permit # AL2023-02  
Parcel ID: SR2260

# ACCESS PERMIT APPLICATION



Any new or modified access areas onto a Town highway requires Town approval. For access proposals on State roads, including RT 2 and RT 117, applicants are required to apply directly to VT Agency of Transportation. For local approvals, please review section 6.6 of the *Public Improvement Standards & Specifications for the Town of Richmond* (see municipal website) and provide all the information requested in this application. If you have questions please contact the Highway Department at 434-2631. Additional local permits and approvals may also be required, for information contact the Zoning Administrative Officer at 434-2430.

Application Date: 09/18/2023 Physical Address of Property: 2260 Stage Road

Applicant Name: Neil & Amy Renner Property Owner Name: Neil & Amy Renner

Applicant Mailing Address: 64 East Avenue  
Burlington, VT 05401 Owner Mailing Address: 64 East Avenue  
Burlington, VT 05401

Phone: 802-825-2393 Phone: 802-825-2393

Email: rennern@icloud.com, renner@gmavt.net Email: rennern@icloud.com, renner@gmavt.net

Description of Project: Creation of a new residential driveway Is property in floodplain? No

The Highway Department will review the proposal to ensure adequate sight lines, culverts and drainage issues. All new driveway culverts must have a minimum diameter of 15". Appropriate techniques such as headwalls and wingwalls may be required especially where erosion or undermining may be expected to occur. The landowner is responsible for purchasing and installing all required materials as approved for installation in the access permit. The landowner is responsible for all maintenance and repair for one year from the date of completion. For the replacement of existing culverts, the Highway Department will make the decision that an existing culvert has failed. The landowner will pay for the purchase price of the culvert. If the grade of the driveway is altered by the landowner so that the culvert is affected by frost action, the landowner will be responsible for repairs.

- Please include a Sketch Plan showing the proposed location of the new or modified access. (see reverse)
- Town Highway Access Application Fee—\$115 residential/\$145 commercial

Submit the completed application form with the required fee to Planning & Zoning Office.

Signatures: The undersigned hereby certifies this information to be complete and true  
Neil Renner 9/18/2023 Neil Renner 9/18/2023

Applicant Signature \_\_\_\_\_ date \_\_\_\_\_ Property Owner Signature \_\_\_\_\_ date \_\_\_\_\_

— DO NOT WRITE BELOW THIS LINE—OFFICE USE ONLY—DO NOT WRITE BELOW THIS LINE—OFFICE USE ONLY—DO NOT WRITE BELOW THIS LINE—OFFICE USE ONLY—

Application received by ZAO & forwarded to Highway Department (date & initial): 9/25/23 TM Fee: \$115

Application received & reviewed by Highway Department (date): 10-2-23 Decision: APPROVED / DENIED / WITHDRAWN

Comments: SIGHTLINE FROM ACCESS LOOKING NORTH AND Additional comments on reverse

Highway Foreman Signature: \_\_\_\_\_ Date: 10-5-23

Application received by Town Manager and scheduled for Selectboard approval (date of SB meeting): 10/16/23

Selectboard Decision: APPROVED / DENIED / WITHDRAWN Comments: \_\_\_\_\_

Selectboard Chair Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Return approved application to Planning & Zoning Office for applicant notification and filing (ZAO date & initial): \_\_\_\_\_

TOWN CLERK'S OFFICE Received for Record: \_\_\_\_\_ A.D. \_\_\_\_\_ At \_\_\_\_\_ o'clock \_\_\_\_\_ minutes \_\_\_\_\_ M

And Recorded in Book: \_\_\_\_\_ page \_\_\_\_\_ Attest: \_\_\_\_\_

**Sketch Plan:** Please include a Sketch Plan showing the proposed location of the new or modified access, with accurate measurements from the centerline of the proposed access (where it meets the town road) to any permanent mark. Please follow the specifications and profiles from the current Public Improvement Standards & Specifications for the Town of Richmond, **including the culvert size** (diameter and length). Additional information may be required depending on the nature of the project.

Sketch Plan:


— DO NOT WRITE BELOW THIS LINE—OFFICE USE ONLY—DO NOT WRITE BELOW THIS LINE—OFFICE USE ONLY—DO NOT WRITE BELOW THIS LINE—OFFICE USE ONLY —

Highway Department Comments: SOUTH EXCEED 390' AFTER TREE CLEANING ON SOUTH SIDE OF ACCESS IS COMPLETE. PR 15" x 30' HOPE CULVERT TO BE INSTALLED AND DITCHED TO →

Is a post construction inspection required? YES / NO Reason for post construction inspection: \_\_\_\_\_

Fee required (insert amount): \_\_\_\_\_ Fee collected (include amount and date received): \_\_\_\_\_

Is an independent professional inspection required? YES / NO Reason for independent professional inspection: \_\_\_\_\_

Fee required (insert amount): \_\_\_\_\_ Fee collected (include amount and date received): \_\_\_\_\_

Highway Foreman Signature: [Signature] Date: 10-5-23

Date of completed post construction inspection / independent professional inspection: \_\_\_\_\_

CARRY DITCH WATER TO ROAD CROSSING CULVERT NORTH OF  
ACCESS.

*B*

## Re: 2260 Stage Road Driveway Access

Peter Gosselin <pgosselin@richmondvt.gov>

Thu 10/5/2023 12:40 PM

To: Colen Johnson, PE <Colen.Johnson@tcevt.com>

Cc: Neil Renner <rennern@icloud.com>; John Pitrowiski, PE <John.Pitrowiski@tcevt.com>

Thanks Colen for clarifying this.

Pete

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**From:** Colen Johnson, PE <Colen.Johnson@tcevt.com>

**Sent:** Thursday, October 5, 2023 12:10 PM

**To:** Peter Gosselin <pgosselin@richmondvt.gov>

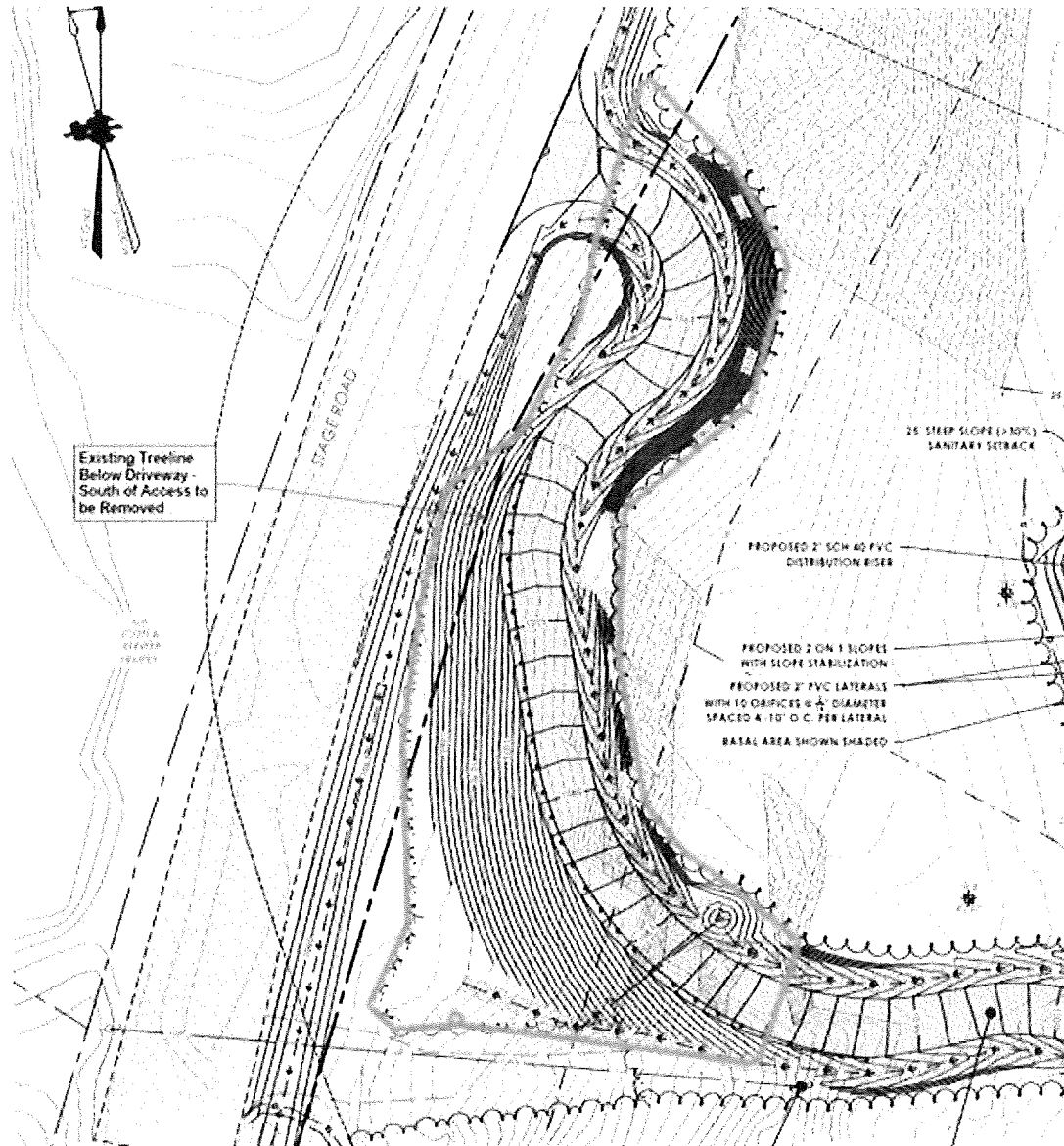
**Cc:** Neil Renner <rennern@icloud.com>; John Pitrowiski, PE <John.Pitrowiski@tcevt.com>

**Subject:** 2260 Stage Road Driveway Access

You don't often get email from colen.johnson@tcevt.com. [Learn why this is important](#)

Hello Peter,

Thanks for taking my call regarding the driveway for 2260 Stage Road. As discussed, the intent is to remove the existing trees between the driveway and roadway, south of the new access.



We also discussed requiring a culvert at the entrance and this will be added. As noted, it is flat so a 15" would be preferred if possible.

Let me know if you have any questions or would like to discuss.

Thanks,

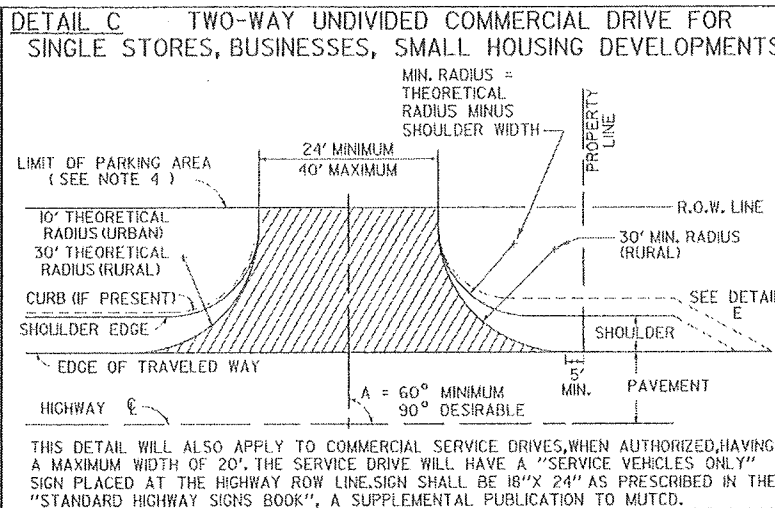
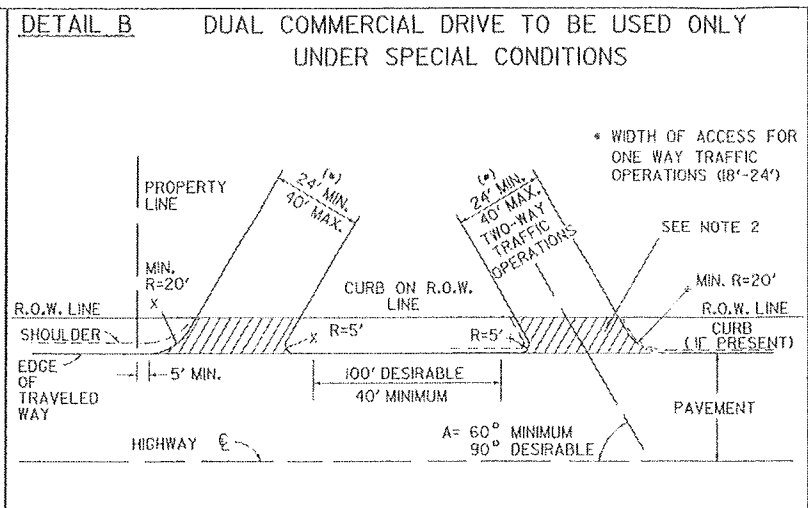
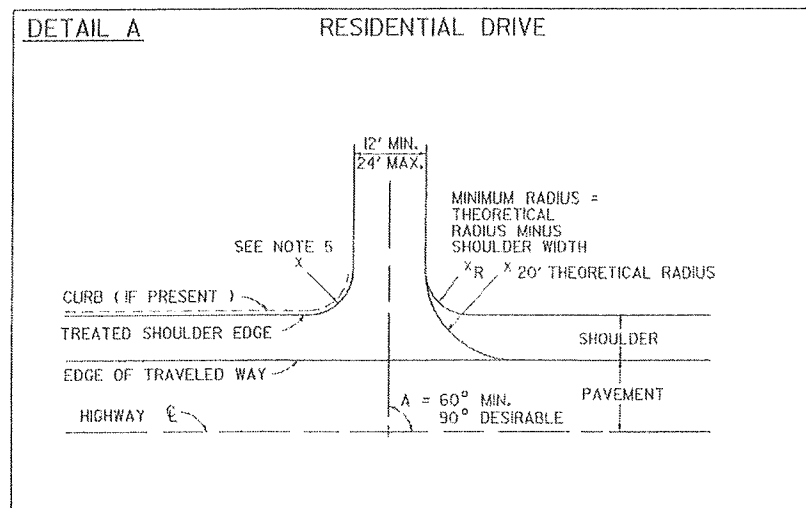


**Colen Johnson, PE**  
*Engineer V, Project Manager*

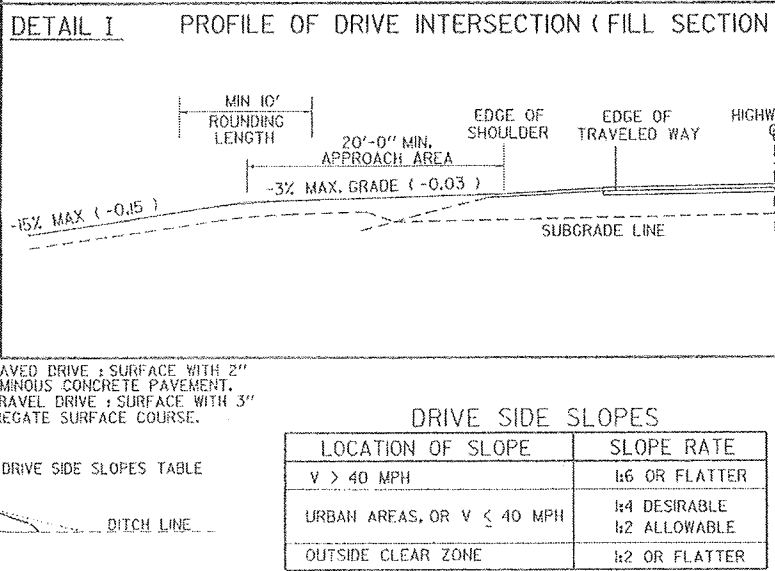
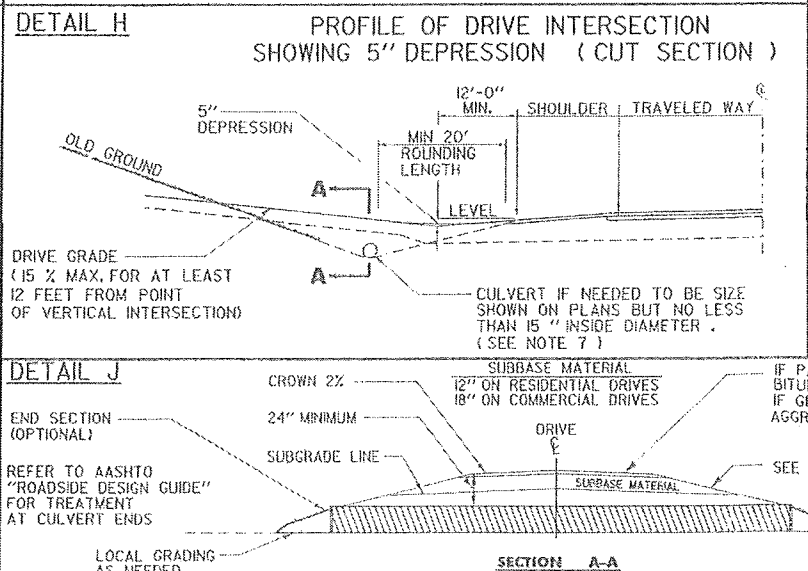
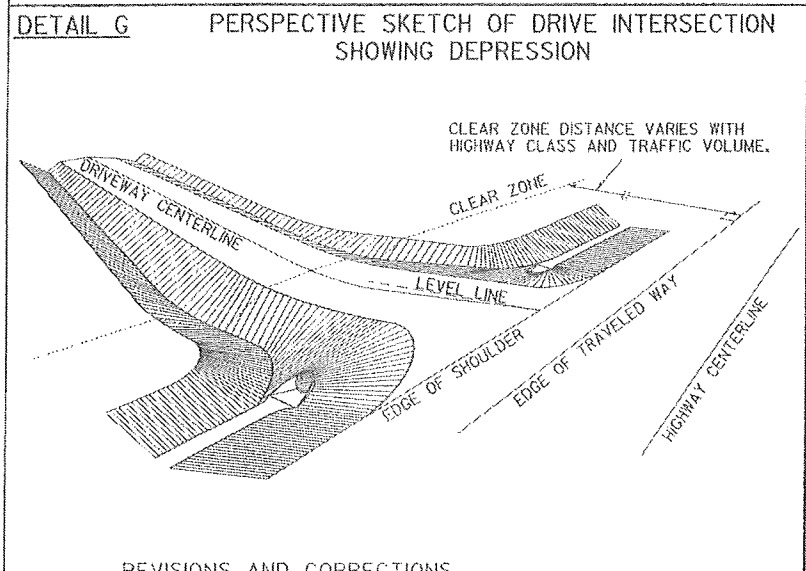
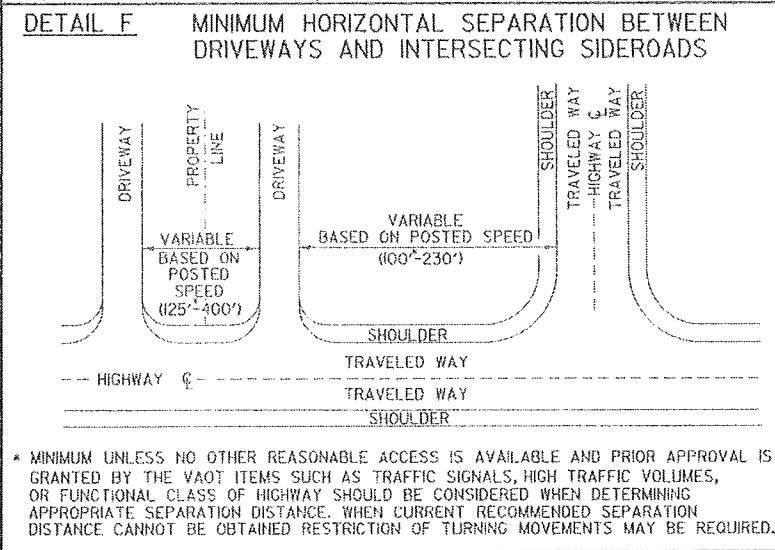
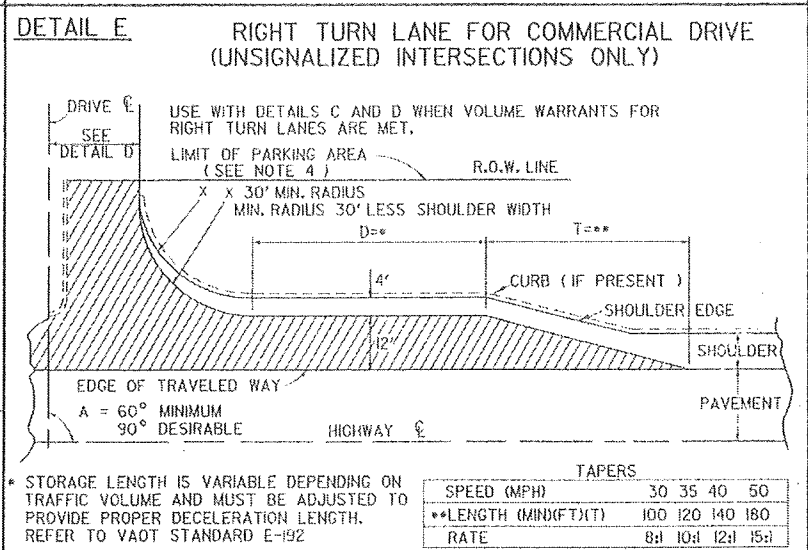
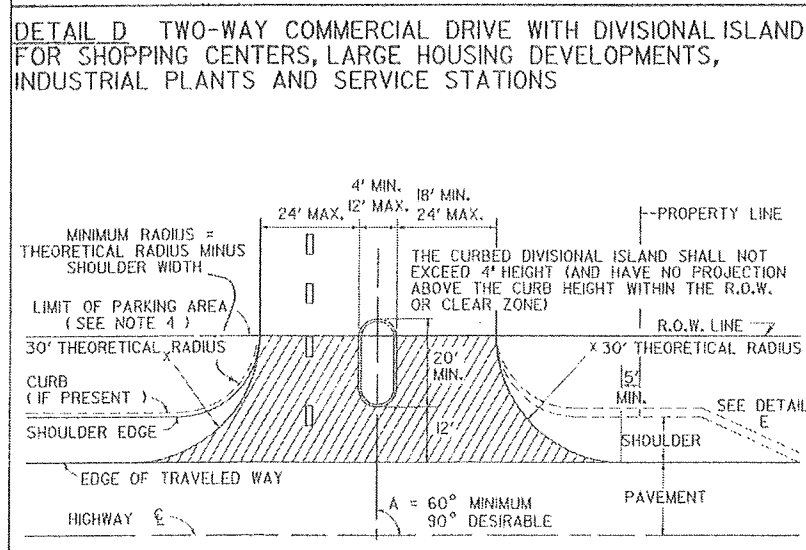
e. [colen.johnson@tcevt.com](mailto:colen.johnson@tcevt.com)  
 a. 802.552.0850  
 c. 864.991.9345

[tcevt.com](http://tcevt.com)

Civil      Environmental      Landscape      Underground      Land  
Engineering      Services      Architecture      Locating      Surveying



- NOTES:
- THIS SHEET IS INTENDED FOR USE BY DESIGNERS ON HIGHWAY PROJECTS AND IN CONJUNCTION WITH A PERMIT FOR WORK WITHIN HIGHWAY RIGHTS OF WAY (FORM TA 210). ALL CONSTRUCTION REQUIRED BY THE PERMIT AND INDICATED ON THIS SHEET SHALL BE THE RESPONSIBILITY OF THE APPLICANT AND IS SUBJECT TO THE APPROVAL OF THE VT. AGENCY OF TRANSPORTATION, WHEN USED WITH THE PLANS FOR A HIGHWAY CONSTRUCTION PROJECT. THIS SHEET IS INTENDED TO BE A GUIDE FOR THE DESIGNER CONCERNING DRIVE WIDTHS, HORIZONTAL, VERTICAL AND GEOMETRIC CHARACTERISTICS.
  - ALL COMMERCIAL DRIVES SHALL BE PAVED FROM THE EDGE OF THE TRAVELED WAY TO THE HIGHWAY RIGHT-OF-WAY, TO THE FARTHEST POINT OF CURVATURE ON THE DRIVEWAY EDGE OR AS DIRECTED BY THE DISTRICT TRANSPORTATION ADMINISTRATOR. THIS PAVING IS INDICATED IN DETAILS (B THRU E) BY HATCHING.
  - DEPTH OF SUBBASE AND PAVEMENT TO BE THE SAME AS HIGHWAY OR AS SHOWN IN DETAIL J WITHIN THE LIMITS OF THE HIGHWAY RIGHT-OF-WAY.
  - VEHICULAR ACCESS FROM PARKING AREAS TO THE RIGHT-OF-WAY AT OTHER THAN APPROVED ACCESS POINTS WILL BE PREVENTED BY THE CONSTRUCTION OF CURBING OR OTHER SUITABLE PHYSICAL BARRIER.
  - IF CURB IS PRESENT, SEE APPROPRIATE CURB DETAIL STANDARD OR MATCH TOWN/CITY STANDARD CURB TREATMENT.
  - WHERE TRAFFIC VOLUME FOR A PROJECT IS SUBSTANTIAL THE AGENCY MAY REQUIRE SPECIAL LANES FOR TURNING, SIGNALS OR OTHER MODIFICATIONS. BASED ON TRAFFIC STUDIES THE AGENCY WILL DETERMINE SPECIFIC TREATMENT TO BE USED. ON DEVELOPER PROJECTS THE AGENCY WILL WORK WITH THE APPLICANT TO IMPLEMENT CHANGES TO THE STATE HIGHWAY.
  - CIRCULAR DRAINAGE CULVERTS UNDER DRIVES SHALL HAVE A MINIMUM INSIDE DIAMETER (I.D.) OF 15". PIPE ARCHES USED UNDER DRIVES SHALL HAVE A MINIMUM INSIDE CROSS-SECTIONAL AREA EQUIVALENT TO THAT PROVIDED BY A 15" CIRCULAR PIPE.
  - THE OFFSET BETWEEN THE PROPERTY LINE AND THE EDGE OF THE DRIVEWAY MAY BE GOVERNED BY LOCAL ZONING LAWS. DRIVEWAY WIDTH RESTRICTIONS SHOWN PERTAIN ONLY TO THE AREA WITHIN THE HIGHWAY R.O.W. OR THE END OF THE TURNING RADIUS WHICHEVER IS GREATEST.
  - DRIVEWAY GRADES STEEPER THAN THOSE SHOWN MAY BE ALLOWED AS LONG AS A 20' APPROACH AREA IS ACHIEVED FOR THE VEHICLE TO PAUSE BEFORE ENTERING THE HIGHWAY. (WHERE CURB & SIDEWALKS EXIST, SEE STANDARDS C-2A & C-2B)
  - INTERSECTION SIGHT DISTANCES, EQUAL TO OR GREATER THAN THOSE SHOWN BELOW, SHOULD BE PROVIDED IN BOTH DIRECTIONS FOR ALL DRIVES ENTERING ON PUBLIC HIGHWAYS, UNLESS OTHERWISE APPROVED BY THE AGENCY OF TRANSPORTATION. INTERSECTION SIGHT DISTANCE IS MEASURED FROM A POINT ON THE DRIVE AT LEAST 15 FEET FROM THE EDGE OF TRAVELED WAY OF THE ADJACENT ROADWAY AND MEASURED FROM A HEIGHT OF EYE OF 3.5 FEET ON THE DRIVE TO A HEIGHT OF 3.50 FEET ON THE ROADWAY.



**SIGHT DISTANCE CHART**

POSTED SPEED OR DESIGN SPEED (M.P.H.)	MINIMUM STOPPING SIGHT DISTANCE (FT)	MINIMUM INTERSECTION SIGHT DISTANCE * (FT)
25	155	280
30	200	335
35	250	390
40	305	445
45	360	500
50	425	555
55	495	610
60	570	665
65	645	720

THE ABOVE VALUES ARE TAKEN FROM THE 2004 AASHTO "A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS & STREETS."

NOTE: ADVANCE WARNING SIGNS WILL BE REQUIRED IF OBTAINABLE INTERSECTION SIGHT DISTANCES ARE BELOW MINIMUM STOPPING SIGHT DISTANCES.

THE CHART IS ENTERED TO SELECT DESIGN VALUES BASED ON THE POSTED SPEED LIMIT IN MPH. VALUES FOR DESIGN ARE CALCULATED BASED ON THE DESIGN SPEED IN MPH.

\* ASSUMES A GAP OF 7.5 SECONDS IN THE TRAFFIC STREAM ON THE HIGHWAY MAINLINE BASED ON THE HIGHWAY DESIGN SPEED IN MPH. THIS ALLOWS A STOPPED PASSENGER VEHICLE TO ENTER THE MAINLINE FROM THE DRIVE WITHOUT UNDUPLY INTERFERING WITH THE HIGHWAY OPERATIONS.

REVISIONS AND CORRECTIONS

DEC. 11, 1992 - THIS STANDARD SUPERCEDES 0-71 (7/23/80R), B-71A (3/12/90), AND B-13 (12/14/71).

JUNE 1, 1994 - REISSUED, WITHOUT CHANGE, UNDER NEW SIGNATURES.

MAR. 10, 1995 - REISSUED, WITHOUT CHANGE, UNDER NEW SIGNATURES.

NOV. 16, 2000 - CHANGES MADE TO CONFORM WITH LANGUAGE AND DIMENSIONS IN ACCESS MANAGEMENT PROGRAM GUIDELINES.

FEB 1, 2004 - CHANGES MADE TO SIGHT DISTANCE CHART TO CONFORM WITH NEWEST AASHTO CRITERIA.

JULY 8, 2005 - CHANGE MADE TO OBJECT HEIGHT TO CONFORM WITH NEWEST AASHTO CRITERIA

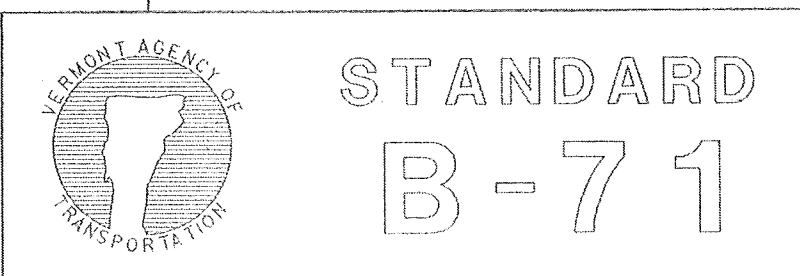
APPROVED

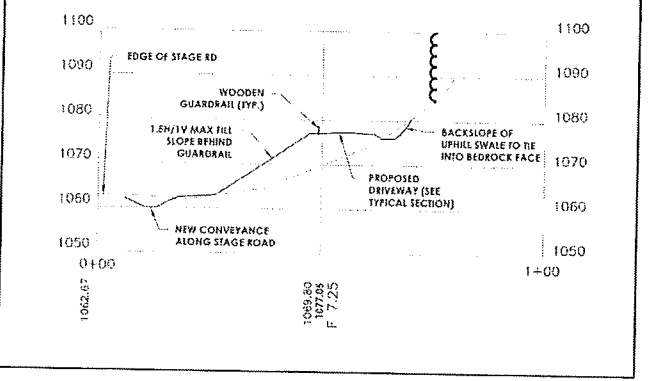
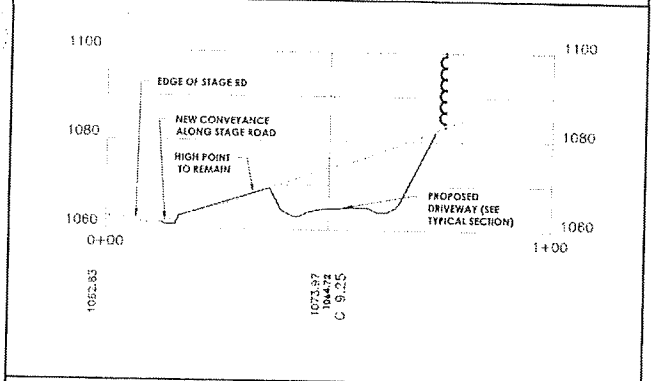
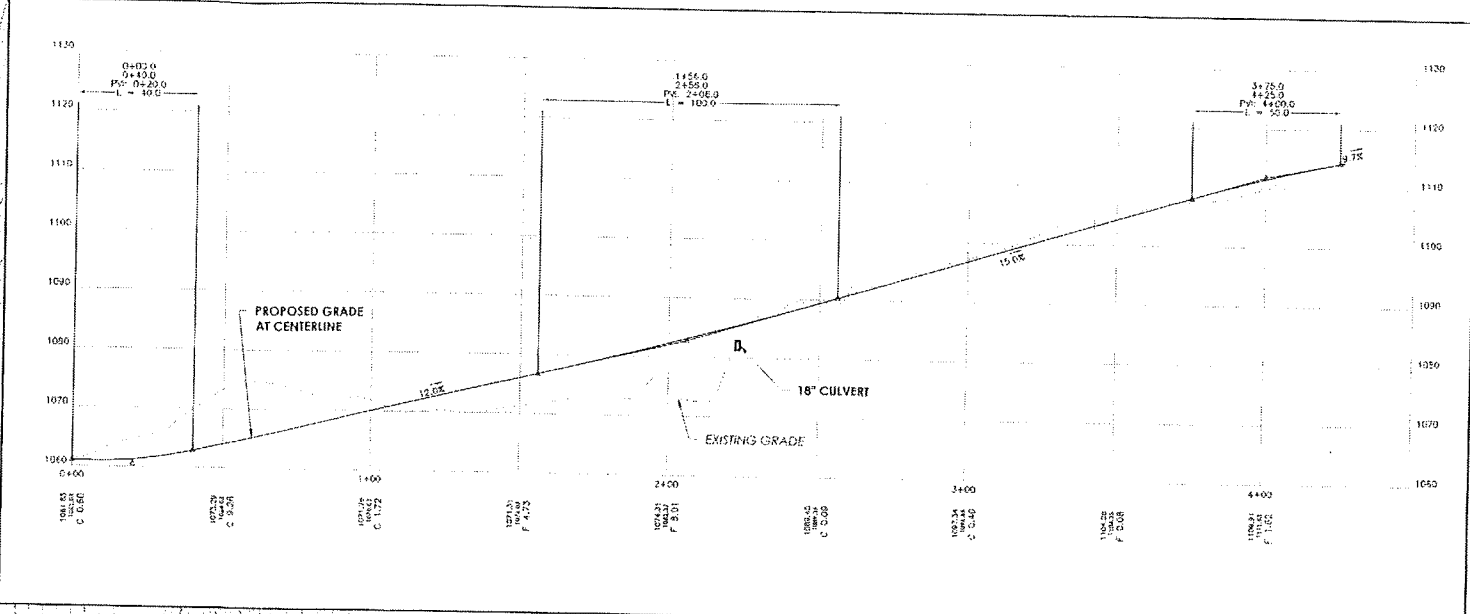
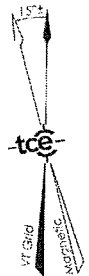
*Richard F. Johnson*  
DIRECTOR OF PROGRAM DEVELOPMENT

*Wray S. Keller*  
CHIEF OF UTILITIES AND PERMITS

*Michael...*  
FEDERAL HIGHWAY ADMINISTRATION

# STANDARDS FOR RESIDENTIAL AND COMMERCIAL DRIVES

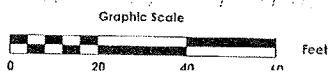
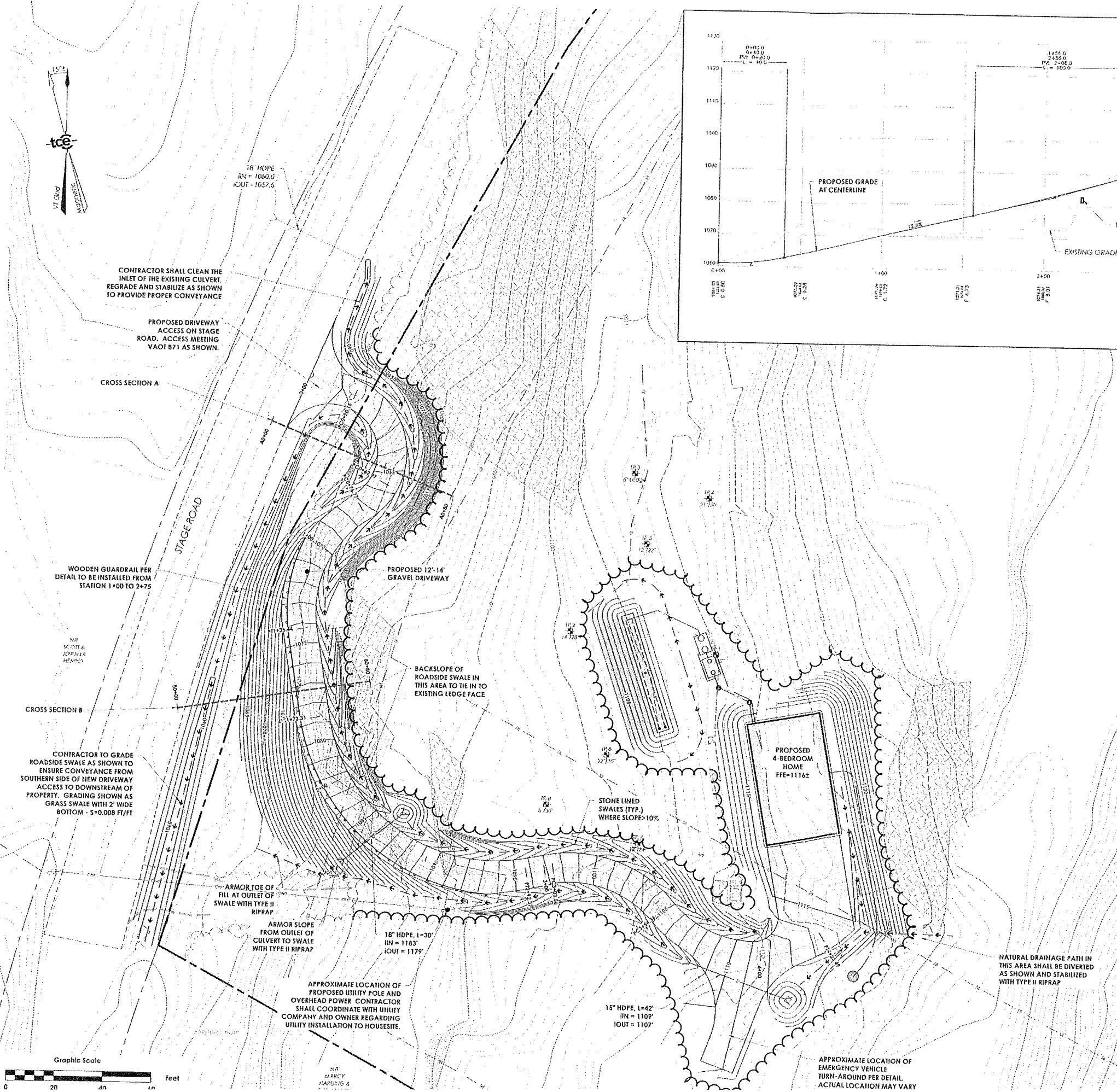




**DRIVEWAY SECTION SCHEDULE:**

0+00	12' WIDE NORMAL CROWN
0+25 - 0+75	12' WIDE RIGHT 4% CROSS SLOPE
0+75	12' WIDE NORMAL CROWN
1+00 - 1+25	14' WIDE NORMAL CROWN (WITH GUARDRAIL)
2+00 - 2+25	14' WIDE LEFT 2% CROSS SLOPE (WITH GUARDRAIL)
3+05	12' WIDE RIGHT 2% CROSS SLOPE
3+50	12' WIDE NORMAL CROWN
4+05	12' WIDE LEFT 2% CROSS SLOPE

- DRIVEWAY CONSTRUCTION NOTES:**
- SEE DETAILS FOR DRIVEWAY TYPICAL SECTION, GUARDRAIL, STONE LINED SWALE, GRASS SWALE, DRIVEWAY SURFACING, EMERGENCY VEHICLE TURNAROUND, ETC.
  - AN EMERGENCY VEHICLE TURNAROUND SHALL BE CONSTRUCTED AT THE END OF THE DRIVEWAY PER THE DETAIL. THE SPECIFIC LOCATION OF THE TURNAROUND MAY BE MODIFIED AS NEEDED.
  - THE CONTRACTOR SHALL ENSURE THAT UPSLOPE RUNOFF IS CONVEYED AROUND THE DRIVEWAY AS SHOWN.
  - EPS MEASURES AND STABILIZATION BE INSTALLED IN ACCORDANCE WITH C2-03 AND THE DETAILS.
  - CONSULT WITH THE ENGINEER REGARDING WORK AS NEEDED.
  - ALL DRAINAGE SWALES SHALL BE STONE LINED WHERE RUNNING SLOPE EQUALS OR EXCEEDS 10%.
  - BLASTING AND/OR HAMMERING OF BEDROCK SHALL OCCUR IN ACCORDANCE WITH APPLICABLE SAFETY REQUIREMENTS.
  - THE ENTRANCE OF THE DRIVEWAY SHALL MEET VAOTB71 AS SHOWN.
  - THE DRIVEWAY RUNNING SLOPES SHALL BE AS SHOWN ON THIS PLAN AND SHALL NOT EXCEED 12% OR 15% AS DEPICTED.
  - MINOR MODIFICATIONS TO DRIVEWAY ALIGNMENT MAY OCCUR WITH ENGINEER APPROVAL TO MINIMIZE BEDROCK DISTURBANCE.
  - THE RESIDENTIAL HOME IS SHOWN HEREON FOR ILLUSTRATIVE PURPOSES ONLY. THE ACTUAL RESIDENTIAL DWELLING STRUCTURE AND ASSOCIATED PARKING AREA WILL OCCUR LATER IN ACCORDANCE WITH LOCAL ZONING REQUIREMENTS.



**ENGINEERING • SURVEY  
PLANNING • ENVIRONMENTAL**  
418 ELAND PARK ROAD • WILKESVILLE, VERMONT 05455  
TEL 802 538 1100 WWW.TCEVT.COM

**Revisions**

No.	Description	Date	By
1	Electrical Revision and Additional Topo	09/18/23	CMJ

- Use of these Drawings**
- 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.
  - By use of these drawings for construction of the Project, the Owner represents that they have reviewed, approved, and accepted the drawings obtained after 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.
  - 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.
  - Prior to using these plans for construction layout, the user shall contact TCE to ensure the plan contains the most current revisions.
  - 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 shall be brought to the attention of TCE immediately.
  - It is the User's responsibility to ensure this copy contains the most current revisions.



Project Title

**Renner**  
2260 Stage Road  
Richmond, VT

Sheet Title

**Driveway Plan and Profile**

Date: 09/01/2023

Scale: 3/32"=1'

Project Number: 23-025

Drawn By: CMJ

Project Engineer: CMJ

Approved By: CMJ

Field Book:



18" HDPE  
IN = 1060.0  
OUT = 1637.6

EXPOSED BEDROCK  
SHOWN SHADED (TYP.)

LIMIT OF TOPOGRAPHIC  
SURVEY (TYP.)

STAGE ROAD

ICE CONTROL  
ELEV. 1059.87

ICE CONTROL  
ELEV. 1115.26

TR 8  
9.797

TR 7  
15.734

TR 2  
14.728

TR 1  
18.732

TR 5  
12.722

TR 4  
21.730

TR 3  
6.729

EXISTING TRAIL

PRIMARY STRUCTURE  
SETBACK PER ZONING

150' DWELLING  
SETBACK PER DEED

**LEGEND**

	EXISTING	REMOVED
GRAVEL DRIVE OR ROAD		
FENCE LINE		
DRAINAGE FLOW		
SEWER MAINS AND SERVICES		
SEWER FORCE MAIN		
WATER MAINS AND SERVICES		
STORM DRAINAGE		
GUARDRAIL		
OVERHEAD UTILITY		
UNDERGROUND UTILITY		
PROPERTY LINE		
ADJOINING PROPERTY LINE		
SETBACKS		
WELL CORE / WASTEWATER CORE OF PREFERENCE		
OUTLET OF EDD SECTION		
WATER SUPPLY WELL		
UTILITY POLE		
IRON PIPE		
STEEL REBAR		
CONCRETE MOP FORM		
SOIL TEST PIT		
ICE CONTROL POINT		
STEEL REBAR		

Revisions	No.	Description	Date	By
	1	Boundary Revision and Additional Topo	02/10/23	CMA

- Use of these Drawings**
- 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.
  - 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.
  - 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.
  - Plan to using these plans for construction layout, the user shall contact ICE to ensure the plan contains the most current revisions.
  - These Drawings are specific to the Project and are not transferable. As instruments of service, these drawings, and copies thereof, furnished by ICE are its exclusive property. Changes to the drawings may only be made by ICE. If errors or omissions are discovered, they shall be brought to the attention of ICE immediately.
  - It is the user's responsibility to ensure this copy contains the most current revisions.



Project Title

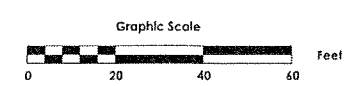
**Renner**  
2260 Stage Road  
Richmond, VT

Sheet Title

**Existing Conditions Plan**

Date:	02/01/2023
Scale:	1" = 20'
Project Number:	23-008
Drawn By:	CMA
Project Engineer:	CMA
Approved By:	CMA
Field Book:	8

- EXISTING CONDITIONS NOTES:**
- THE PURPOSE OF THE EXISTING CONDITIONS PLAN IS TO DEPICT READILY APPARENT PERTINENT EXISTING CONDITIONS AS OF JUNE 5, 2023.
  - BEARINGS SHOWN ARE BASED UPON VERMONT GRID NORTH USING VTMPS CORS STATION.
  - VERTICAL DATUM IS BASED ON NAVD88 (GEOID 18). A CARLSON BR7 RTK GPS UNIT WAS EMPLOYED FOR THESE OBSERVATIONS.
  - COORDINATE SYSTEM IS BASED ON VERMONT STATE PLANE (U.S. SURVEY FEET).
  - 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) OR CALL 811.
  - PERIMETER BOUNDARIES SHOWN HEREON ARE BASED ON TAX MAPS AND "PLAN OF SURVEY FOR LEE C. FISKE, JR." BY JOHN MARSH, L.S. DATED 1/28/80, REVISED 4/26/89. THE SOUTHERN BOUNDARY LINE IS BASED FIELD CONFIRMATION OF LOCATED SOUTHERN PROPERTY CORNERS BY TCE, INC. ON 9/14/23. THIS PLAN DOES NOT DEPICT A FORMAL BOUNDARY SURVEY.



**C1-01**



**WASTEWATER PERMITTING PURPOSE OF PLAN:**

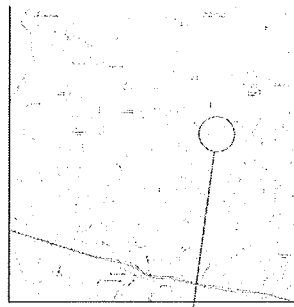
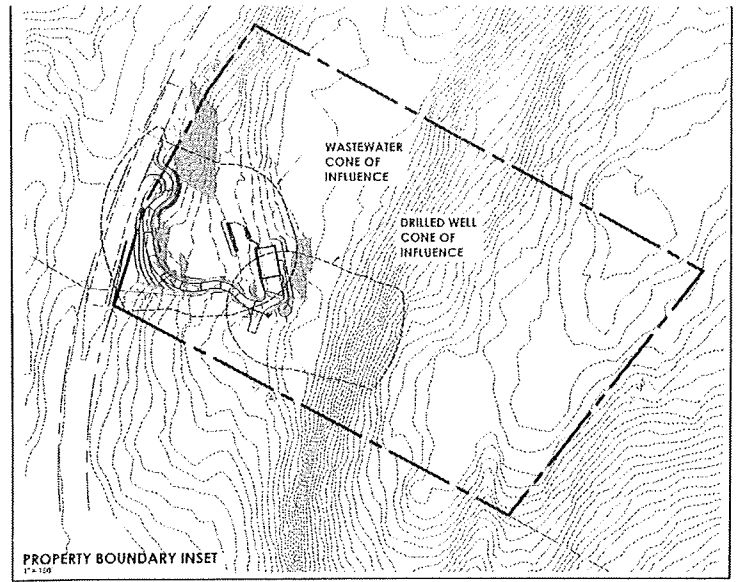
THESE PLANS ARE BEING SUBMITTED TO REMOVE THE DEFERRED PERMIT D-4-6904 FOR LOT 1 AND PROPOSE A 4-BEDROOM SINGLE FAMILY HOME ON LOT 1. THE 4-BEDROOM HOME WILL BE SERVICED BY A PRETREATED MOUND TYPE WASTEWATER DISPOSAL SYSTEM AND DRILLED WELL BOTH LOCATED ON LOT 1.

I HEREBY CERTIFY THAT, IN THE EXERCISE OF MY REASONABLE PROFESSIONAL JUDGMENT, THE DESIGN RELATED INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT AND THE DESIGN INCLUDED IN THIS APPLICATION FOR A PERMIT COMPLIES WITH THE VERMONT WASTEWATER SYSTEM AND POTABLE WATER SUPPLY RULES. (REF. ENVIRONMENTAL PROTECTION RULES CHAPTER 1 §1-306 (U)).

**REFER TO ATTACHED HYDRO STUDY FOR MINIMUM SYSTEM WIDTH AND LENGTH OF 5' x 50':**

**BASIS OF DESIGN FOR LOT 1 PRETREATED MOUND TYPE WASTEWATER DISPOSAL SYSTEM:**

- DESIGN FLOW FOR PROPOSED 4-BEDROOM HOME: 140 GPD/BDRM x 3 BEDRMS + 70 GPD FOR THE 4TH BDRM = 490 GPD
- APPLICATION RATE: 1.0 FOR MOUND SAND (USE 2.0 WITH PRETREATMENT) = 2.0 GPD/SF
- DISPOSAL AREA REQUIRED: 490 GPD / 2.0 GPD/SF = 245 SF
- DISPOSAL AREA PROVIDED: 1 FRENCH 5' WIDE X 50' LONG = 250 SF
- BASAL AREA REQUIRED: 490 GPD / 0.74 GPD/SF = 662 SF
- BASAL AREA PROVIDED: = 732 SF
- LIMITING DEPTH TO SHWT (TP 14.5) = 1.3'
- LIMITING DEPTH TO LEDGE (TP 5) = 2.2'
- LIMITING RECEIVING SOIL TEXTURE = FINE SANDY LOAM
- HYDRAULIC GRADIENT = +1.15%
- GROUNDWATER MOUNDING HEIGHT (DARCY EQUATION) = 5.2'
- MOUND SAND HEIGHT PROPOSED = 1.2'
- SEPARATION BETWEEN INDUCED MOUND AND STONE = (1.3'-5.2') + 1.2' = 19.8'-18"
- SEPARATION BETWEEN LEDGE AND STONE = 2.2' + 1.2' = 3.4'-2.4"



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Revision No.	Description	Date	By
1	Revisions by Permitting	09/01/23	CMJ
2	Boundary Revision and Approval Topo	09/18/23	CMJ

**PROJECT INFORMATION:**

- OWNER OF RECORD: NEIL & AMY FENNER  
61 EAST AVENUE  
BURLINGTON, VERMONT 05401
- TAX SPAN: 519-163-10903
- PHYSICAL ADDRESS OF PROPERTY: 2260 STAGE ROAD  
RICHMOND, VT 05477
- PARCEL SIZE: 10.12 ACRES

**ELEVATION KEY:**

HOUSE FFE	= 1116.00
HOUSE SEWER INVERT OUT	= 1105.90
SEPTIC TANK RISER IN	= 1110.00
SEPTIC TANK INVERT IN	= 1107.50
SEPTIC TANK RISER OUT	= 1107.35
SEPTIC TANK INVERT OUT	= 1110.00
SEPTITECH 0.5 INVERT IN	= 1107.25
SEPTITECH 0.5 PUMP CHAMBER INVERT OUT	= 1106.95
LATERAL INVERT	= 1107.30

THE CONTRACTOR SHALL COORDINATE WITH ENGINEER REGARDING ANY ELEVATION CHANGES AT THE DWELLING LINE PRIOR TO SEPTIC CONNECTION.

**SEE C2-02 FOR DRIVEWAY/DRAINAGE REQUIREMENTS AND C2-03 FOR EPSC/STABILIZATION REQUIREMENTS**

**HOUSE SITE NOTE:**

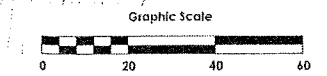
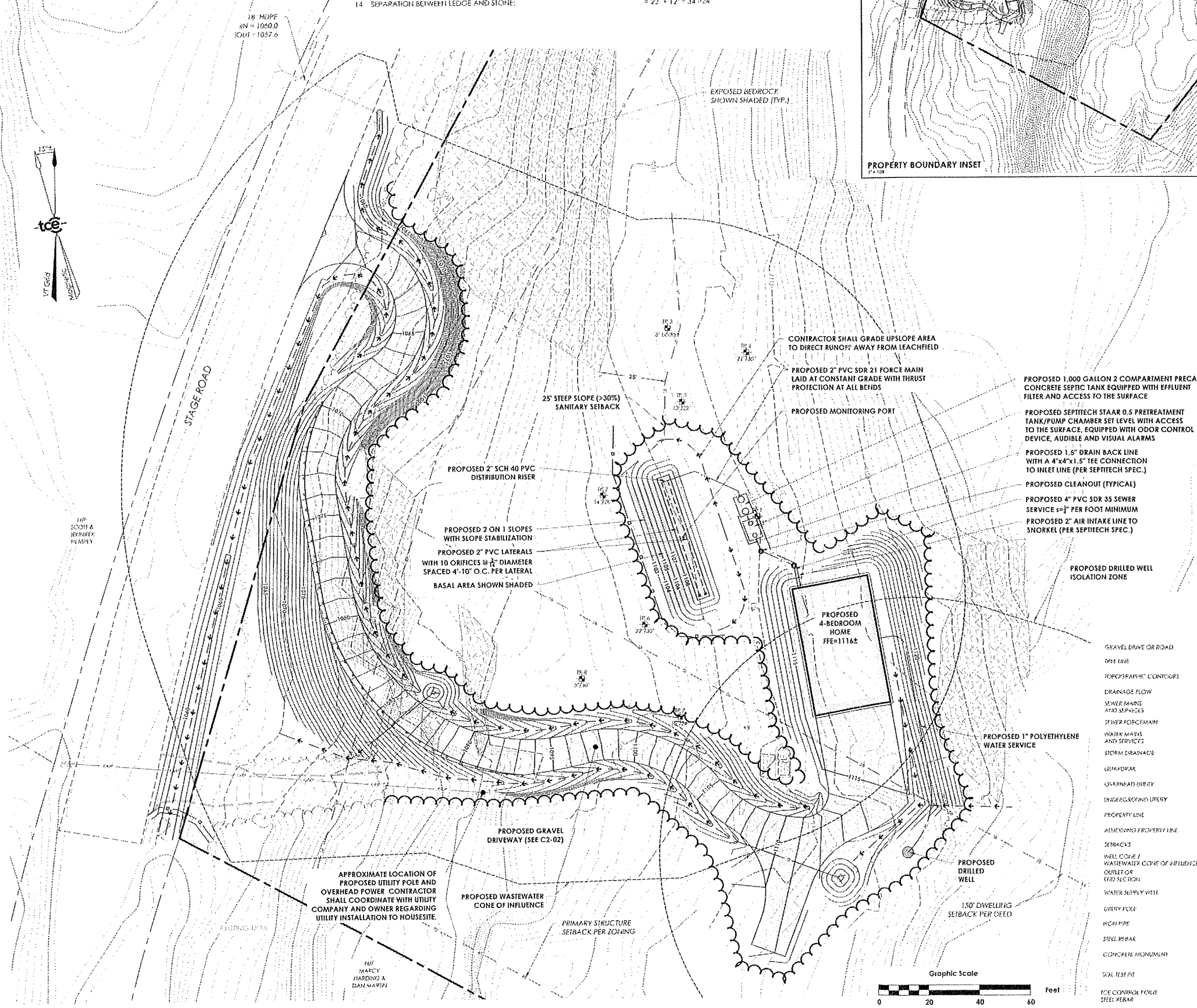
HOUSE DWELLING IS SHOWN FOR ILLUSTRATION PURPOSES ONLY. DWELLING CHARACTERISTICS (SHAPE, LAYOUT, HOUSE SITE GRADING) WILL CHANGE DEPENDENT ON BUILDING SPECIFICS.

**BASIS OF DESIGN FOR LOT 1 INDIVIDUAL DRILLED WELL WITH A PROPOSED 4-BEDROOM HOME SINGLE FAMILY HOME:**

AVERAGE DAY DEMAND:  
PROPOSED 4-BEDROOM HOME @ 140 GPD/BDRM x 3 BEDROOMS + 70 GPD FOR THE 4TH BDRM = 490 GPD  
AVERAGE DAY DEMAND = 490 GPD  
MAX. DAY DEMAND IS CALCULATED BY DIVIDING THE AVERAGE DAY DEMAND BY NOT MORE THAN 720 (12 HR. DELIVERY) MINUTES.  
490 GPD / 720 = 0.68 GPM  
THE INSTANTANEOUS PEAK DEMAND IS 5 GPM MULTIPLIED BY THE NUMBER OF UNITS = 5 GPM  
THE PROPOSED DRILLED WELL IS NOT LOCATED IN A FLOOD PLAIN.

**LEGEND**

EXISTING	PROPOSED	REMOVED
GRAVEL DRIVE OR ROAD		
TREE LINE		
TOPOGRAPHIC CONTOURS		
DRAINAGE FLOW		
SEWER MAINS AND SERVICES		
SEWER FORCE MAIN		
WATER MAINS AND SERVICES		
STORM DRAINAGE		
GUARDRAIL		
OVERHEAD UTILITY		
UNDERGROUND UTILITY		
PROPERTY LINE		
ADJOINING PROPERTY LINE		
SETBACKS		
WELL CONE / WASTEWATER CONE OF INFLUENCE		
OUTLET OR END SECTION		
WATER SUPPLY WELL		
UTILITY POLE		
IRON PIPE		
STEEL PIPE		
CONCRETE MOVEMENT		
SOIL TEST PIT		
PCE CONTROL POINT		
STEEL REBAR		



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Project Title

**Renner**  
2260 Stage Road  
Richmond, VT

Sheet Title

**Site Plan**

Date: 08/10/2023  
Scale: 1" = 20'  
Project Number: 23-028  
Drawn By: JWH  
Project Engineer: CMJ  
Approved By: CMJ  
Roll Book:

**C2-01**



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Revisions	No.	Description	Date	By
	1	Boundary Revision and Additional Notes	02/18/23	CME

1. INSTALL CONSTRUCTION ENTRANCE(S) AS SHOWN.
2. INSTALL SILT FENCE IN LOCATION SHOWN ON PLANS AS DETAILED.
3. STAKE OUT CONSTRUCTION. CLEAR AND GRUB.
4. STOCK PILE, PROCESS, AND DISPOSE OF TREES.
5. CONSTRUCT NECESSARY STABILIZED CONSTRUCTION ROADS. ESTABLISH DITCHLINES FROM DOWNHILL TO UPHILL. INSTALL CHECK DAMS AND EROSION CONTROL FABRIC IN DITCHLINES AS DETAILED. MAINTAIN TRAFFIC FLOW AS SHOWN.
6. CONSTRUCT SITE FEATURES.
7. VEGETATE AND STABILIZE.
8. REMOVAL TEMPORARY EROSION CONTROL MEASURES ONLY AFTER FINAL STABILIZATION HAS OCCURRED INCLUDING VEGETATION GROWTH.

**GENERAL CONSTRUCTION SEQUENCE**

PLANNING CONSTRUCTION EROSION CONTROL 02/18/2023 1 OF 1

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Project Title

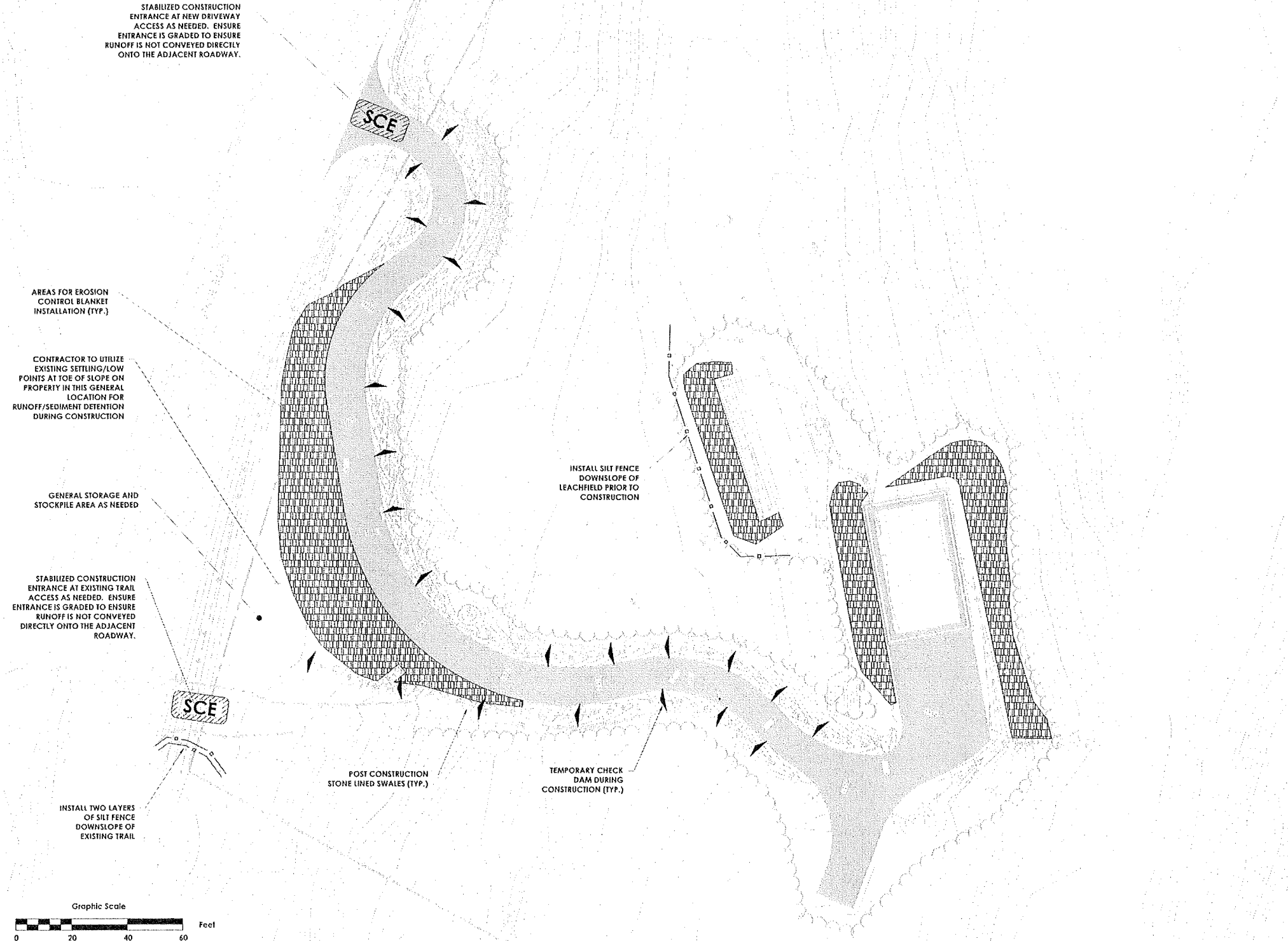
**Renner**  
 2260 Stage Road  
 Richmond, VT

Sheet Title

**EPSC Plan**

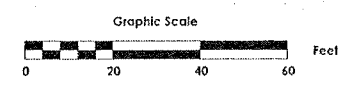
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Scale:	1" = 20'
Project Number:	23-09B
Drawn by:	JMH
Project Engineer:	CME
Approved By:	CME
Field Book:	

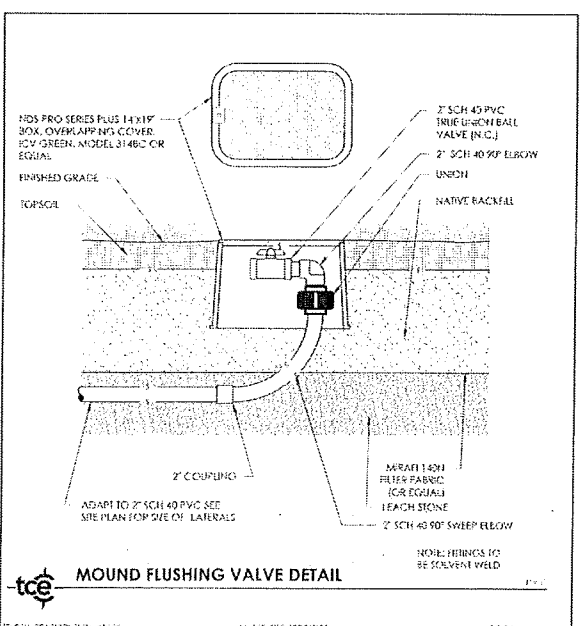
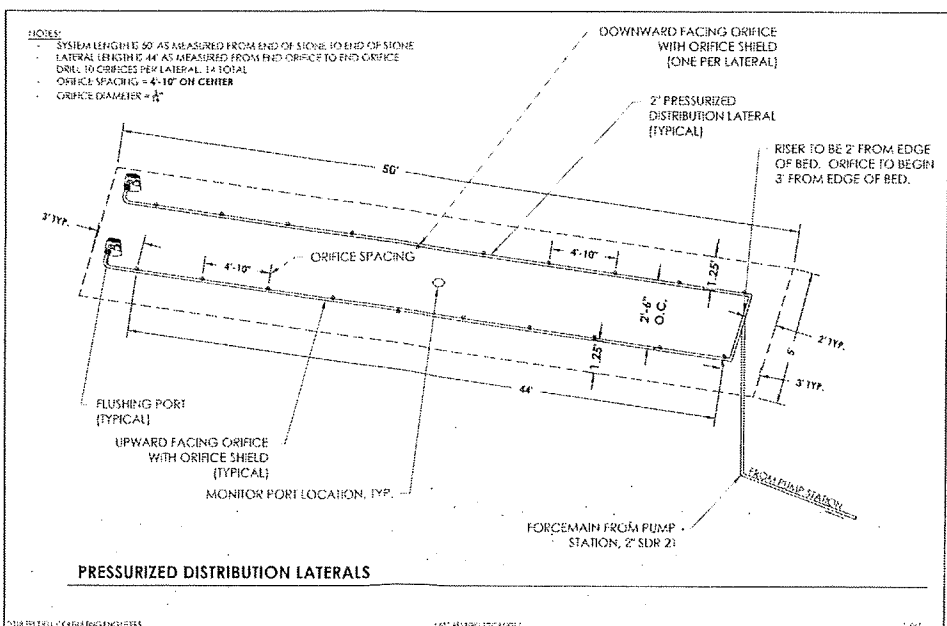
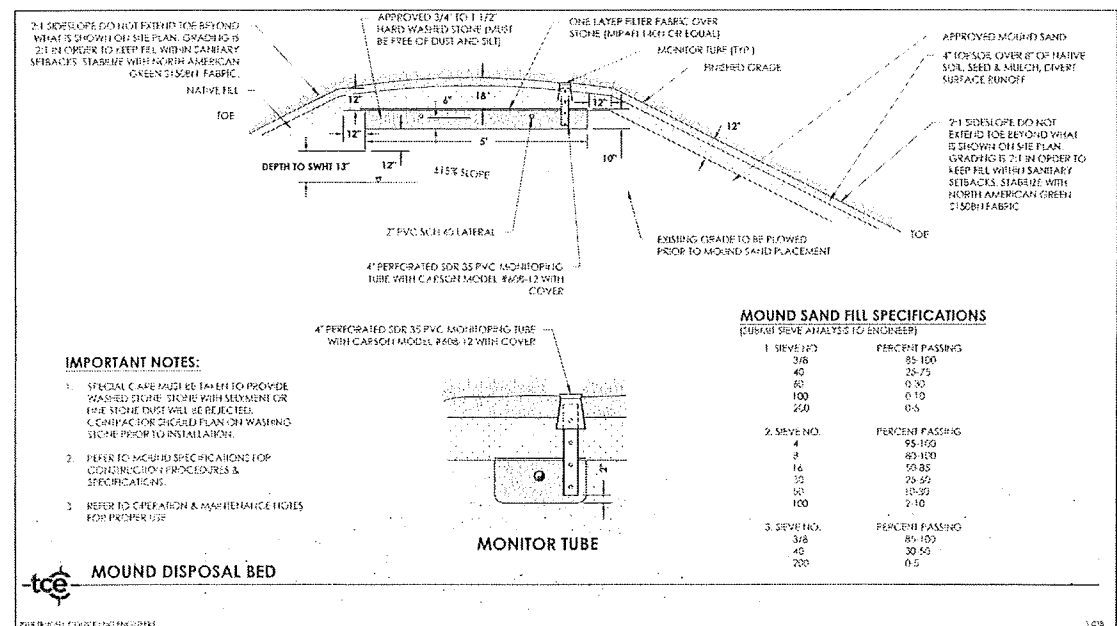
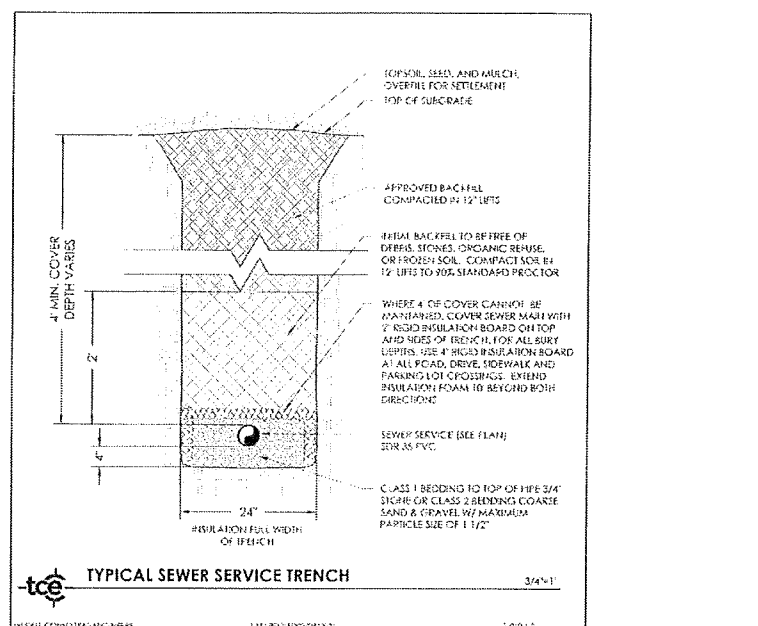
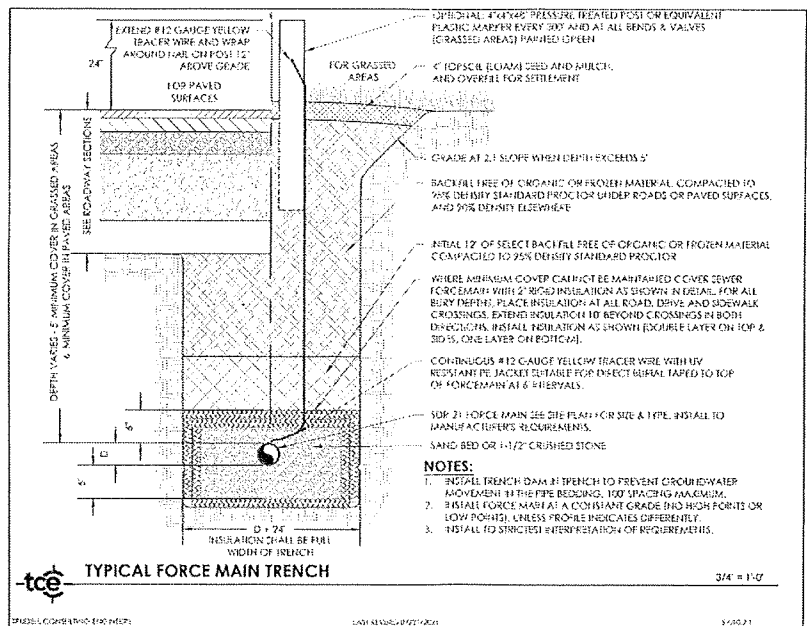
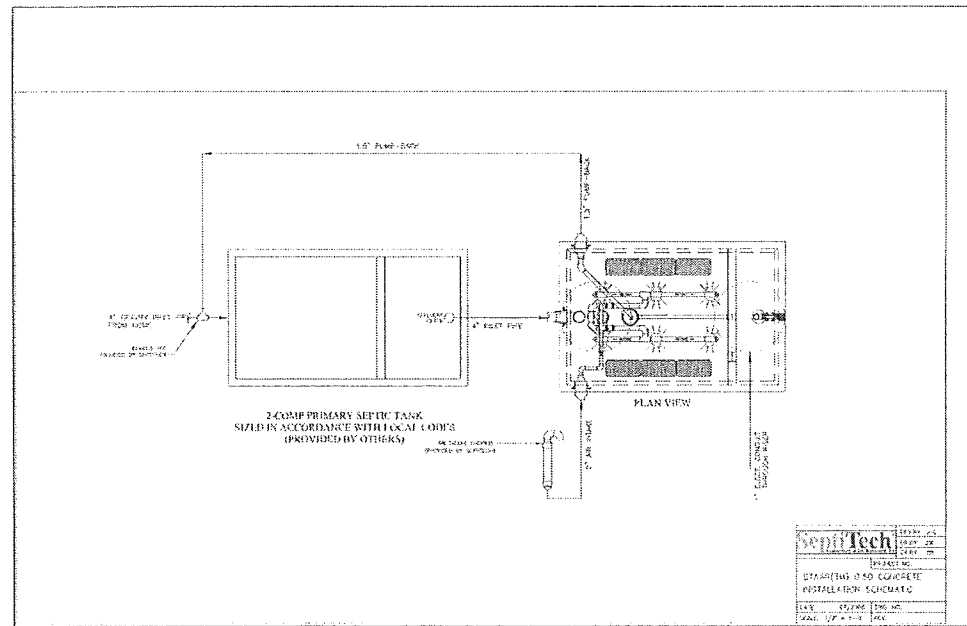
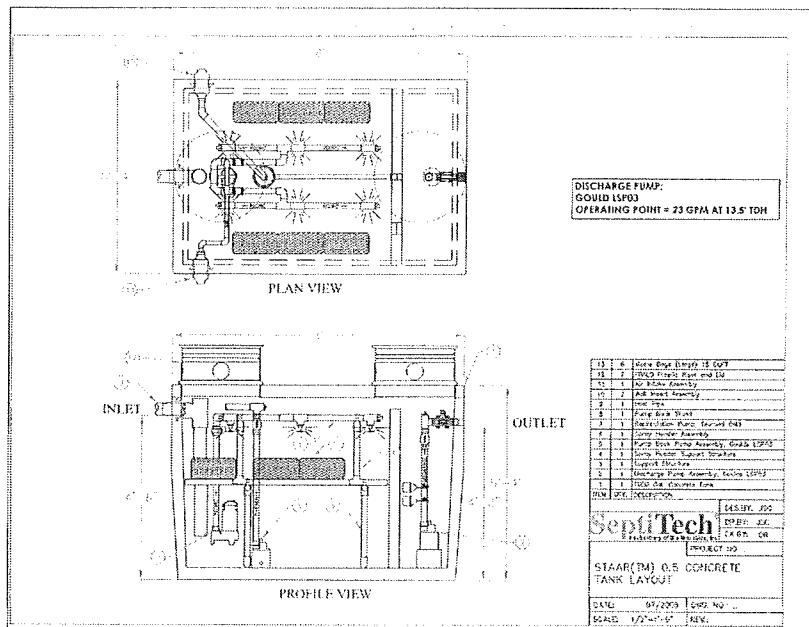
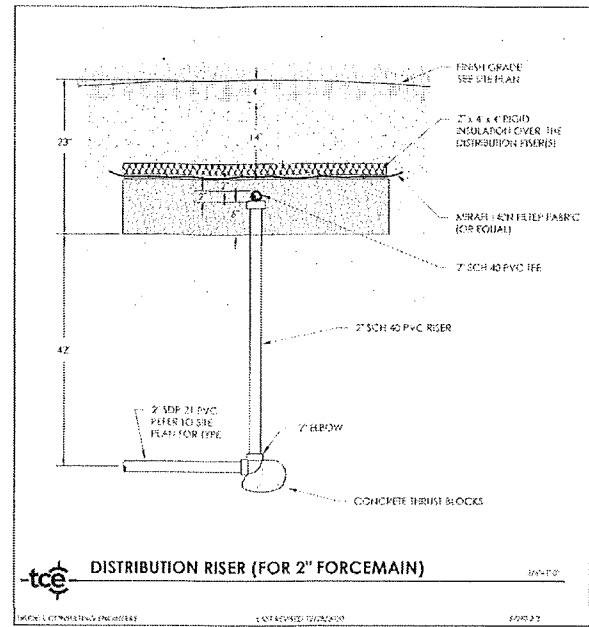
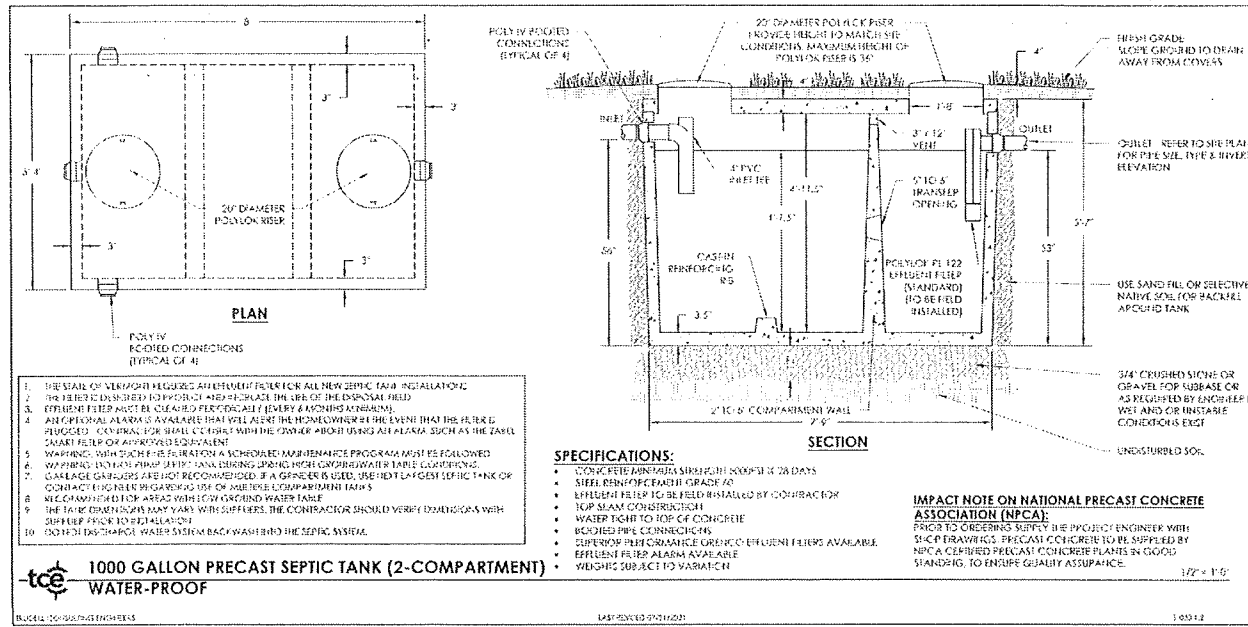
**C2-03**



**EPSC LEGEND**

	SILT FENCE
	INLET PROTECTION
	STABILIZED CONSTRUCTION ENTRANCE
	POST CONSTRUCTION EROSION CONTROL BLANKET
	TEMPORARY CHECK DAM





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Revisions

No.	Description	Date	By
1	Issue for Review	01/20/23	JLD
2	Issue for Construction	01/20/23	JLD

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**STATE OF VERMONT**

**PROFESSIONAL ENGINEER**

01/20/23

Project Title

**Renner**  
2260 Stage Road  
Richmond, VT

Sheet Title

**Sanitary Details**

Date: 01/20/2023

Scale: AS SHOWN

Project Number: 23-098

Drawn By: JLD

Project Engineer: CM1

Approved By: CM1

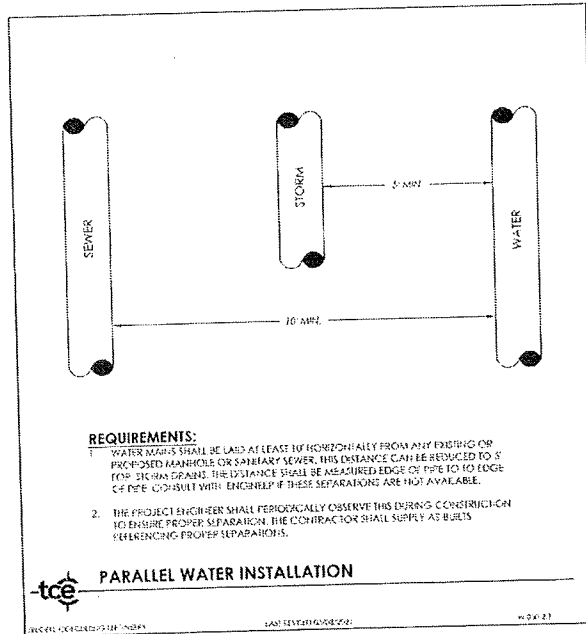
Field Book:

**CR 01**



ITEM	HORIZONTAL DISTANCE (FEET)		WATER SERVICE LINES AND WATER SERVICE PIPES (POSSIBLE)	WATER SERVICE LINES AND WATER SERVICE PIPES (POSSIBLE)	WATER STORAGE TANKS (ATMOSPHERIC AND BELOW GROUND SURFACE)
	POTABLE WATER SOURCES IN BEFOOT OF COVERED SURFACES	POTABLE WATER SOURCES IN UNCOVERED SURFACES			
1. AIRCRAFT RUNWAYS	100	200	25	150	50
2. REFERENCES OR STRUCTURES, PORCHES, REARWARDS OF BUILDINGS OR STRUCTURES	5	5	N/A	N/A	N/A
3. COMPRESSES	100	150	25	150	50
4. COMPOSING SITES (COMMERCIAL OR RESIDENTIAL)	200	300	25	150	50
5. CONCENTRATED LIVESTOCK HOLDING AREAS (BARNYARD)	200	300	25	150	50
6. DRIVEWAYS (PAVED WITH) (RESIDENTIAL)	5	10	N/A	N/A	N/A
7. DRIVEWAYS (ON ASPHALT SURFACES), HIGHWAYS, PARKING LOTS	25	25	N/A	N/A	25
8. PERIMETER FOR RESIDENCES, STORAGE FACILITIES (SHEDS) (ANY SIZE, ABOVE GROUND TANKS) 100 GAL. OR LESS AND BEING SERVED BY A HOUSEHOLD FACILITY	100	200	25	150	50
9. HILL, GLE, CROSSLAND & OTHER PERFORMING TANKS AND PIPES (NOT INCLUDING LIGHTED PERFORMING GAS TANK)	25	100	25	150	50
10. THERE, THE USE OF PESTICIDE APPLICATIONS (WHICH WERE APPLIED IN THE LAST 12 MONTHS) OR MAY BE APPLIED IN THE NEXT 12 MONTHS	100	200	25	150	50
11. LEACHFIELDS (IF TYPICAL) (ENDING OF PERMITS)	50	0	25	100	100
12. WASTEWATER TREATMENT SYSTEMS (AFTER CLOSURE)	100	200	25	150	50
13. WASTEWATER STORAGE SYSTEMS (AFTER CLOSURE)	200	300	25	150	50
14. PROPERTY LINES	300	300	25	150	50
15. SALVAGE YARDS	50	75	REFER TO EPD SECTION 1-1204	50	50
16. SANITARY SEWER COLLECTION LINES AND SANITARY SEWER SERVICE LINES	50	75	25	150	100
17. SLUDGE STORAGE	100	200	25	150	100
18. SOLID WASTE TRANSFER FACILITIES	10	10	10	10	10
19. STORMWATER COLLECTION/TREATMENT/CONTROL PRACTICE (BARRIERS)	10	10	10	10	10
20. STORMWATER COLLECTION/TREATMENT/CONTROL PRACTICE (BARRIERS) AND SUBSURFACE SYSTEMS	100	150	10	10	25
21. STORMWATER	10	50	REFER TO EPD SECTION 1-1204	10	10
22. SURFACE WATER (NORMAL TECH. WATER ELEVATIONS)	10	75	N/A	N/A	25
23. WASTEWATER DISPOSAL (SPRAY AREA, WASH COORDS)	200	300	25	150	100
24. WASTEWATER TANKS (IF REPORTED) (SYSTEMS OF PERMITS)	200	300	25	150	100

POTABLE WATER HORIZONTAL ISOLATION DISTANCES  
 SCALE: 1" = 10'-0" (VERTICAL)  
 DATE: 08/10/2023  
 W-011-23



PARALLEL WATER INSTALLATION  
 SCALE: 1" = 10'-0" (VERTICAL)  
 DATE: 08/10/2023  
 W-011-23

**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 WATER 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 APPROVAL. THE DESIGN ENGINEER SHALL BE NOTIFIED AND ADVISED TO OBSERVE THE CRITICAL PHASES OF CONSTRUCTION INCLUDING ANY REQUIRED TESTS. OTHERWISE, THE DESIGN ENGINEER SHALL BE NOTIFIED OF ANY DEVIATIONS FROM THE APPROVED PLANS. SINCE THE DESIGN ENGINEER DOES NOT CONDUCT VISUAL INSPECTION OF THE WORK, OR ALL TESTING, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBSERVING ALL PHASES OF THE WORK FOR INITIAL CERTIFICATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SIGNING AND RETURN A COPY OF THE FOLLOWING CERTIFICATION UPON COMPLETION OF THE WORK.

THEY HEREBY CERTIFY THAT THEY HAVE INSTALLED, PROPERLY TESTED, AND SUCCESSFULLY PASSED THOSE TESTS, AND THE WATER SYSTEMS ARE BUILT IN ACCORDANCE WITH THE APPROVED DESIGN PLANS AND APPLICABLE TECHNICAL SPECIFICATIONS.

THE CONTRACTOR CERTIFICATION INCLUDES SUPPLIERS AND SUB CONTRACTORS:

CONTRACTOR NAME: \_\_\_\_\_

AUTHORIZED AGENT NAME: \_\_\_\_\_

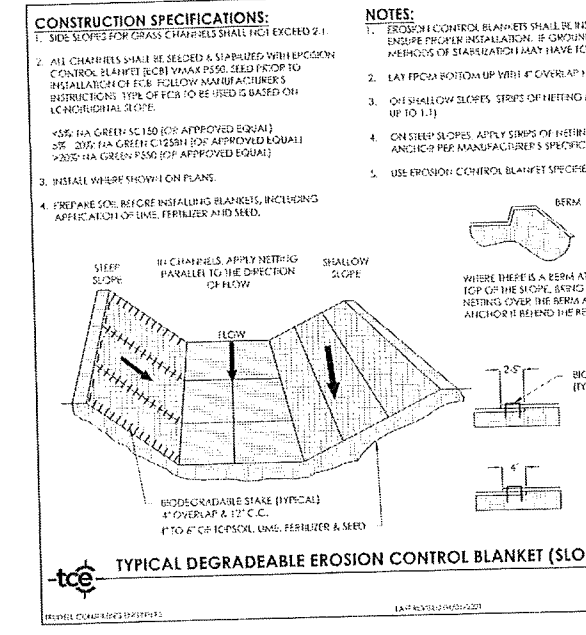
SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

NOTE: ANY DEVIATION FROM APPROVED PLANS HERE: \_\_\_\_\_

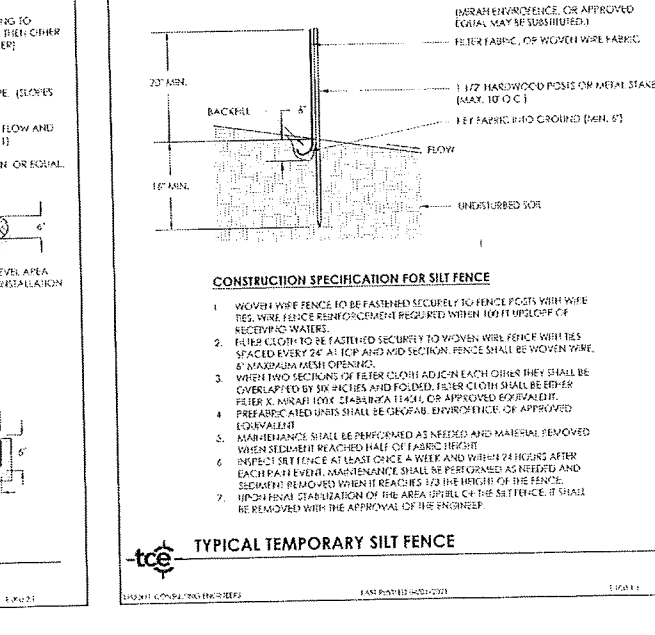
NOTE: THE CERTIFICATION AND THE PROJECT ENGINEER'S SUBSEQUENT CERTIFICATION DOES NOT VOID THE CONTRACTOR FROM REPAIR OR REPLACEMENT OF DEFECTIVE WORK OCCURRING AT A LATER DATE. THE CONTRACTOR REMAINS RESPONSIBLE, INCLUDING CUSTOMER'S GUARANTEE AND WARRANTY PERIODS.

**CONTRACTOR'S CERTIFICATION FOR WATER SYSTEM**

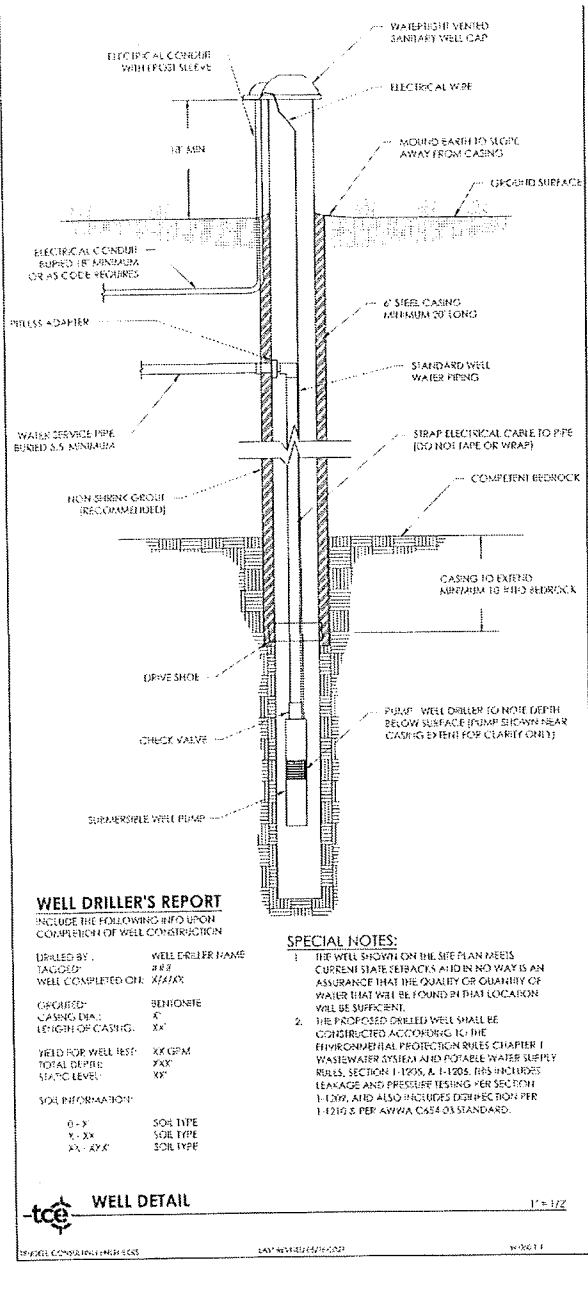
CONTRACTOR'S CERTIFICATION FOR WATER SYSTEM  
 SCALE: 1" = 10'-0" (VERTICAL)  
 DATE: 08/10/2023  
 W-011-23



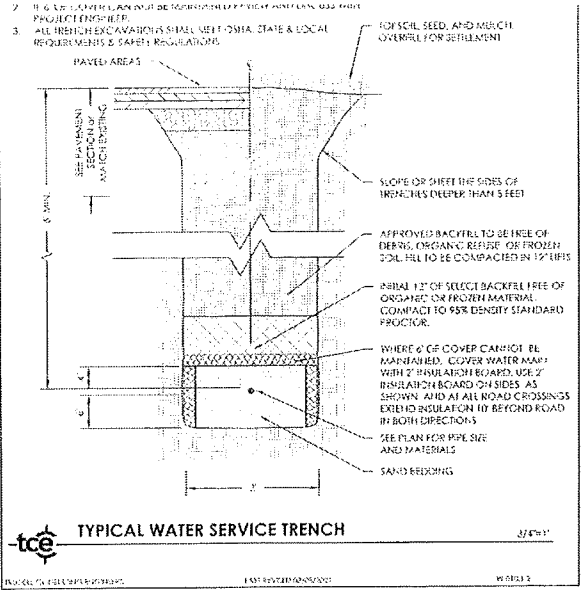
TYPICAL DEGRADABLE EROSION CONTROL BLANKET (SLOPES & CHANNELS)  
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 DATE: 08/10/2023  
 E-011-23



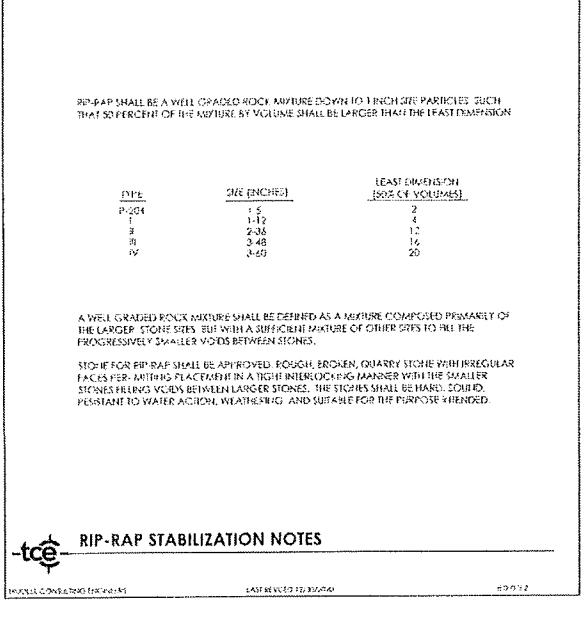
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 DATE: 08/10/2023  
 E-011-23



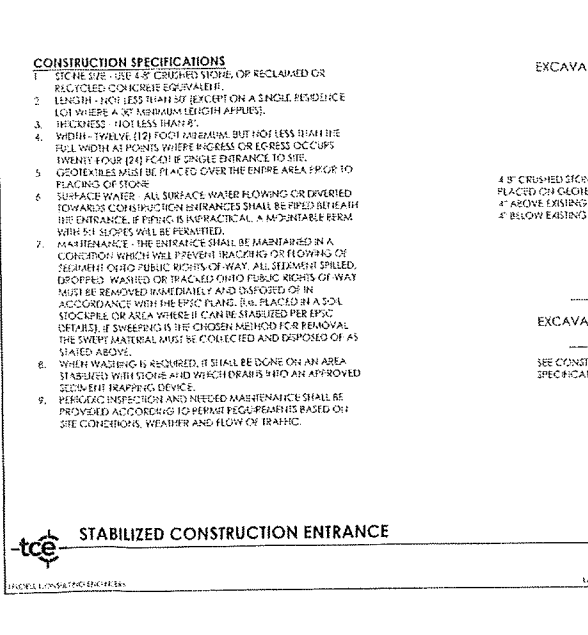
WELL DETAIL  
 SCALE: 1" = 1'-0" (VERTICAL)  
 DATE: 08/10/2023  
 W-011-23



TYPICAL WATER SERVICE TRENCH  
 SCALE: 1" = 1'-0" (VERTICAL)  
 DATE: 08/10/2023  
 W-011-23



RIP-RAP STABILIZATION NOTES  
 SCALE: 1" = 1'-0" (VERTICAL)  
 DATE: 08/10/2023  
 W-011-23



STABILIZED CONSTRUCTION ENTRANCE  
 SCALE: 1" = 1'-0" (VERTICAL)  
 DATE: 08/10/2023  
 E-011-23

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Revisions:  
 No. Description Date By

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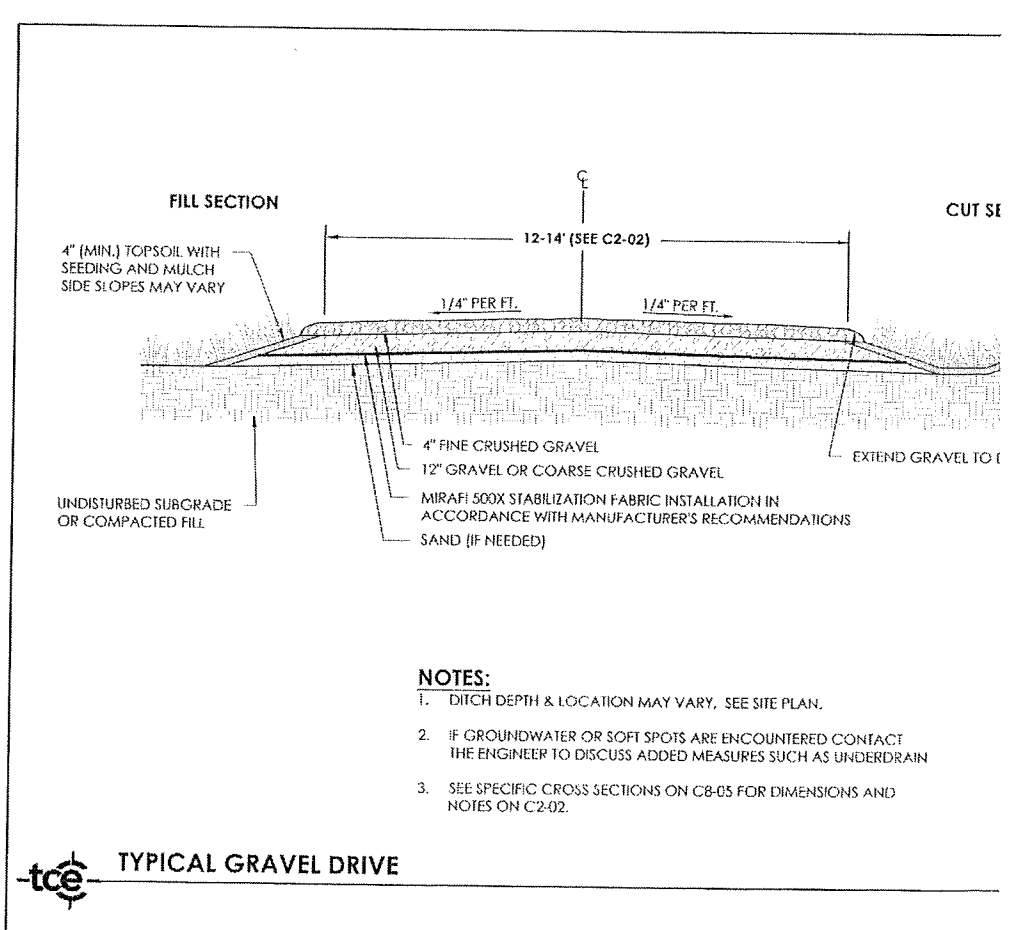
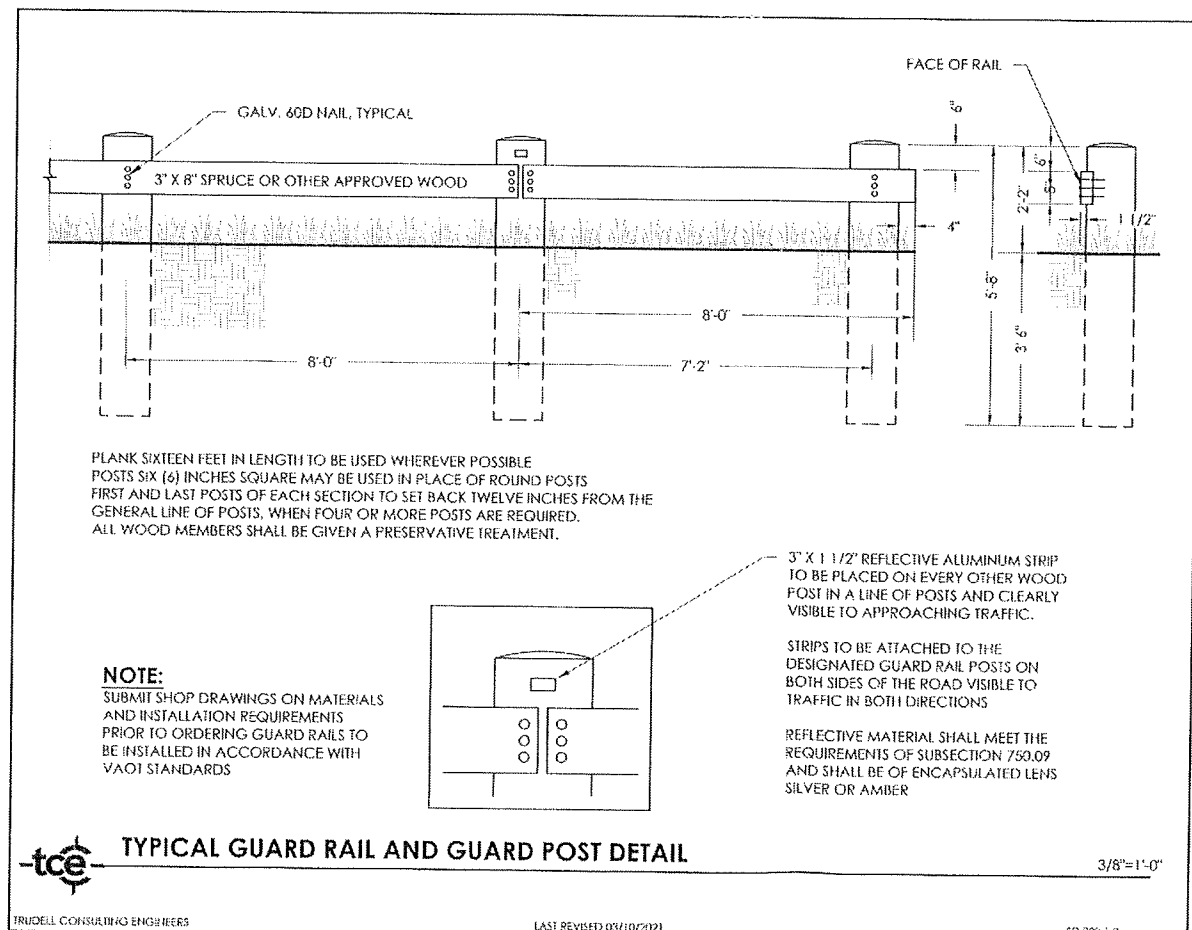
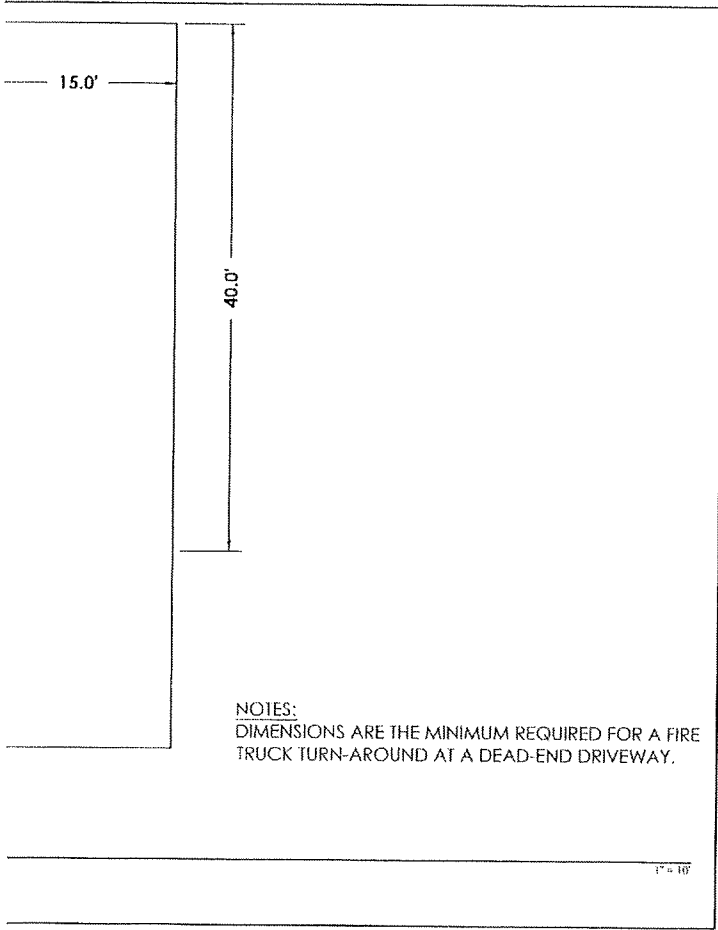
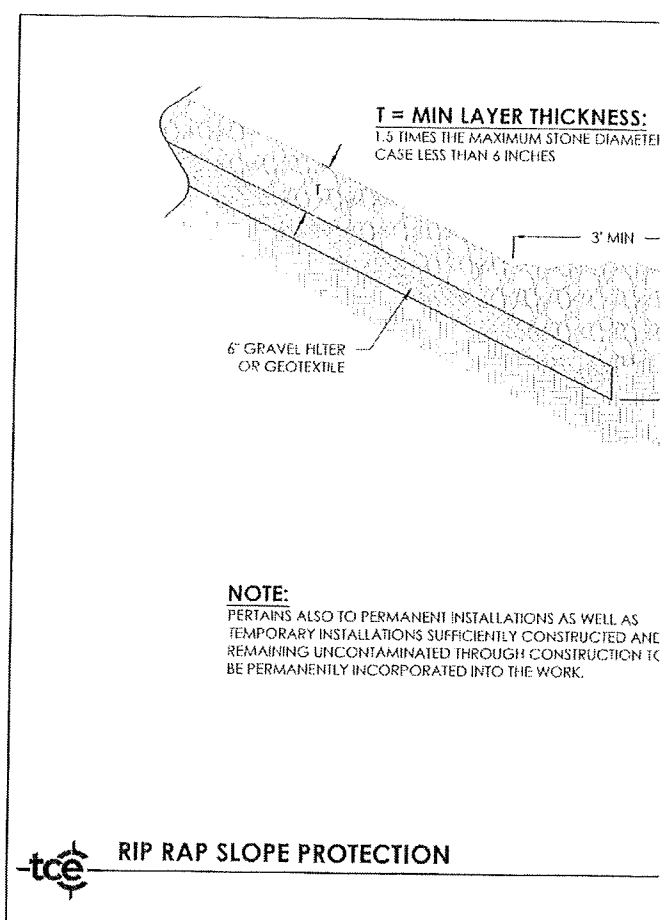
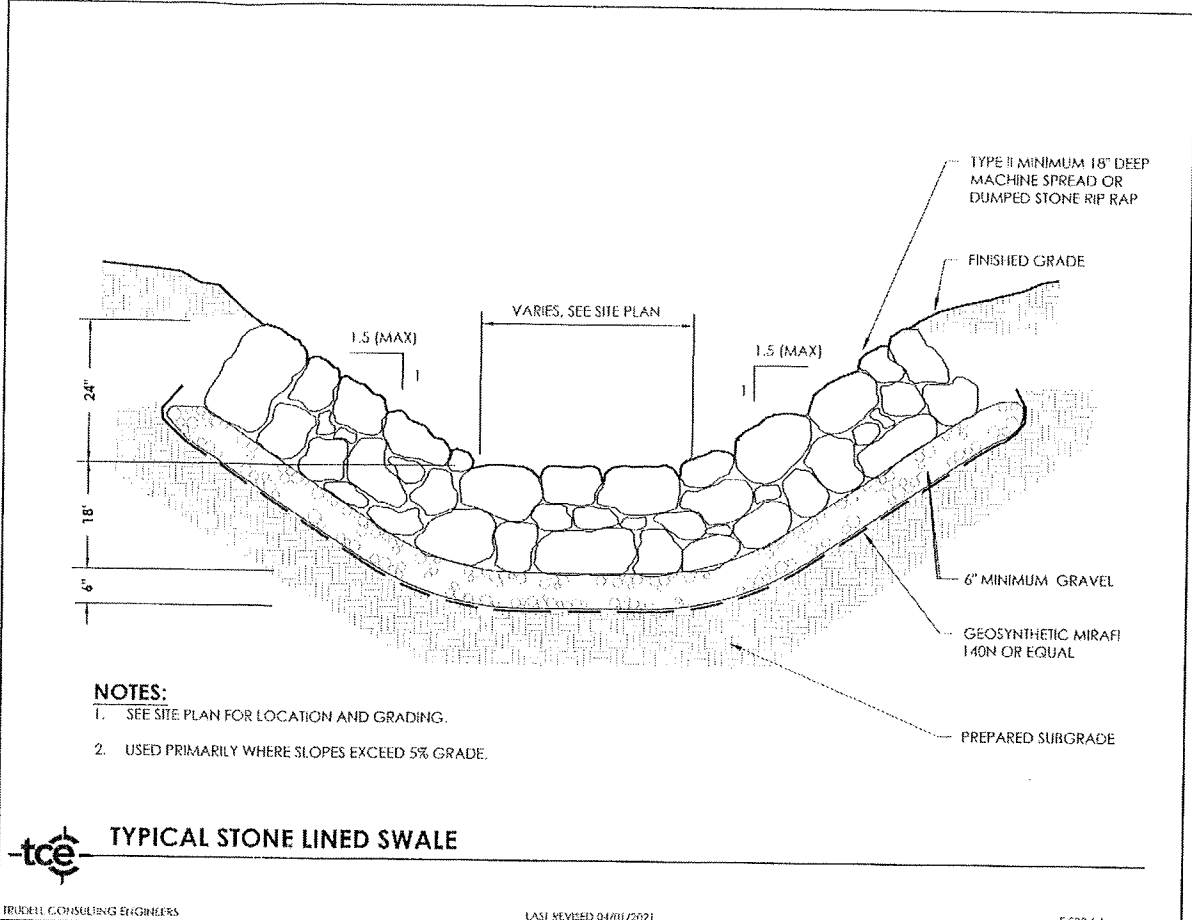
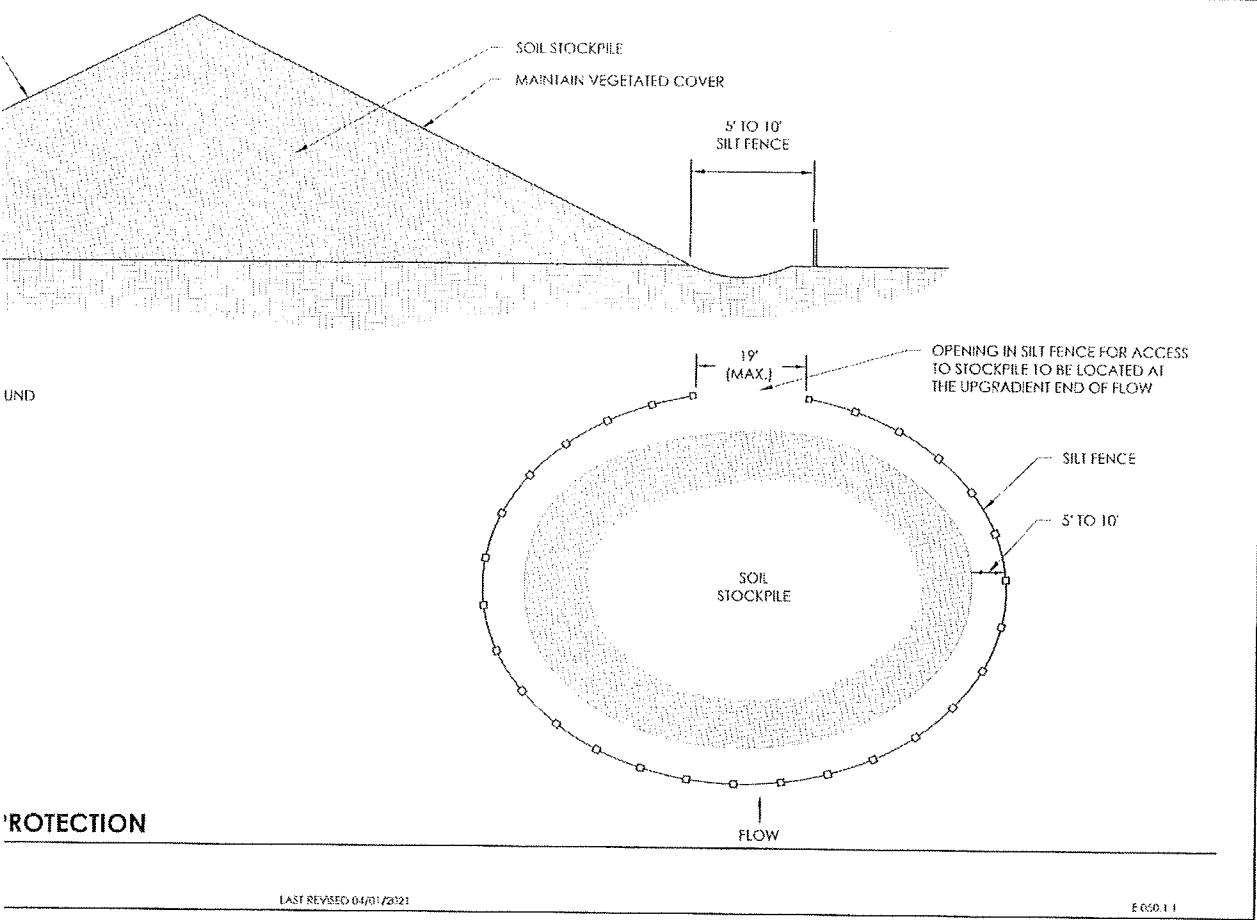
**PROFESSIONAL ENGINEER**  
 STATE OF VERMONT  
 No. 13349  
 CIVIL  
 TCE

Project Title: \_\_\_\_\_  
 Sheet Title: \_\_\_\_\_

**Renner**  
 2260 Stage Road  
 Richmond, VT

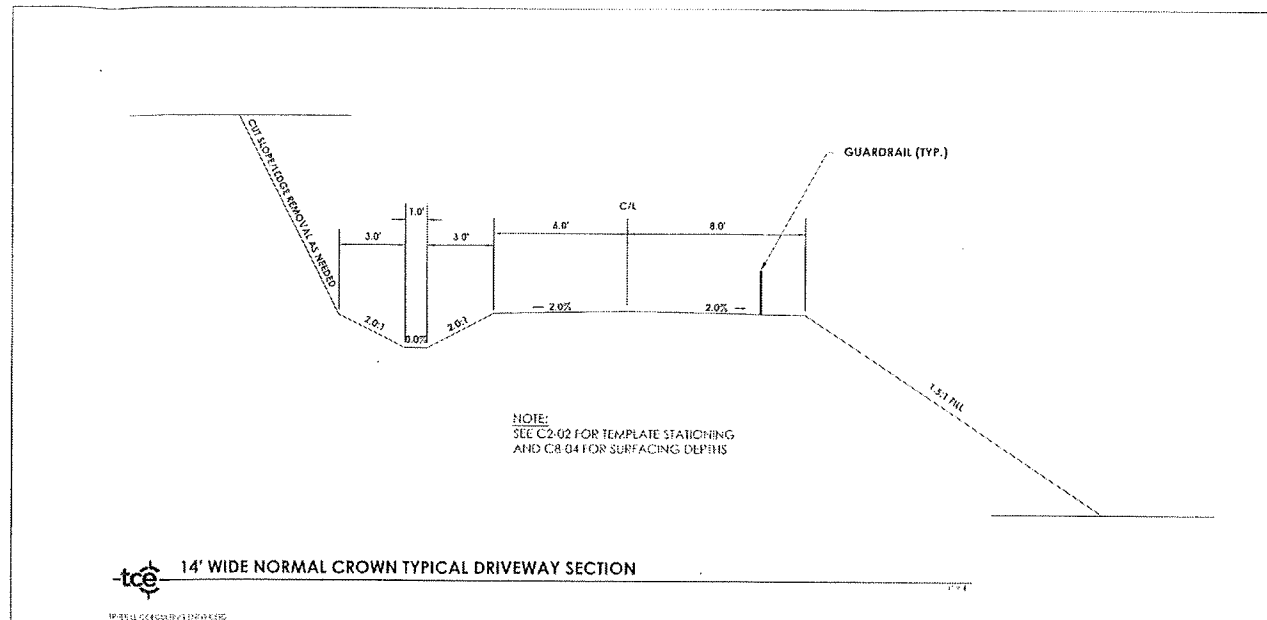
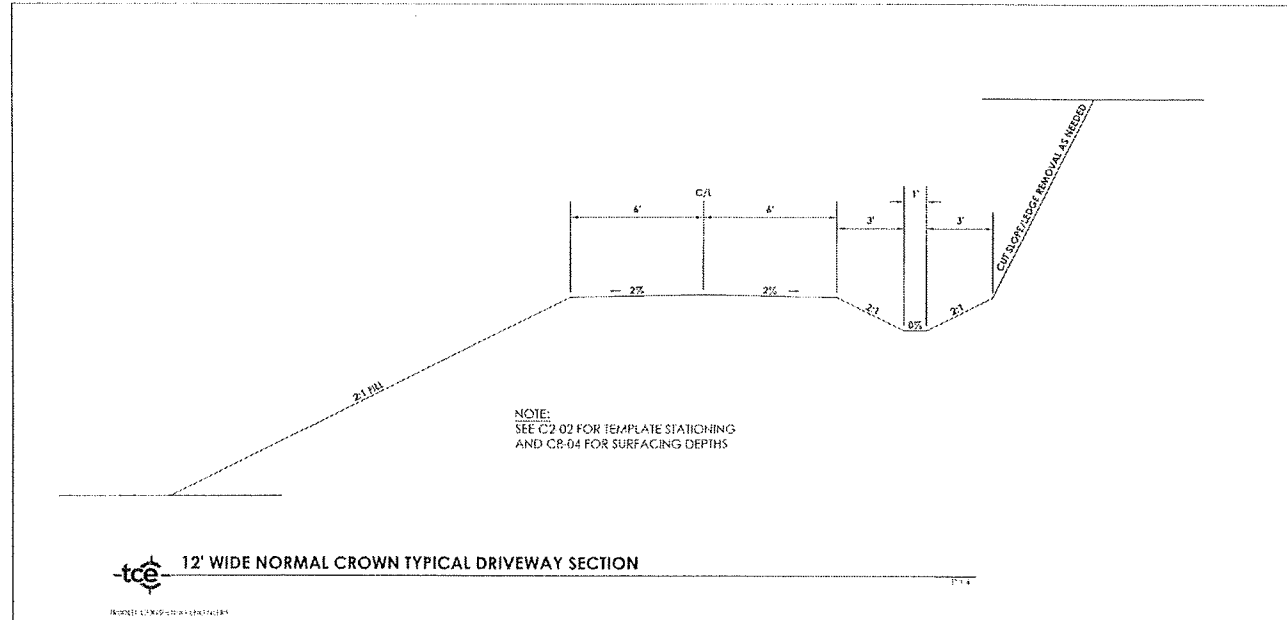
Date: 8/10/2023  
 Scale: AS SHOWN  
 Project Number: 23-098  
 Drawn By: JMH  
 Project Engineer: CMJ  
 Approved By: CMJ  
 Field Book: \_\_\_\_\_

**C8-03**





Revisions	No.	Description	Date	By



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  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 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.



Project Title

**Renner**  
2260 Stage Road  
Richmond, VT

Sheet Title

**Driveway Section  
Details**

Date: 07/01/2023  
Scale: Sheets  
Project Number: 23-093  
Drawn By: JKH  
Project Engineer: C/JJ  
Approved By: CMJ  
Field Book:

**C8-05**