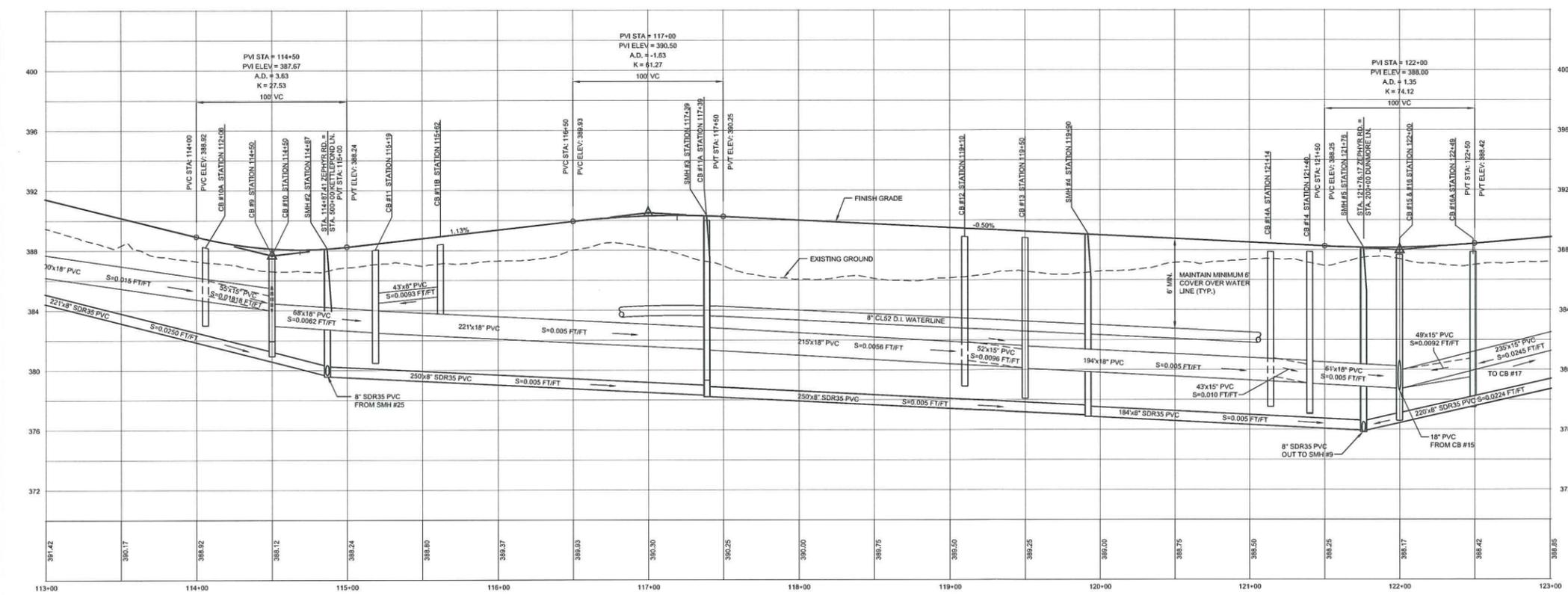
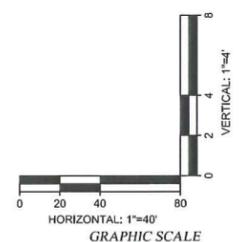


ZEPHYR ROAD PROFILE
SCALE: HOR: 1"=40'
VER: 1"=4'



ZEPHYR ROAD PROFILE
SCALE: HOR: 1"=40'
VER: 1"=4'



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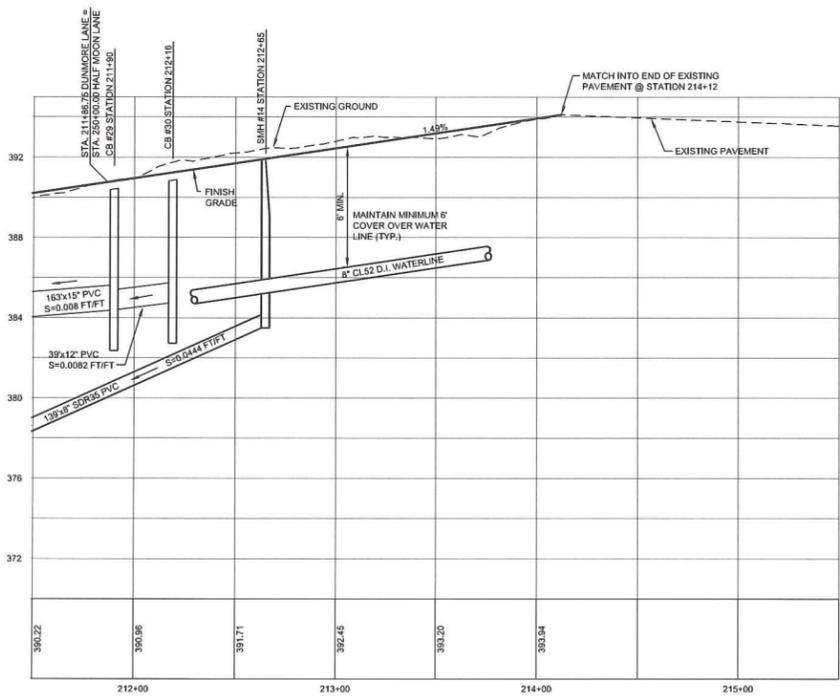
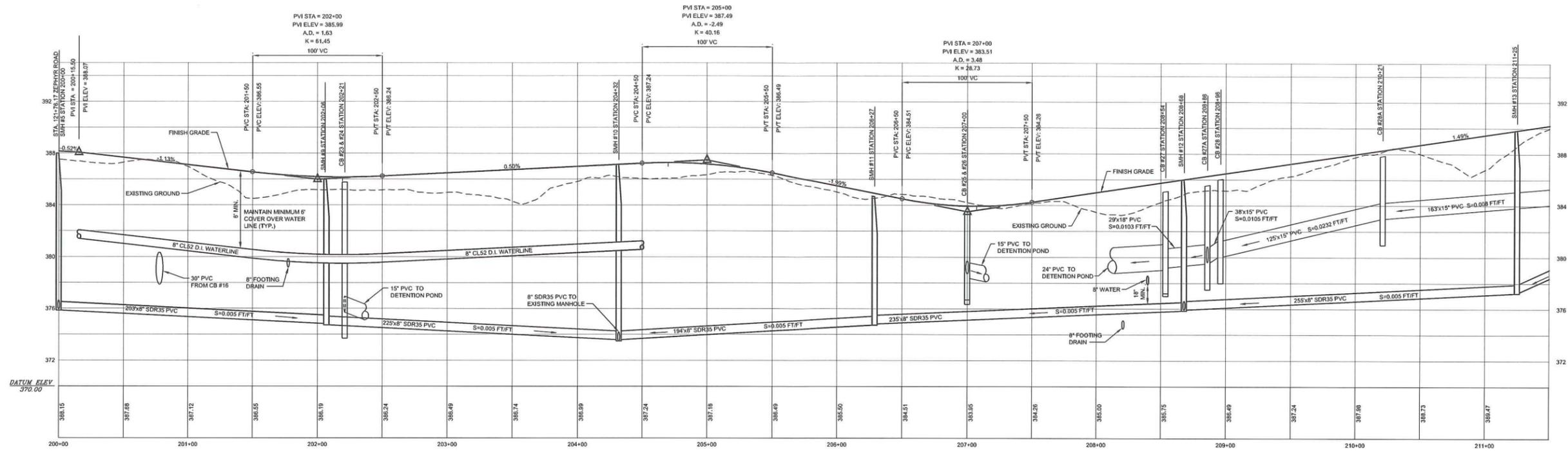
SEE SHEET 11 FOR REMAINING ZEPHYR ROAD PROFILE

01-12-07	GENERAL REVISIONS FOR FINAL PLAN SUBMITTAL	JT
09/26/06	REVISED SAN. SEWER FROM SMH #1 TO SMH #1A	JT
REVISIONS		# OF SHEETS
THESE PLANS WITH LATEST REVISIONS SHOULD ONLY BE USED FOR THE PURPOSE SHOWN BELOW:		
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<input type="checkbox"/>	PRELIMINARY	
<input checked="" type="checkbox"/>	FINAL	
<input type="checkbox"/>	RECORD DRAWING	
FINNEY CROSSING		proj. no. 01-087
A PLANNED UNIT DEVELOPMENT		survey L&D
WILLISTON, VERMONT		design DJG/ABR
ZEPHYR ROAD PROFILE		drawn JET/BH
STATION 100+00 TO 123+00		checked DJG/ABR
		date 11/30/05
		scale H: 1"=40'
		V: 1"=4'
		sht. no. 10

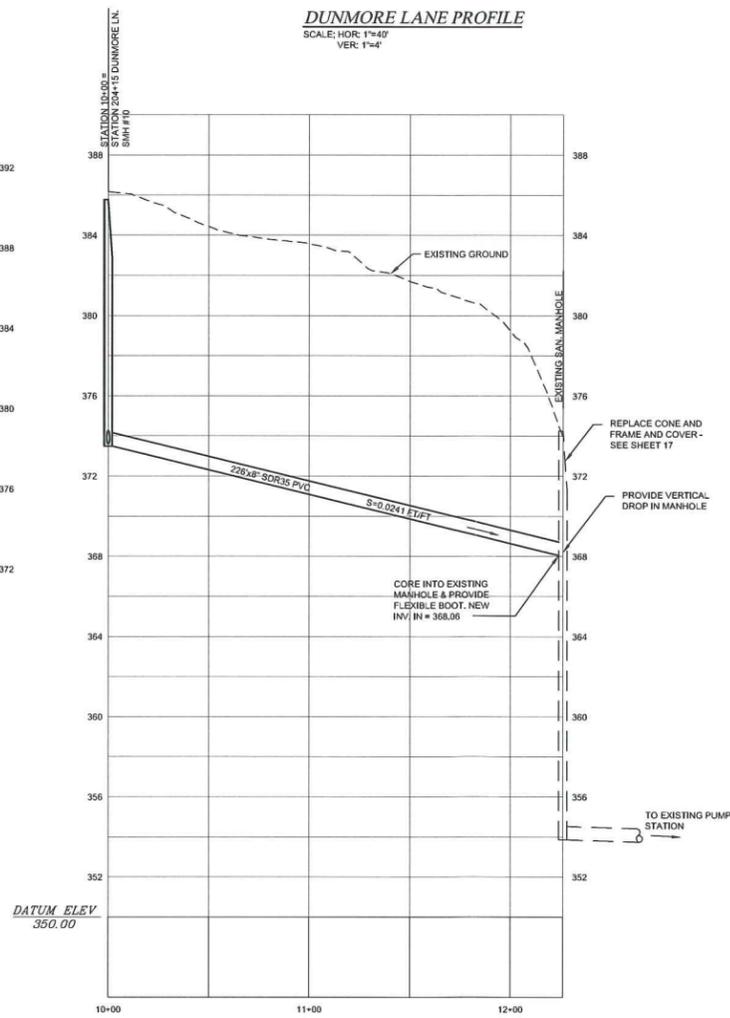


Ken Dalbin Nov 10, 2011

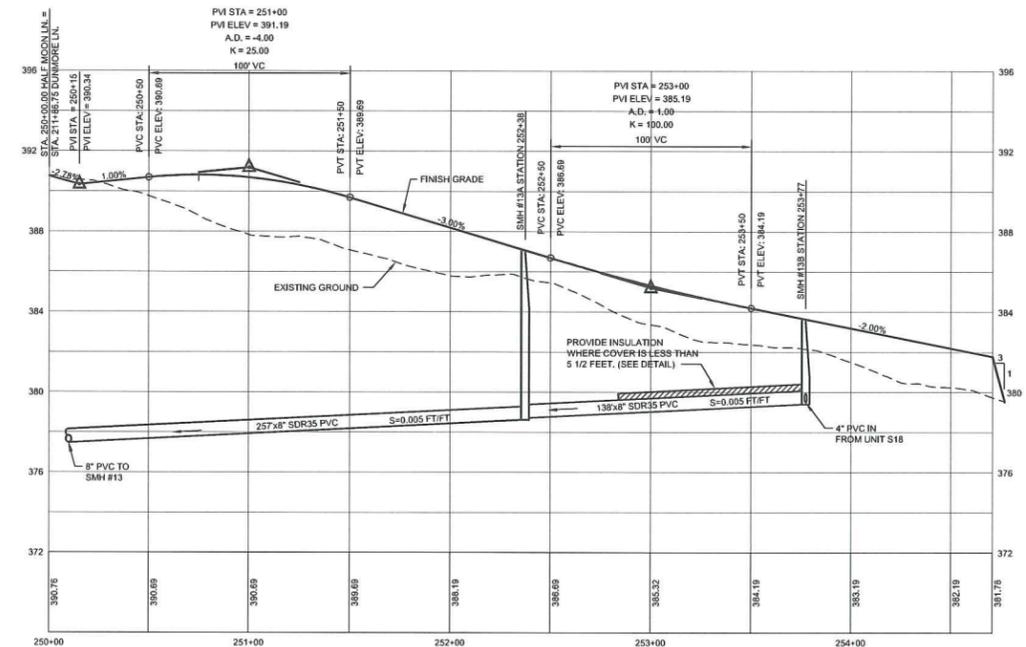
FINAL PLANS



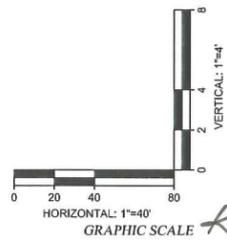
DUNMORE LANE PROFILE
SCALE: HOR: 1"=40'
VER: 1"=4'



CROSS COUNTRY SANITARY SEWER PROFILE
SCALE: HOR: 1"=40'
VER: 1"=4'



HALF MOON LANE PROFILE
SCALE: HOR: 1"=40'
VER: 1"=4'

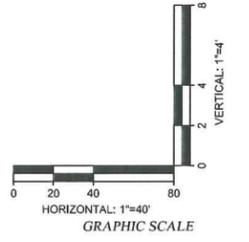
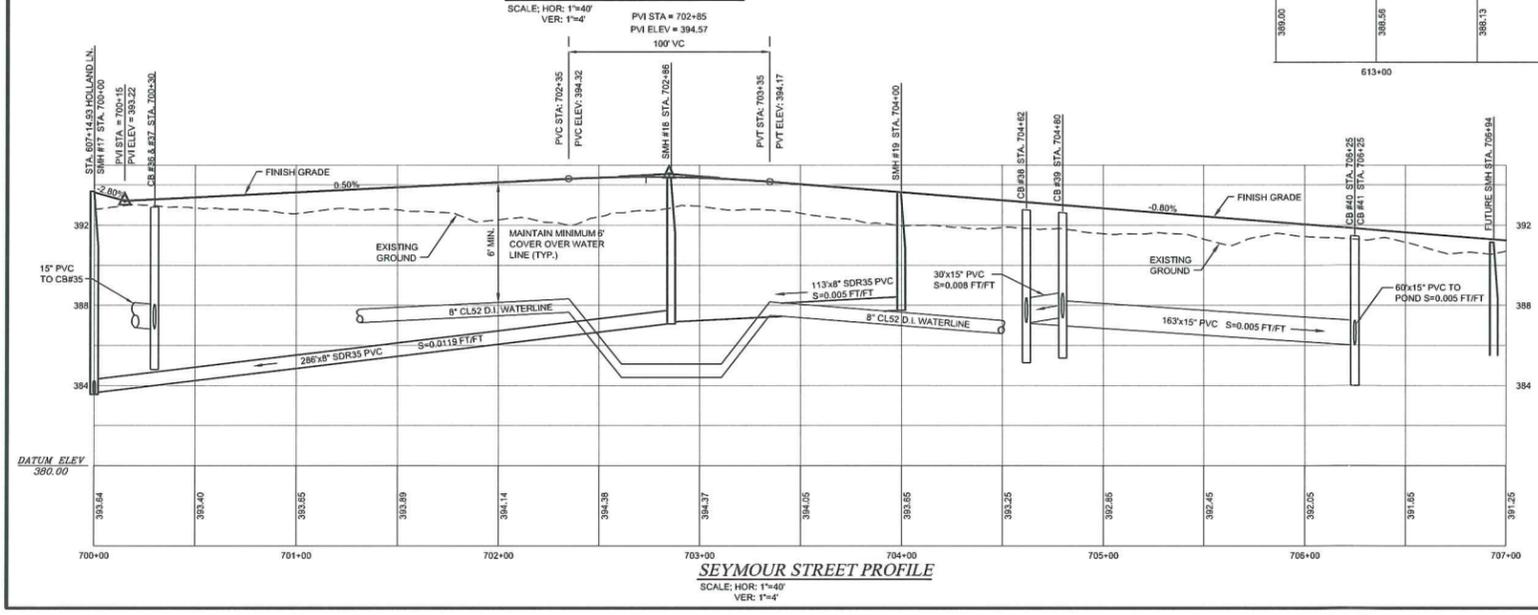
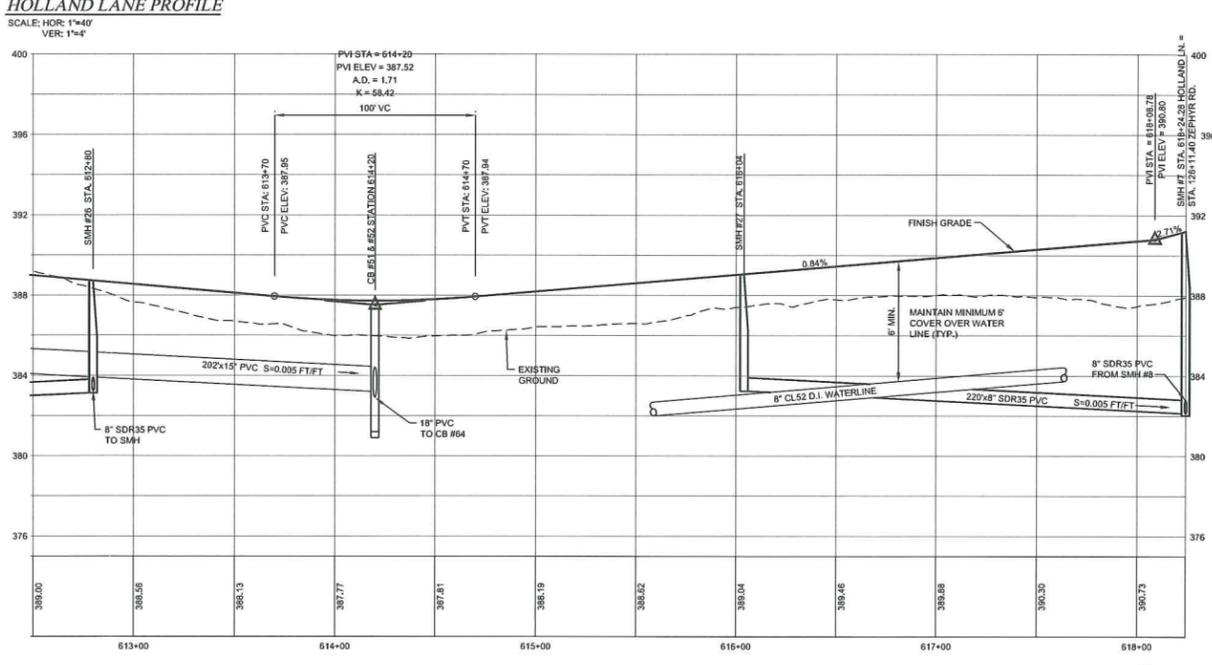
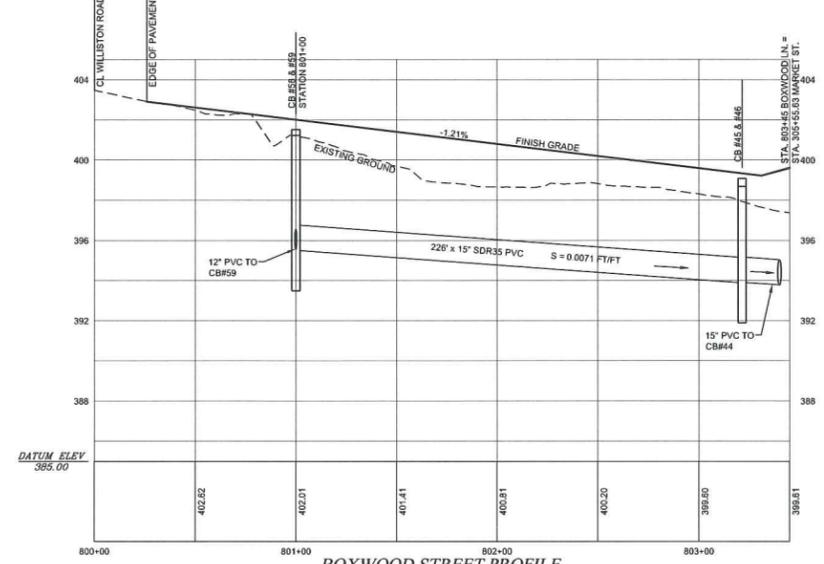
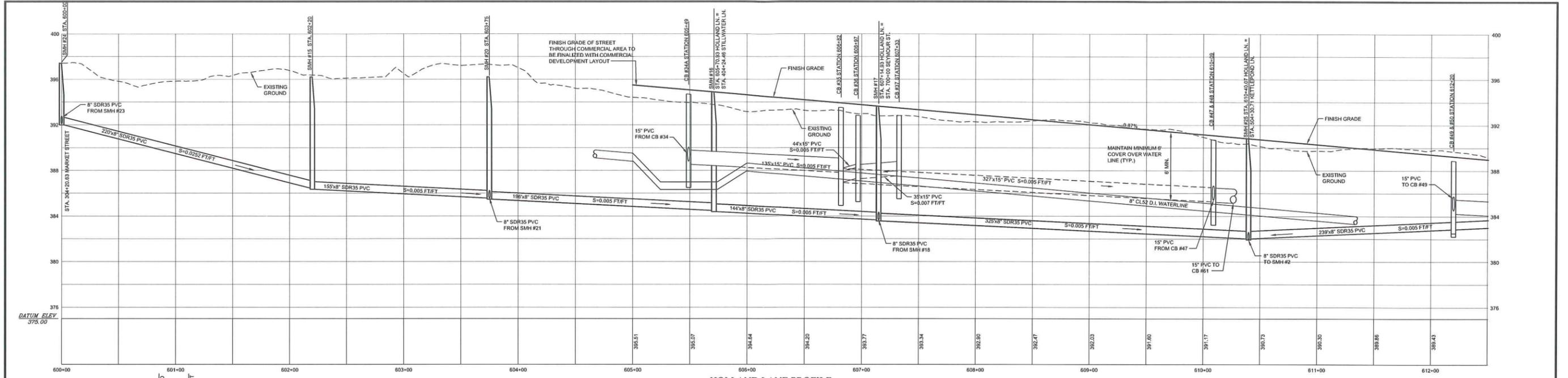


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PLANNING/ZONING

Kendall Nov 10, 2011

07-06-07	REVISED DUNMORE LANE STORM SYSTEM	ABR/UT
01-12-07	GENERAL REVISIONS FOR FINAL PLAN SUBMITTAL	JT
REVISIONS		# OF SHEETS
THESE PLANS WITH LATEST REVISIONS SHOULD ONLY BE USED FOR THE PURPOSE SHOWN BELOW:		
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<input checked="" type="checkbox"/>	FINAL	
<input type="checkbox"/>	RECORD DRAWING	
FINNEY CROSSING A PLANNED UNIT DEVELOPMENT WILLISTON, VERMONT		proj. no. 01-087 survey L&D design DJG/ABR draw JET/BH checked DJG/ABR date 11/30/05
DUNMORE LANE PROFILE STATION 200+00 TO 215+00, HALF MOON LANE PROFILE & CROSS COUNTRY SEWER PROFILE		scale HOR: 1"=40' VER: 1"=4' sh. no.
LAMOUREUX & DICKINSON Consulting Engineers, Inc. 14 Morse Drive Essex Junction, VT 05452 (802) 878-4450		12

FINAL PLANS

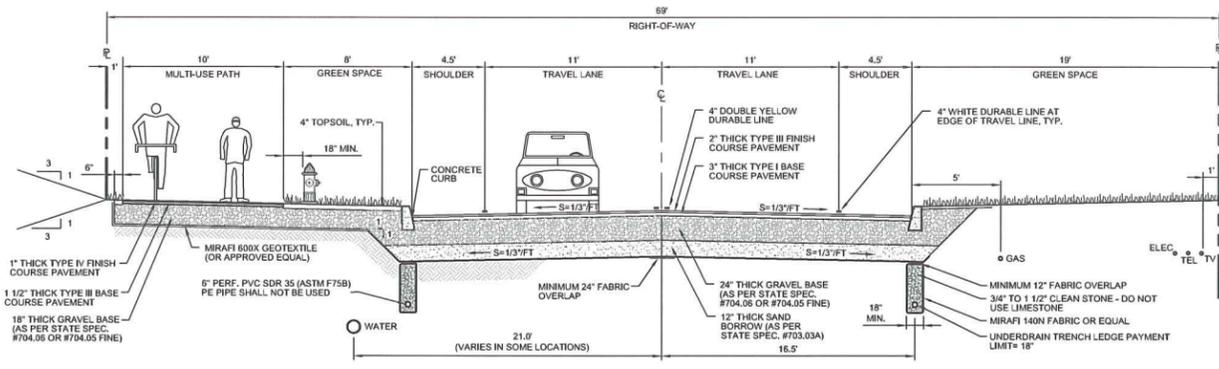


K. Balch Nov 10, 2011

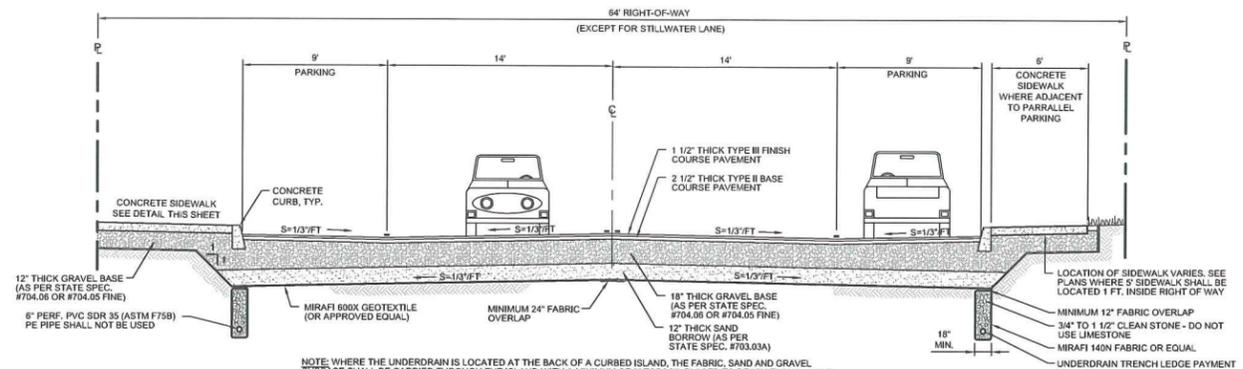
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PLANNING/ZONING

05-16-07	REVISED PER TOWN AND STATE REVIEWS	DJG/JT
01-12-07	GENERAL REVISIONS FOR FINAL PLAN SUBMITTAL	JT
REVISIONS		
THESE PLANS WITH LATEST REVISIONS SHOULD ONLY BE USED FOR THE PURPOSE SHOWN BELOW:		
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FINNEY CROSSING A PLANNED UNIT DEVELOPMENT WILLISTON, VERMONT		proj. no. 01-087 survey L&D design DJG/ABR drawn JET/BH checked DJG/ABR date 11/30/05 scale H: 1"=40' V: 1"=4' sht. no. 13
LAMOUREUX & DICKINSON Consulting Engineers, Inc. 14 Morse Drive Essex Junction, VT 05452 (802) 878-4450		WILLISTON DISCRETIONARY PERMIT DP-0112-07 TAX PARCEL # 08-10-010, 08-143-002, 004, & 010

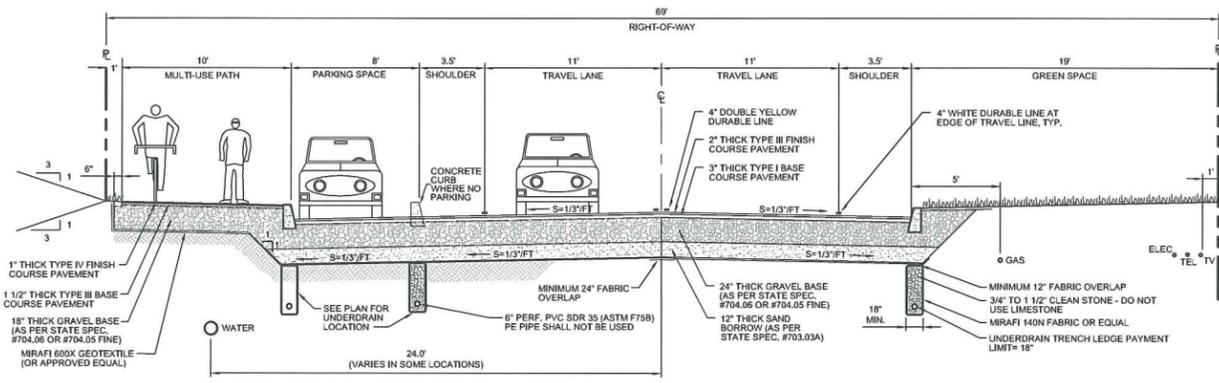
FINAL PLANS



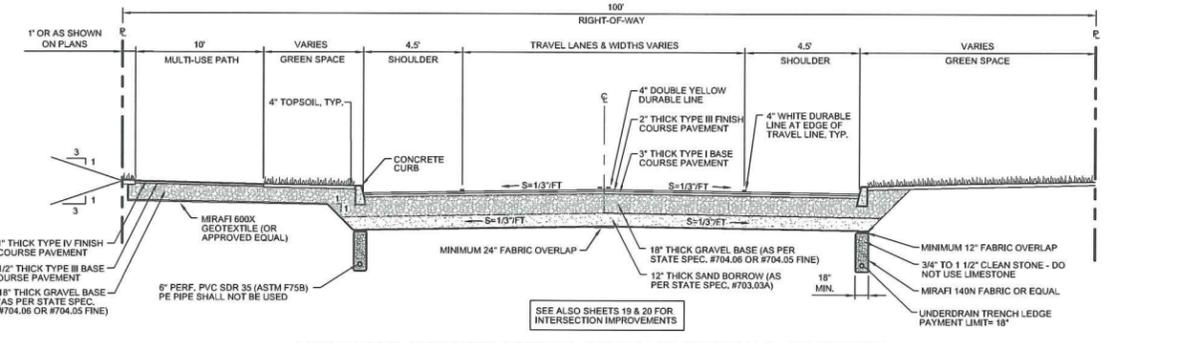
69' WIDE STREET RIGHT-OF-WAY TYPICAL SECTION
 SCALE: NTS ZEPHYR ROAD: STATION 106+00 TO STATION 129+82 (STATION 104+50 TO STATION 106+00 PAVEMENT WIDTH VARIES)



64' WIDE SEYMOUR, HOLLAND & STILLWATER RIGHT-OF-WAY TYPICAL SECTION
 SCALE: NTS FOR PORTIONS OF ROADWAY WITH ON-STREET PARALLEL PARKING



ZEPHYR ROAD ON-STREET PARKING TYPICAL SECTION
 SCALE: NTS ZEPHYR ROAD: STATION 110+50 TO STATION 125+50 (ON STREET PARKING IS NOT CONTINUOUS. SEE SITE PLAN)



100' WIDE STREET RIGHT-OF-WAY TYPICAL SECTION
 SCALE: NTS ZEPHYR ROAD: STATION 100+21 TO STATION 104+76 MARKET STREET

- NOTES:**
- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE TOWN PUBLIC WORKS SPECIFICATIONS, THE 2006 VERMONT STATE STANDARD SPECIFICATIONS FOR CONSTRUCTION, AND THE APPROVED ENGINEERING PLANS AND SPECIFICATIONS.
 - EMULSION WILL BE PLACED ON THE FACE OF THE CURB WHERE IT WILL BE IN CONTACT WITH THE PAVEMENT.
 - EMULSION WILL BE PLACED BETWEEN THE BASE AND FINISH COATS OF PAVEMENT WHEN THE FINISH COURSE IS NOT PLACED IMMEDIATELY AFTER THE BASE COURSE PLACEMENT.
 - THE STREET FINISH GRADE SHALL HAVE A MINIMUM SLOPE OF 0.5%.
 - WHERE LEDGE EXISTS IT SHALL BE SHATTERED TO A MINIMUM OF 2'-6" BELOW SUBGRADE.
 - YELLOW OR ORANGE WARNING TAPE SHALL BE BURIED 15" ABOVE ALL GAS, ELECTRIC, TELEPHONE AND T.V. LINES.
 - PRIOR TO INSTALLING THE UNDERDRAINS, THE FABRIC AND GRAVEL, THE CONTRACTOR SHALL CONTACT THE ENGINEER FOR INSPECTION OF THE SUBGRADE SOILS. THE CONTRACTOR SHALL FURNISH A LOADED DUMP TRUCK FOR TRAVELING ON THE SUBGRADE WHEN THE ENGINEER PERFORMS THE INSPECTION. THE CONTRACTOR SHALL OVER-EXCAVATE UNSUITABLE SOILS AND ADD ADDITIONAL SAND BASE AS REQUESTED BY THE ENGINEER.
 - PRIOR TO PLACEMENT OF SAND BORROW OR GRAVEL BASE MATERIALS, THE CONTRACTOR SHALL PROVIDE TO THE ENGINEER A GRADATION ANALYSIS FOR EACH MATERIAL. SOURCE TO BE USED DEMONSTRATING COMPLIANCE WITH THE REQUIRED SPECIFICATION. THIS GRADATION ANALYSIS SHALL BE REPRESENTATIVE OF THE MATERIAL TO BE USED. SUBSEQUENT SAMPLES SHALL BE TAKEN FROM ON-SITE MATERIAL IN PLACE FOR GRADATION ANALYSIS BY THE ENGINEER.
 - ALL PAVEMENT MARKINGS ON PUBLIC STREETS, AND ALL CROSSWALKS (PUBLIC OR PRIVATE STREETS) SHALL BE DURABLE MARKINGS (3M TAPE). TEMPORARY PAINT MARKINGS SHALL BE PROVIDED ON BASE COURSE PAVEMENT.

TYPICAL STREET, DRIVE & PARKING AREA CROSS-SECTION NOTES
 SCALE: NTS

Ken Bell Nov 10, 2011

08-12-11	ADD HALF MOON LN & DRIVEWAY / PARKING SECTION, EDIT GENERAL NOTES	ABR
05-16-07	REVISED PER TOWN AND STATE REVIEWS	DJG/AT
01-12-07	ADDED ZEPHYR ROAD ON-STREET PARKING DETAIL	PMP

REVISIONS	
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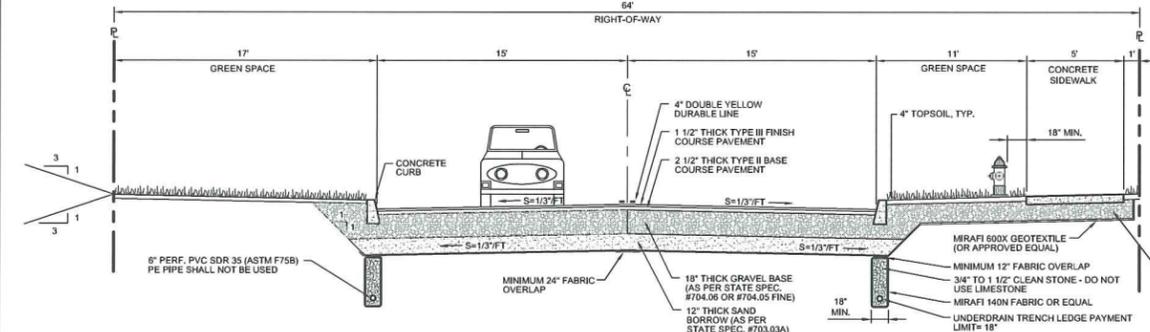
FINNEY CROSSING
 A PLANNED UNIT DEVELOPMENT
 WILLISTON, VERMONT

DETAILS & SPECIFICATIONS
 ROADS

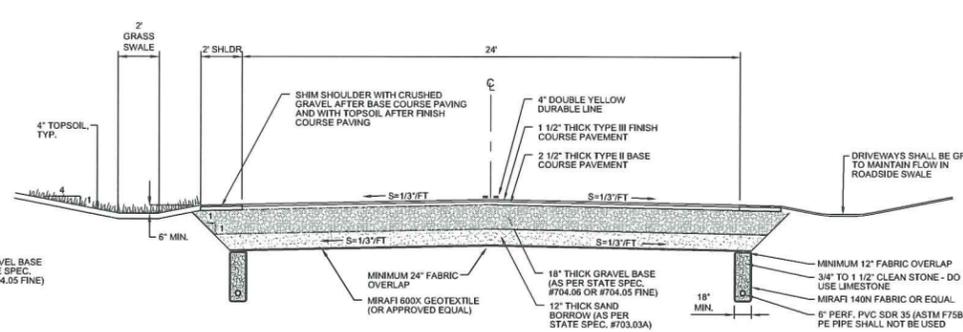
LAMOUREUX & DICKINSON
 Consulting Engineers, Inc.
 14 Morse Drive
 Essex Junction, VT 05452
 (802) 878-4450

proj. no. 01-087
 survey L&D
 design DJG/ABR
 drawn JET/BH
 checked DJG/ABR
 date 11/30/05
 scale AS SHOWN
 sh. no. 14
 0187-phase 1-01

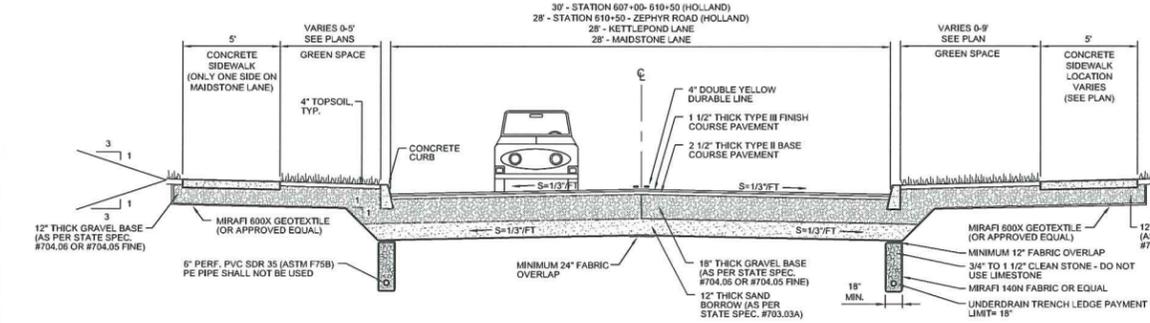
WILLISTON DISCRETIONARY PERMIT DP-05-01 TAX PARCEL # 08104010, 08143002, 004, & 010



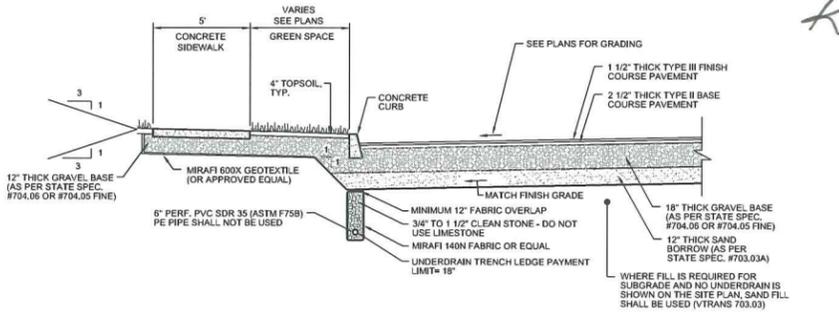
64' WIDE DUNMORE LANE RIGHT-OF-WAY TYPICAL SECTION
 SCALE: NTS



HALF MOON LANE TYPICAL SECTION
 SCALE: NTS



MAIDSTONE, HOLLAND & KETTLEPOND LANE TYPICAL SECTION
 SCALE: NTS MAIDSTONE LANE: STATION 607+00 TO ZEPHYR ROAD KETTLE POND LANE



TYPICAL PRIVATE DRIVE & PARKING AREA SECTION
 SCALE: NTS

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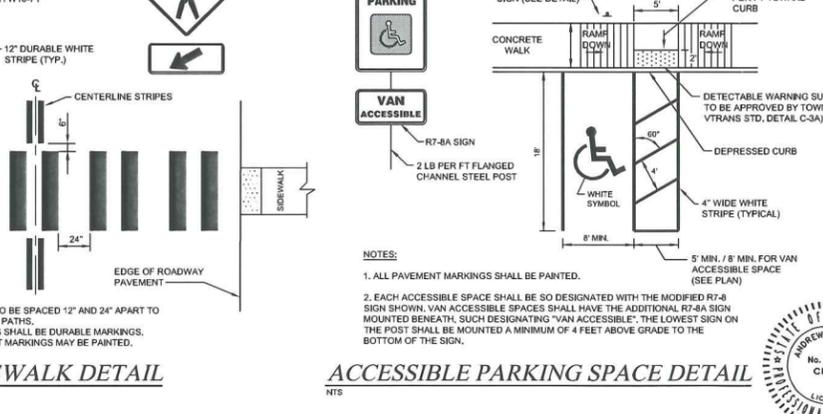
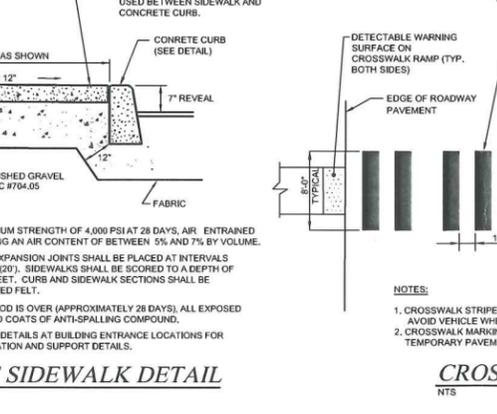
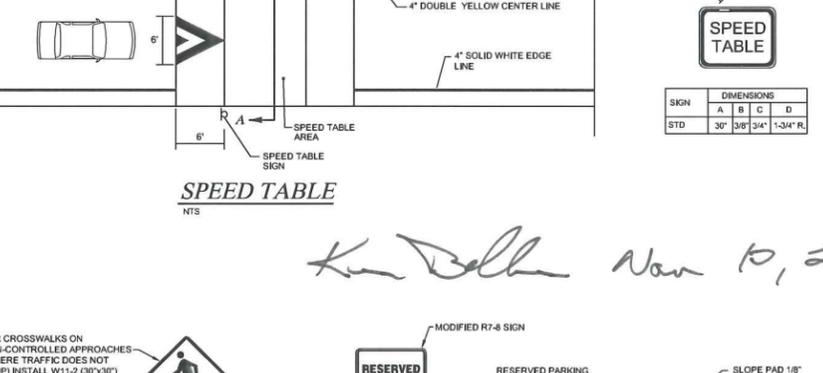
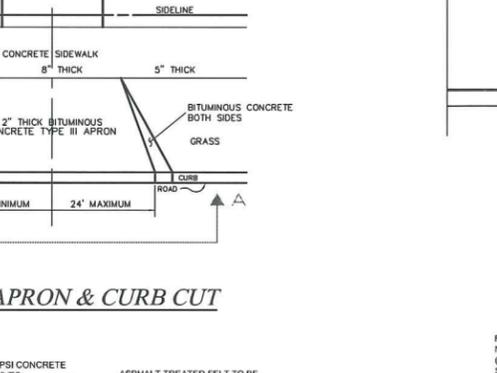
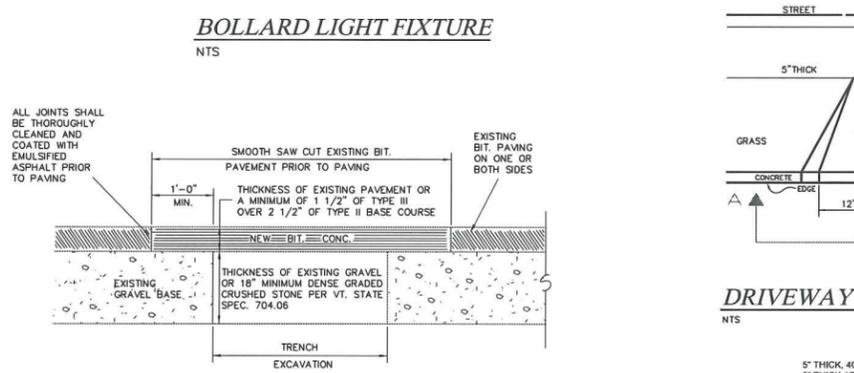
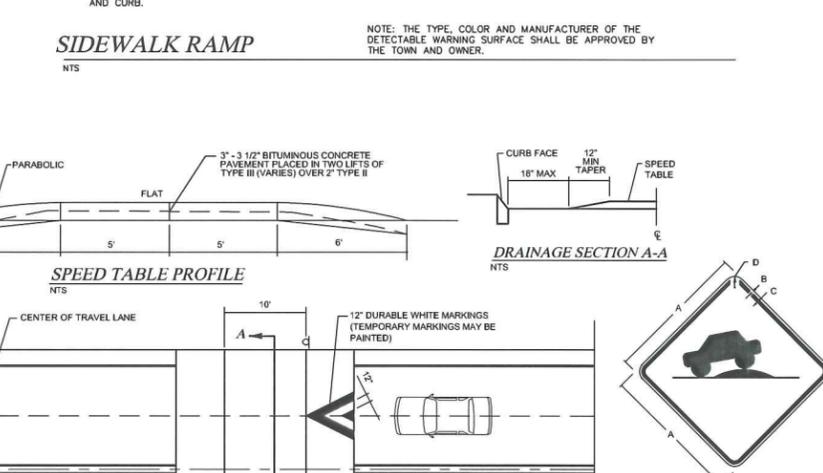
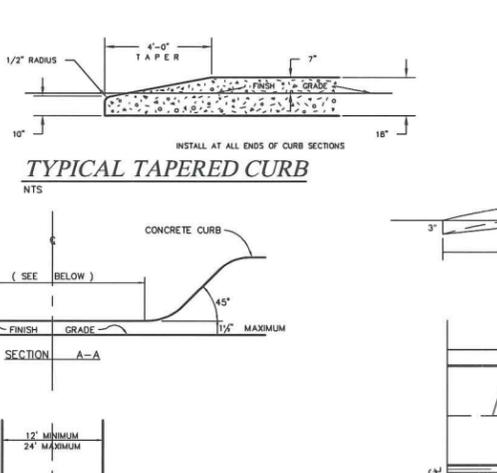
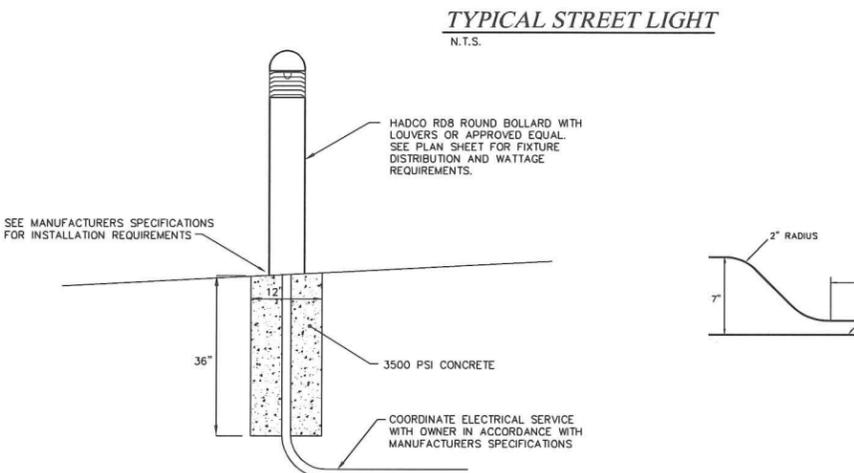
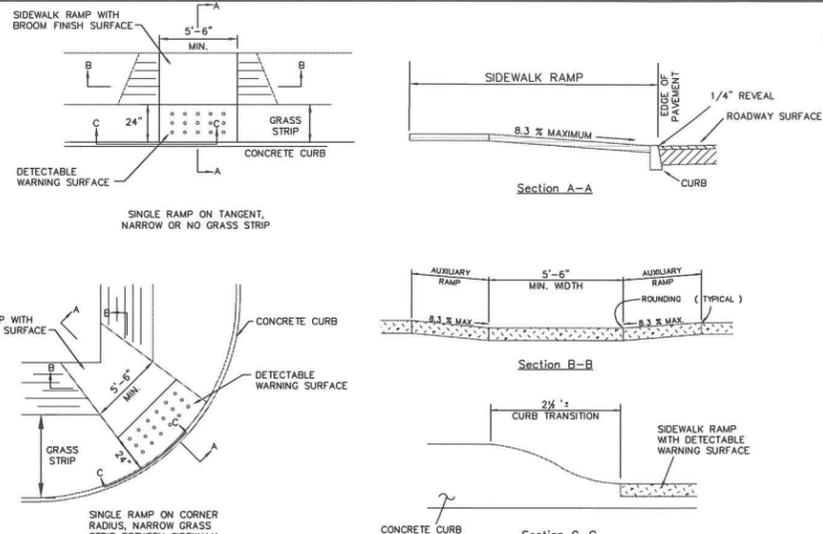
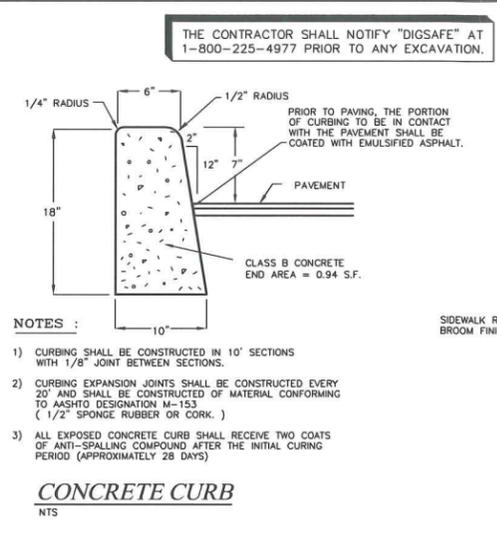
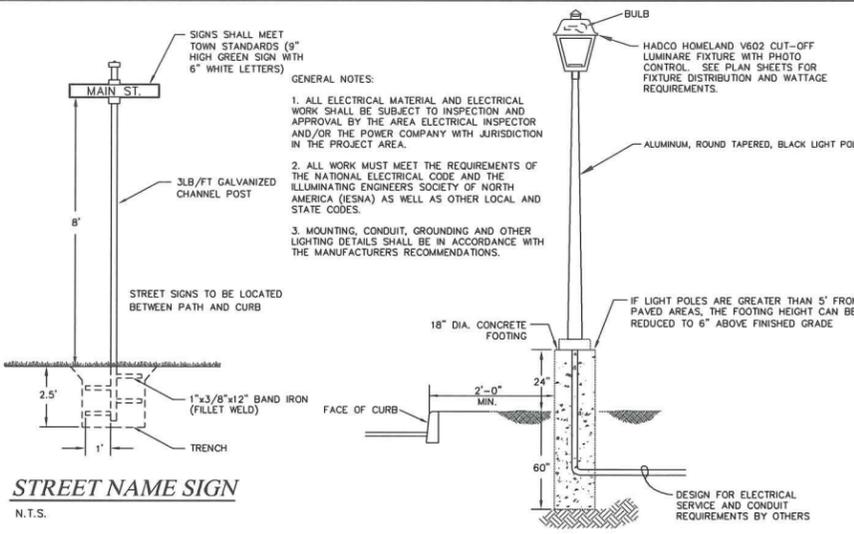
FINAL PLANS

GENERAL CONSTRUCTION SPECIFICATIONS

- UTILITY INFORMATION SHOWN HEREON WAS OBTAINED FROM BEST AVAILABLE SOURCE AND MAY OR MAY NOT BE EITHER ACCURATE OR COMPLETE. CONTRACTOR SHALL VERIFY EXACT LOCATION OF EXISTING UTILITIES AND SHALL BE RESPONSIBLE FOR ANY DAMAGE TO ANY UTILITY, PUBLIC OR PRIVATE, SHOWN OR NOT SHOWN HEREON. CONTRACTOR SHALL VERIFY NEW TAP LOCATIONS AND SHALL CONNECT ALL UTILITIES TO NEAREST SOURCE THROUGH COORDINATION WITH UTILITY OWNER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR DEMOLITION AND REMOVAL OF ALL EXISTING VEGETATION, PAVEMENT, AND STRUCTURES NECESSARY TO COMPLETE THE WORK UNLESS NOTED ON THESE PLANS. CONTRACTOR SHALL REMOVE ALL TRASH FROM SITE UPON COMPLETION OF CONSTRUCTION. ANY SURFACES, LINES OR STRUCTURES WHICH HAVE BEEN DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED TO A CONDITION AT LEAST EQUAL TO THAT IN WHICH THEY WERE FOUND IMMEDIATELY PRIOR TO BEGINNING OF CONSTRUCTION.
- SEE OTHER DETAIL SHEETS OF THESE PLANS FOR ADDITIONAL DETAILS, REQUIREMENTS AND SPECIFICATIONS.
- ALL WORK SHALL BE IN ACCORDANCE WITH THE 2005 VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, THE TOWN OF WILLISTON PUBLIC WORKS SPECIFICATIONS AND THESE PLANS.
- NEW PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH NOTE #4 ABOVE. ALL EXISTING PAVEMENT MARKINGS CONFLICTING WITH THE NEW IMPROVEMENTS SHALL BE REMOVED BY GRINDING OR BURNING.
- A MINIMUM OF ONE-WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES. CONTINUOUS TWO-WAY TRAFFIC WILL BE REQUIRED AT NIGHT, PEAK-HOURS, AND WHENEVER POSSIBLE DURING ACTUAL CONSTRUCTION ACTIVITIES. IF DEEMED NECESSARY BY THE OWNER, MUNICIPALITY OR ENGINEER, A UNIFORMED TRAFFIC CONTROL OFFICER SHALL DIRECT TRAFFIC DURING PEAK HOURS. TEMPORARY CONSTRUCTION SIGNS AND TRAFFIC CONTROL SIGNS SHALL BE ERECTED BY THE CONTRACTOR IN ACCORDANCE WITH STATE AND TOWN STANDARDS.
- THE CONTRACTOR SHALL BE RESPONSIBLE AT HIS OR HER OWN EXPENSE FOR ENSURING THAT THE DUST CREATED AS A RESULT OF CONSTRUCTION DOES NOT CREATE A NUISANCE OR SAFETY HAZARD, WHERE AND WHEN DEEMED NECESSARY, THE CONTRACTOR WILL BE REQUIRED TO WET SECTIONS OF THE CONSTRUCTION AREA WITH WATER, APPLY CALCIUM CHLORIDE, OR SWEEP THE ROADWAY WITH A POWER BROOM FOR DUST CONTROL.
- THE CONTRACTOR SHALL NOTIFY THE ENGINEER 24 HOURS IN ADVANCE OF STARTING ANY WORK, CUTTING PAVEMENT, BEGINNING THE INSTALLATION OF ANY UTILITY, BRINGING IN ANY NEW GRAVEL OR STONE FOR THE NEW BASE, PAVING, ALL TESTING, AND FINAL INSPECTION, IN ORDER TO ENSURE COMPLIANCE WITH THE PLANS.
- PRIOR TO BEGINNING CONSTRUCTION, ALL MATERIALS SHALL BE APPROVED BY THE ENGINEER AND THE TOWN.
- ALL FILL SHALL BE PLACED IN 6 INCH LIFTS AND THOROUGHLY COMPACTED TO 95% OF MAXIMUM DENSITY OF OPTIMUM MOISTURE CONTENT AS DETERMINED BY AASHTO T-99 STANDARD PROCTOR, AND SHALL BE TESTED AT 500' INTERVALS, UNLESS OTHERWISE SPECIFIED.
- BACKFILL UNDER PIPES IN FILL AREAS SHALL BE COMPACTED TO 95% OF MAXIMUM DENSITY OF OPTIMUM MOISTURE CONTENT. THE PIPES SHALL ONLY BE INSTALLED OVER ADEQUATELY COMPACTED SOILS.
- THE EROSION PREVENTION AND SEDIMENT CONTROL MEASURES SHALL BE INSPECTED, MAINTAINED AND REPAIRED BY THE CONTRACTOR PRIOR TO AND AFTER EVERY RAINFALL EVENT. ALL DISTURBED AREAS HAVE BEEN PAVED OR GRASSED AND APPROVED BY THE ENGINEER. THE MAINTENANCE OF THE EROSION CONTROL DEVICES WILL INCLUDE THE REMOVAL OF ANY ACCUMULATED SEDIMENTATION.
- CONSTRUCTION OBSERVATION AND CERTIFICATION IS OFTEN REQUIRED BY STATE AND LOCAL PERMITS. IT IS RECOMMENDED THAT CONSTRUCTION OF THE IMPROVEMENTS DETAILED ON THESE PLANS BE OBSERVED BY LAMOUREUX & DICKINSON CONSULTING ENGINEERS INC. (L&D) TO DETERMINE IF THE WORK IS BEING PERFORMED IN CONFORMANCE WITH THE APPLICABLE PLANS AND SPECIFICATIONS. L&D WAIVES ANY AND ALL RESPONSIBILITY AND LIABILITY FOR PROBLEMS THAT MAY ARISE FROM FAILURE TO FOLLOW THESE PLANS AND SPECIFICATIONS AND THE DESIGN INTENT THAT THEY CONVEY, ANY CHANGES MADE IN THE PLANS AND SPECIFICATIONS OR IN THE CONSTRUCTION OF THE PROPOSED IMPROVEMENTS WITHOUT L&D'S PRIOR KNOWLEDGE AND CONSENT, AND/OR FAILURE TO SCHEDULE OBSERVATION OF THE WORK AND TESTING PROGRESS.
- THE CONTRACTOR SHALL COORDINATE THE LOCATION AND INSTALLATION OF THE INDIVIDUAL UNIT OR LOT CURB CUTS AND PIPE SERVICES WITH THE OWNER AT THE TIME OF CONSTRUCTION.
- ALL SLOPES, DITCHES AND DISTURBED AREAS SHALL BE GRADED SMOOTH, CLEAN AND FREE OF POCKETS WITH SUFFICIENT SLOPE TO ENSURE DRAINAGE.

LEDGE REMOVAL SPECIFICATIONS

- ALL LEDGE BLASTING AND REMOVAL WORK SHALL BE IN ACCORDANCE WITH THE PROJECT PLANS AND SPECIFICATIONS.
- THE CONTRACTOR SHALL EXCAVATE ROCK, IF ENCOUNTERED, TO THE LINES AND GRADES INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER. PROPERLY DISPOSE OF THE ROCK AND BACKFILL WITH ACCEPTABLE MATERIAL. GENERALLY, ROCK IN PIPE TRENCHES SHALL BE EXCAVATED SO AS NOT TO BE LESS THAN SIX INCHES FROM THE BOTTOM OF THE PIPE AFTER IT HAS BEEN LAID.
- ROCK EXCAVATION SHALL MEAN BOULDERS EXCEEDING ONE CUBIC YARD IN VOLUME OR SOLID LEDGE ROCK, WHICH, IN THE OPINION OF THE ENGINEER, REQUIRES ITS REMOVAL DRILLING AND BLASTING, WEDGING, SLEDGING, OR BARRING. NO HARDPAN, SOFT, OR DISINTEGRATED ROCK WHICH CAN BE REMOVED WITH A PICK, LOOSE, SHAKEN, OR PREVIOUSLY BLASTED ROCK OR BROKEN STONE SMALLER THAN ONE CUBIC YARD IN VOLUME, ROCKFALLING OR ELSEWHERE, AND NO ROCKS EXTERIOR TO THE MAXIMUM LIMITS OF EXCAVATIONS BY THE APPROVED BY THE ENGINEER WHICH MAY FALL INTO THE TRENCH OR OTHER EXCAVATIONS, WILL BE MEASURED OR ALLOWED AS ROCK EXCAVATION.
- IN ROCK EXCAVATION, IT IS ESPECIALLY REQUIRED THAT BLASTING SHALL BE CONDUCTED WITH ALL POSSIBLE CARE SO AS TO AVOID INJURY TO PERSONS AND PROPERTY; THAT ROCK SHALL BE WELL COVERED WITH EFFECTIVE APPLIANCES, THAT SUFFICIENT WARNING SHALL BE GIVEN TO ALL PERSONS IN THE VICINITY OF WORK BEFORE BLASTING; THAT CARE SHALL BE TAKEN TO AVOID INJURY TO WATER PIPES, GAS PIPES, SEWERS, DRAINS, OR OTHER STRUCTURES; AND THAT CAPS OR OTHER PRIMERS SHALL NOT BE KEPT IN THE SAME PLACE WHERE DYNAMITE OR OTHER EXPLOSIVES ARE STORED.
- THE CONTRACTOR SHALL OBSERVE ALL LAWS AND ORDINANCES RELATING TO STORAGE AND HANDLING OF EXPLOSIVES.
- THE CONTRACTOR SHALL BE PAID FOR BLASTING AND REMOVAL OF ROCK ONLY TO THE LEDGE PAYMENT LIMITS SHOWN ON THE PLANS.



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Ken Belter Nov 10, 2011

08-12-11	REVISE SW DETAIL PER DPW SPEC	ABR
01-12-07	ADD SPEED TABLE & ACCESSIBLE PARKING SPACE DETAILS	PMP
REVISIONS		
THESE PLANS WITH LATEST REVISIONS SHOULD ONLY BE USED FOR THE PURPOSE SHOWN BELOW:		
<input type="checkbox"/>	SKETCH/CONCEPT	# OF SHEETS
<input type="checkbox"/>	PRELIMINARY	
<input checked="" type="checkbox"/>	FINAL	
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FINNEY CROSSING A PLANNED UNIT DEVELOPMENT WILLISTON, VERMONT DETAILS & SPECIFICATIONS ROADWAY & MISC.		proj. no. 01-087 survey L&D design DUG/ABR drawn JET/BH checked DUG/ABR date 11/30/05 scale AS SHOWN sht. no. 15
LAMOUREUX & DICKINSON Consulting Engineers, Inc. 14 Morse Drive Essex Junction, VT 05452 (802) 878-4450		WILLISTON DISCRETIONARY PERMIT D-06-07 TAX PARCEL # 0817060701, 081745020, 081745030, 081745040, 081745050, 081745060, 081745070, 081745080, 081745090, 081745100, 081745110, 081745120, 081745130, 081745140, 081745150, 081745160, 081745170, 081745180, 081745190, 081745200, 081745210, 081745220, 081745230, 081745240, 081745250, 081745260, 081745270, 081745280, 081745290, 081745300, 081745310, 081745320, 081745330, 081745340, 081745350, 081745360, 081745370, 081745380, 081745390, 081745400, 081745410, 081745420, 081745430, 081745440, 081745450, 081745460, 081745470, 081745480, 081745490, 081745500, 081745510, 081745520, 081745530, 081745540, 081745550, 081745560, 081745570, 081745580, 081745590, 081745600, 081745610, 081745620, 081745630, 081745640, 081745650, 081745660, 081745670, 081745680, 081745690, 081745700, 081745710, 081745720, 081745730, 081745740, 081745750, 081745760, 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WATER DISTRIBUTION SPECIFICATIONS

1.1 GENERAL:

This item shall consist of the labor, equipment, and material required for the complete construction of the watermain and services which shall include excavation, backfilling, pipe, valves, tees, hydrants, elbows, reducers, and all other appurtenances necessary for a complete watermain system as indicated on the accepted drawings. All materials and installations shall be approved by the local municipal water authority.

1.2 WATER MAIN PIPE MATERIALS:

DUCTILE IRON PIPE

Pipe shall be a minimum diameter of eight inches (8") and conform to current AWWA C600 or ANSI Specification A21.51. Push-on joint pipe shall be minimum thickness Class 52.

Pipe shall be cement mortar-lined on the inside in accordance with AWWA C151.51 or ANSI Specification A21.4 except that the cement-lining thickness shall not be less than three-sixteenths inch (3/16"). A plus tolerance of one-eighths inch (1/8") will be permitted.

1.3 FITTINGS:

Ductile iron fittings shall be cement-lined, have 350 pounds working pressure, and be in accordance with AWWA C-110/ANSI A21-10 and AWWA C152/ANSI 21.53 for compact fittings. Mechanical joint nuts and bolts shall be high strength, low alloy steel per ANSI A-21.11. Ductile iron fittings larger than twelve inches (12") shall have a standard body length equal to Class 250 cast iron fittings. Cast iron Class 250 fittings will be allowed in lieu of ductile iron fittings in sizes larger than twelve inches (12").

Meguloy retainer glands or an approved equal shall be used on all vertical bends and also shown on the plans.

1.4 GATE VALVE RESILIENT SEAT:

Gate valves shall be AWWA C 509 Standard Gate Valves with mechanical joints of sizes as required on the plans. All valves shall be of cast or ductile iron body, parallel stem, non-rising stem, inside screw, double disk construction with "O" Ring Stem Seals. All valves to be equipped with a valve box for a minimum of 5.5' of cover material. The gate valves shall open left and be designed for a working pressure of 200 psi.

Each valve shall have maker's name, pressure rating, and year in which manufactured cast on the body. Prior to shipment from the factory, each valve shall be tested by hydrostatic pressure equal to twice the specified working pressure. Buried valves shall be installed with a valve box.

1.5 VALVE BOXES:

Cast iron three-piece slide-type; five and one-fourths inch (5 1/4") shaft; six foot (6') trench depth.

Cast iron cover marked "WATER" and indicating direction of opening.

1.6 FIRE HYDRANTS:

All hydrants are to be 3-way, 5" minimum diameter and limited to the following makes: Mueller Super Centurion or Kennedy Guardian K-81K, and shall conform with AWWA C502.

Main Valve Opening: 5 1/4 inches
 Nozzle Arrangement: Two 2 1/2 inch hose nozzles NST threads.
 One 4 1/2 inch pumper nozzle NST threads.
 Intel Connection: 6 inch mechanical joint, MEGA-LUG and thrust block
 Operating Nut: Standard 1" pentagon
 Direction of Opening: Counterclockwise
 Color: Enameled hydrant red body, top color as determined by Town.
 Depth of Bury: Hydrant shall be installed to the manufacturer's instructions with nozzles about 18" above finish grade.

1.7 HYDRANT BRANCHES:

Hydrant assemblies shall consist of a six inch (6") mechanical joint gate valve conforming to AWWA C-509; a length of six inch (6") Class 52 ductile iron pipe with a cement-lining; and the fire hydrant. MEGA-LUG retainer glands or approved equal shall be used.

1.8 WATER SERVICE CONNECTION:

A. GENERAL REQUIREMENTS

The Contractor shall install three-fourths inch (3/4") to two inch (2") copper type K service as indicated on the Contract Drawings or as directed by the Engineer. Each service shall consist of a corporation, curbstap, copper tubing, and a curb box with service rod. Corporation shall be attached to the ductile iron pipe by means of a direct tap.

B. CORPORATIONS

Corporations shall be Waterworks Brass and manufactured in accordance with AWWA C800. Corporations shall have Mueller threads, adopted as AWWA Figure # 1, at the inlet and a compression-type fitting at the outlet. Both inlet and outlet shall be of the same size. Corporations shall be used for all taps larger than three-fourths inch (3/4") in diameter.

Corporations shall be directly tapped into ductile iron pipe larger than two inches (2") in diameter. In no other instance, except when a tapping sleeve and valve is used, shall a top be made and a corporation installed without the use of a tapping saddle. Corporations shall be Mueller H-15008 or equal.

C. CURBSTOPS

Curbstops shall be a quarter-turn, plug-type valve with an "O" ring-type seal and shall be manufactured of Waterworks Brass in accordance with AWWA C800. The curbstap shall open left and have a positive stop. No curbstap shall have the ability to drain the service line. Both inlet and outlet of the curbstap shall have compression-type fittings. The tee head of the curb-stop shall have provision for the connection of a service rod. Curbstops shall be Mueller H-15209 or equal. (Mueller 300 Ball Valves are not acceptable.)

D. SERVICE LINES

Copper tubing shall be type "K", soft-temper, conforming to ASTM B88. The name or trademark of the manufacturer and type shall be stamped at regular intervals along the pipe. Water services greater than 2" in diameter shall be ductile iron.

E. CURB BOXES AND RODS

Curb boxes shall be of the sliding adjustable-type capable of adjusting from five feet to six feet (5' - 6'). The base of the box shall be arch-type so as to prevent the box from resting directly on the curbstap. The adjustable upper section shall be one inch (1") in diameter for use with three-fourths and one inch (3/4" and 1") curbstops. For larger curbstops, the upper section shall be one and one-fourths inches (1 1/4") in diameter. Stationary rods affixed to the key of the curbstap stop shall be thirty inches (30") in length for three-fourths and one inch (3/4" and 1") curbstops and twenty-four inches (24") for larger curbstops. The cover of the box shall be "Mueller" with the two-hole cover. The word "WATER" shall be inscribed on the cover of the box.

F. HOUSE SERVICES CONSTRUCTION METHODS

The Contractor shall make all necessary taps into the watermain and will install for each lot an approved brass corporation stop.

The Contractor shall also connect the type "K" copper service pipe to the flanged joint, which shall be connected to the brass type curbstap with inlet and outlet for the appropriate type "K" copper service pipe. Such curbstap shall be located not less than six feet (6') below the ground surface and shall be accessible from the surface through an approved valve box.

1.9 CONSTRUCTION METHODS

A. INSPECTION AND TESTING

All pipes and fittings shall be inspected and tested in accordance with the manufacturer's specifications and the aforementioned AWWA Specifications. The Contractor shall furnish for approved certification from the pipe manufacturer that all tests have been performed with satisfactory results. Pipe shall not be installed without the Engineer's or Water Authority's approval.

B. INSTALLATION

Pipes, fittings, and accessories shall be carefully handled to avoid damage. Prior to the date of acceptance of the project work by the Owner, the Contractor shall replace any new pipe or accessory found to be defective at any time, including after installation, at no expense to the Owner. All installation and testing shall be done in accordance with AWWA Standard C-600 and ANSI Specification A21.11.

All pipes showing cracks shall be rejected. If cracks occur in the pipe, the Contractor may, at his own expense and with the approval of the Engineer, cut off the cracked portions at a point at least twelve inches (12") from the visible limits of the crack and use the sound portion of the pipe. All pipes and fittings shall be cleared of all foreign matter and debris prior to installation and shall be kept clean until the time of acceptance by the Owner.

At all times, when the pipe laying is not actually in progress, the open ends of the pipe shall be closed by temporary watertight plugs or by other approved means. If water is in the trench when work is resumed, the plug shall not be removed until all danger of water entering the pipe has passed. The pipe shall be installed in trenches and at the line and grade shown on the Contract Drawings.

Any deflection joints shall be within the limits specified by the manufacturer. All piping and appurtenances connected to the equipment shall be supported so that no strain will be imposed on the equipment. If the equipment manufacturer's specifications include that piping loads are not to be transferred, the Contractor shall submit certification of compliance.

Concrete thrust blocks shall be installed on all plugs, tees, and bends deflecting 1 1/4 degrees or more. Care shall be taken to ensure that concrete will not come in contact with flanges, joints or bolts. The required area of thrust blocks are indicated on the plans or shall be as approved by the Engineer.

Whenever sewers cross under watermains, the watermain shall be laid at such an elevation that the bottom of the watermain is at least 18 inches above the top of the sewer. This vertical separation shall be maintained for that portion of the watermain located within ten feet (10') horizontally of any sewer it crosses.

There shall be no physical connection between the distribution system and any pipes, pumps, hydrants, or tanks which are supplied or may be supplied with water that is, or may be, contaminated. In instances where the use of different types of pipe require joining, the Contractor shall furnish and install all necessary adapters.

All trenching safety standards shall be in conformance with all applicable State and Federal Guidelines and as specified on the Plans.

The Contractor shall, at all times, keep the trenches entirely free of water until all work is finished and ready for backfilling. After the various pipelines have been installed, the trenches and other areas to be filled shall be backfilled to subgrade with, wherever possible, material excavated from the trenches. No backfilling will be allowed until any concrete masonry has set sufficiently, as determined by the Engineer.

All material for backfilling shall be free of roots, stumps, and frost. Materials used for backfilling trenches shall be free of stones weighing over 30 pounds. No stones measuring over one and one-half inches (1 1/2") in the longest dimension shall be placed within one foot (1') of the pipeline being backfilled.

Backfill for all pipelines shall be placed in six inch (6") layers, each layer being thoroughly compacted to not less than 95 percent of maximum dry density as determined by the ASTM-T-99 Standard Proctor. Particular precautions shall be taken in the placement and compaction of the backfill material in order not to damage the pipe or structure. The backfill shall be brought up evenly. All watermains shall be installed with a minimum cover depth of six (6').

Surplus excavated materials not used for backfill shall be disposed of in a manner satisfactory to the Engineer. All surplus material or spoil shall be removed promptly and disposed of so as not to be objectionable to abutters or to the general public.

Valve boxes are to be installed on all buried valves. The boxes shall be cast iron with a minimum five and one-fourths inch (5 1/4") diameter and long enough to extend from the valve to finished grade. The boxes shall enclose the operating nut and stuffing box of the valve. Valve boxes shall not transfer loads into the valve. Covers shall be close fitting and drilled with the top of the cover flush with the top of the box rim. Covers shall be marked "Water" with an arrow indicating the direction of opening. Valve boxes shall be three piece slip-type.

The contractor shall provide a stable, temporary PVC marker approved by the Engineer at all gate valves, curb stops, and at the end of waterlines to a point six inches (6") above finish grade. The marker shall be seated securely into the ground.

C. FIELD TESTING

Except as otherwise directed, all pipelines shall be tested. Pipelines laid in excavation or bedded in concrete shall be tested prior to backfilling or the placing of concrete, and any exposed piping shall be tested prior to field jointing. The Contractor shall furnish all gauges, testing plugs, caps, and all other necessary equipment and labor to perform leakage and pressure test in sections of an approved length. Each valved section or a maximum of one thousand feet (1,000') of the pipe shall be tested. All water required for testing shall be potable. All testing shall be conducted in the presence of the Engineer.

For the pressure test, the Contractor shall develop and maintain 200 pounds per square inch for two hours. Failure to hold the designated pressure for the two-hour period constitutes a failure of the section tested. The leakage test shall be performed concurrently with the pressure test. During the test, the Contractor shall measure the quantity of water required to maintain the test pressure. Leakage shall not exceed the quantity given by:

$$L = SD(\text{Square root of } P) / 148,000$$

where:
 L = Leakage in gallons/hour
 S = Length of pipeline tested
 D = Diameter of pipe in inches
 P = Average test pressure in psi

All testing shall be conducted in accordance with AWWA C-600 latest revision. Should any section of the pipe fail either the pressure or leakage tests, the Contractor shall do everything necessary to locate and repair or replace the defective pipe, fittings, or joints at no expense to the Owner.

D. DISINFECTION:

Chlorination of the watermain shall be conducted only after the main has been flushed and a clear stream is obtained as determined by the Engineer.

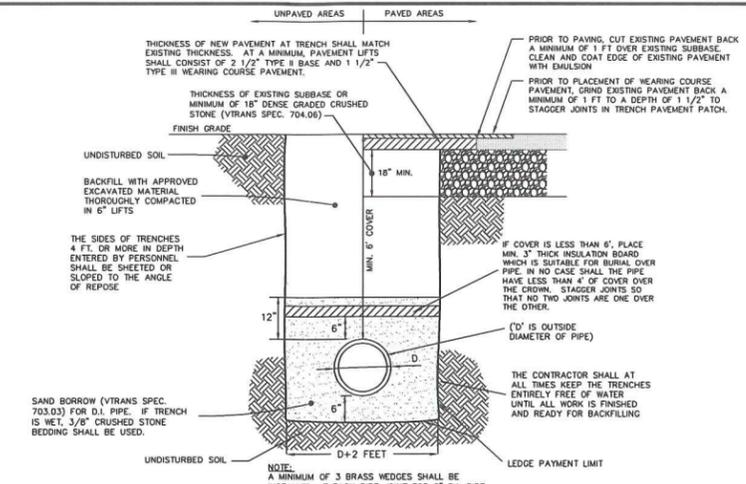
The Contractor shall furnish all labor, equipment, materials, and tools necessary to disinfect the pipe and appurtenances in accordance with the AWWA Standard for Disinfecting Watermains, C-651, with the exception of the label method.

The method of disinfection shall be by the continuous feed method unless otherwise approved by the Engineer. After filling, flushing, and the addition of chlorine solution, the free chlorine concentration within the pipe shall be at least 25 mg/l. The chlorinated water shall remain in the main for a period of at least 24 hours. At the end of this period, the treated water in all portions of the main shall not have a residual of less than 10 mg/l of free chlorine. All disinfection shall be performed under the supervision of the Engineer. The disinfection process shall be deemed acceptable only after (2) samples of water from the flushed, disinfected main taken by the Engineer and tested at an approved laboratory show no evidence of bacteriological contamination. Disinfection shall conform to the latest AWWA C-651 revision.

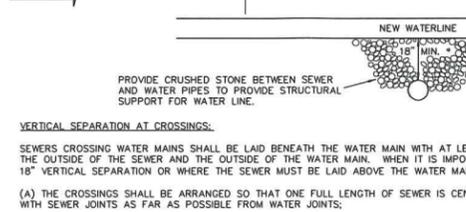
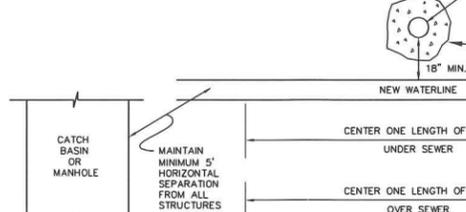
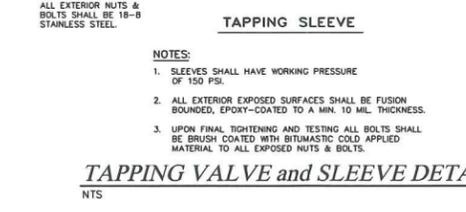
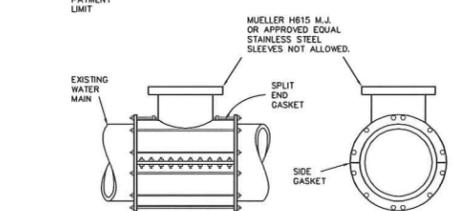
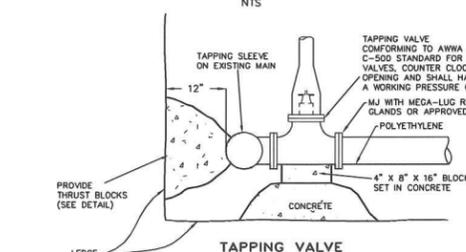
The pipeline and appurtenances shall be maintained in an uncontaminated condition until final acceptance. Disinfection shall be repeated when and where required at no expense to the Owner until final acceptance by the Owner.

E. FROST PROTECTION OF SHALLOW WATERLINES

Waterlines with less than six feet (6') of cover over the crown, or where indicated on the plans, shall be protected against freezing by installation of four inch (4") thick Styrofoam SM insulating sheets with a total width of four feet (4') or twice the pipe diameter, whichever is greater. The sheets shall be placed six inches (6") above the crown of the main after compaction of the six inch (6") lift immediately above the crown. Care shall be exercised by the Contractor during backfill and compaction over the styrofoam sheets to prevent damage to the sheets. Styrofoam SM sheets shall meet the compressive strength requirements of ASTM D1621-73 and shall be as manufactured by Dow Chemical Company, Midland, Michigan, or equivalent. In no case shall the waterlines have less than four feet (4') of cover over the top of the pipe.



TYPICAL WATER TRENCH

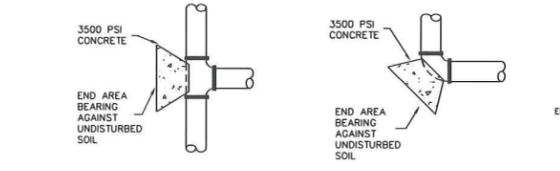


PIPE DIAMETER D	H	W
0-6"	D+8"	D+8"
8-12"	2D	2D
12-36"	D+12"	D+12"

SEWER / WATER SEPARATION DETAIL FOR CROSSINGS

MINIMUM AREA OF BEARING SURFACE OF CONCRETE THRUST BLOCK (IN SQUARE FEET)																				
3"	4"			6"			8"			12"			SAFE BEARING LOAD (PSF)							
	SOIL CONDITION	1.0	2.0	3.0	1.0	2.0	3.0	1.0	2.0	3.0	1.0	2.0		3.0						
1.0	1.0	1.0	0.5	2.0	0.5	1.5	1.0	3.5	5.0	3.0	1.5	6.0	8.5	5.0	2.5	13.0	18.5	10.0	5.0	3,000
1.5	2.5	1.5	1.0	2.5	3.5	2.0	1.0	5.5	7.5	4.0	2.0	9.0	13.0	7.0	3.5	20.0	27.5	15.0	8.0	2,000
3.0	4.5	2.5	1.5	5.0	7.0	4.0	2.0	10.5	15.0	8.0	4.0	18.0	25.0	14.0	7.0	39.0	55.0	30.0	15.0	1,000

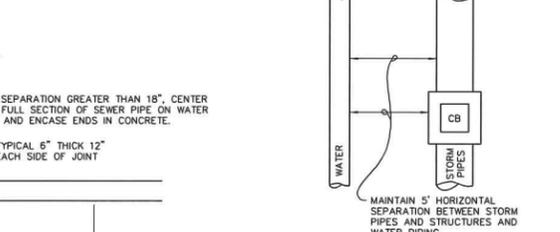
MAXIMUM WATER PRESSURE = 300 PSI (150 PSI WORKING PRESSURE PLUS A 2:1 SAFETY FACTOR)



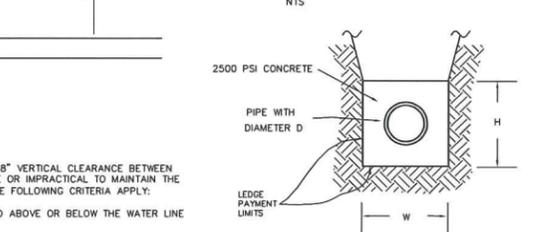
TYPICAL TEES-DEADENDS-CAPS

THRUST BLOCK END AREA

1. SLEEVES SHALL HAVE WORKING PRESSURE OF 150 PSI.
 2. ALL EXTERIOR EXPOSED SURFACES SHALL BE FUSION BOUNDED, EPOXY-COATED TO A MIN. 10 MIL THICKNESS.
 3. UPON FINAL TIGHTENING AND TESTING ALL BOLTS SHALL BE BRUSH COATED WITH BITUMASTIC COLD APPLIED MATERIAL TO ALL EXPOSED NUTS & BOLTS.

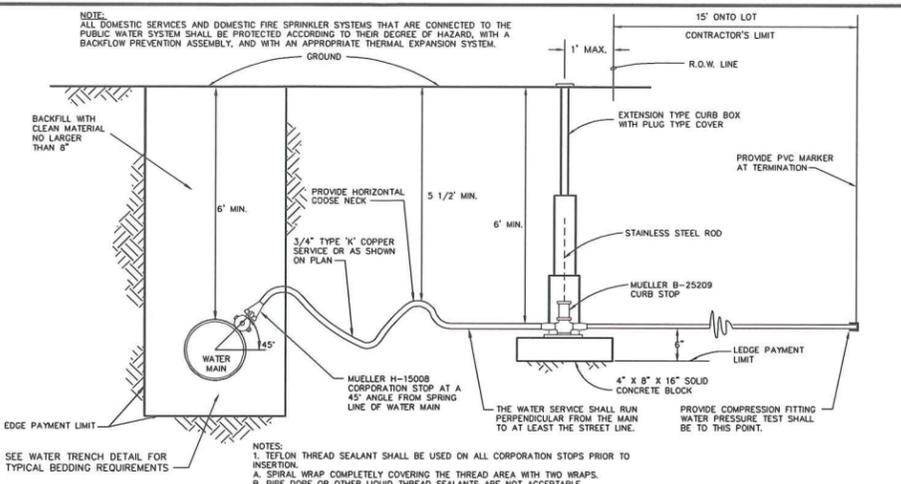


STORM / WATER SEPARATION DETAIL

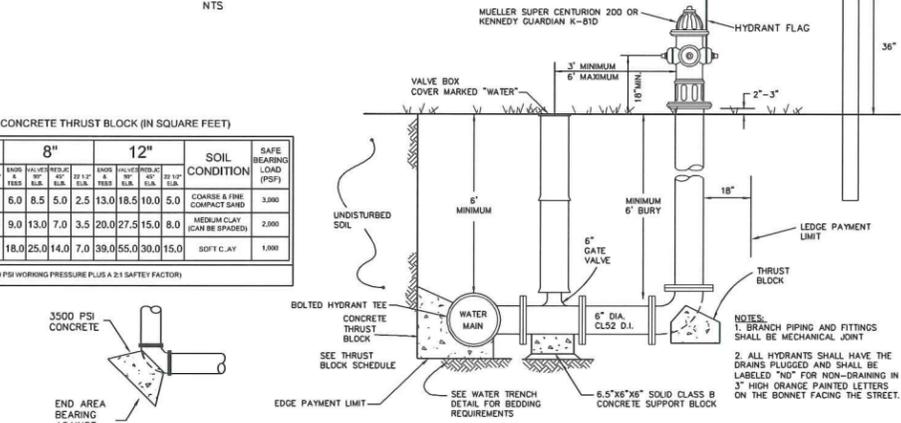


PIPE DIAMETER D	H	W
0-6"	D+8"	D+8"
8-12"	2D	2D
12-36"	D+12"	D+12"

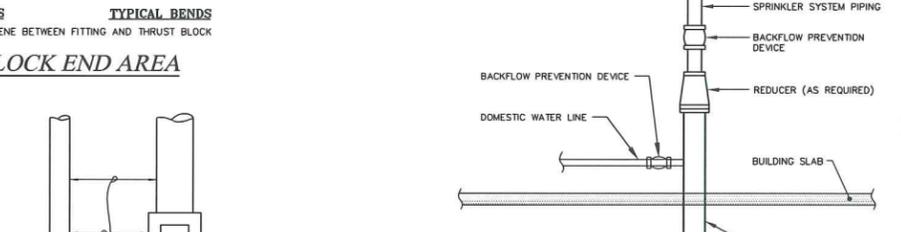
CONCRETE ENCASEMENT DETAIL



WATER SERVICE DETAIL



HYDRANT DETAIL



WATER SERVICE BACKFLOW PREVENTION DETAIL

DATE	REVISIONS	BY
08-12-11	REVISED PER DPW SPECIFICATIONS	ABR
06-15-07	REVISED PER WATER SUPPLY REVIEW	JPL
05-16-07	REVISED PER TOWN AND STATE REVIEWS	DJG/JT
11-08-06	ADD BACKFLOW PREVENTION DETAIL	ABR

REVISIONS

DATE	REVISIONS	BY
08-12-11	REVISED PER DPW SPECIFICATIONS	ABR
06-15-07	REVISED PER WATER SUPPLY REVIEW	JPL
05-16-07	REVISED PER TOWN AND STATE REVIEWS	DJG/JT
11-08-06	ADD BACKFLOW PREVENTION DETAIL	ABR

THESE PLANS WITH LATEST REVISIONS SHOULD ONLY BE USED FOR THE PURPOSE SHOWN BELOW:

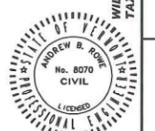
SKETCH/CONCEPT
 PRELIMINARY
 FINAL
 RECORD DRAWING

FINNEY CROSSING
 A PLANNED UNIT DEVELOPMENT
 WILLISTON, VERMONT

DETAILS & SPECIFICATIONS
WATER

LAMOUREUX & DICKINSON
 Consulting Engineers, Inc.
 14 Morse Drive
 Essex Junction, VT 05452
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proj. no. 01-087
 survey L&D
 design DJG/ABR
 draw JET/BH
 checked DJG/ABR
 date 11/30/05
 scale AS SHOWN
 sht. no. 16

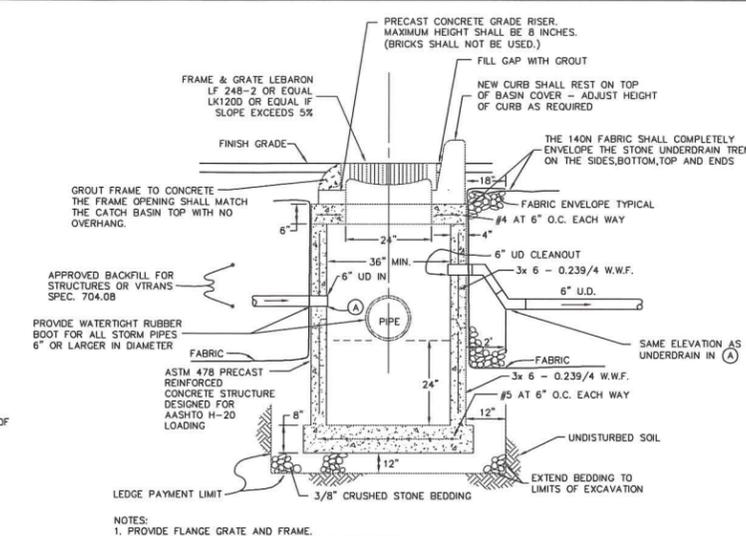
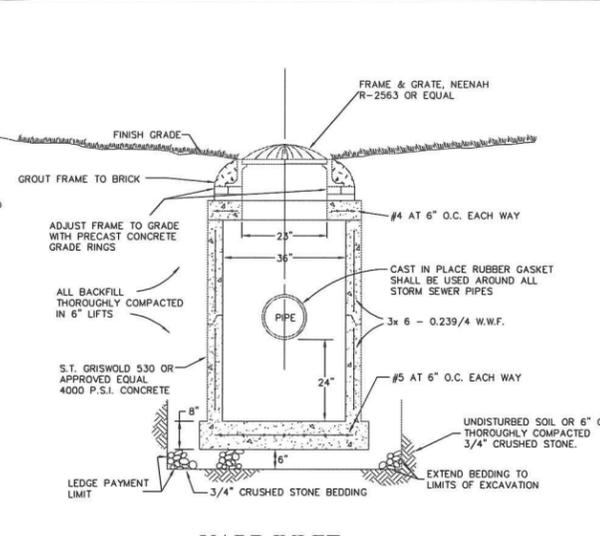
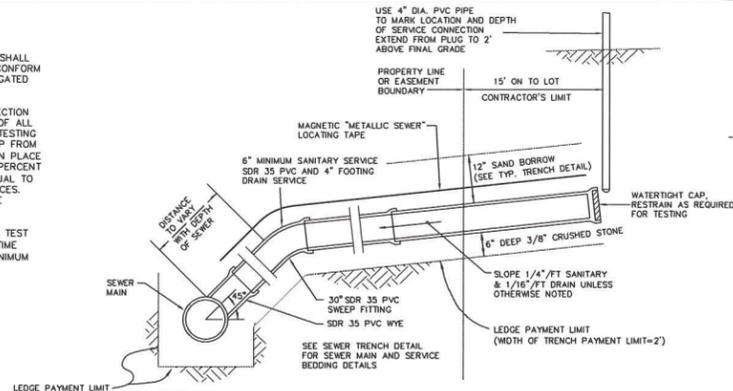
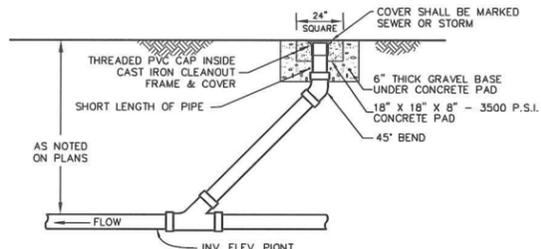


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Ken Bolin Nov 10, 2011

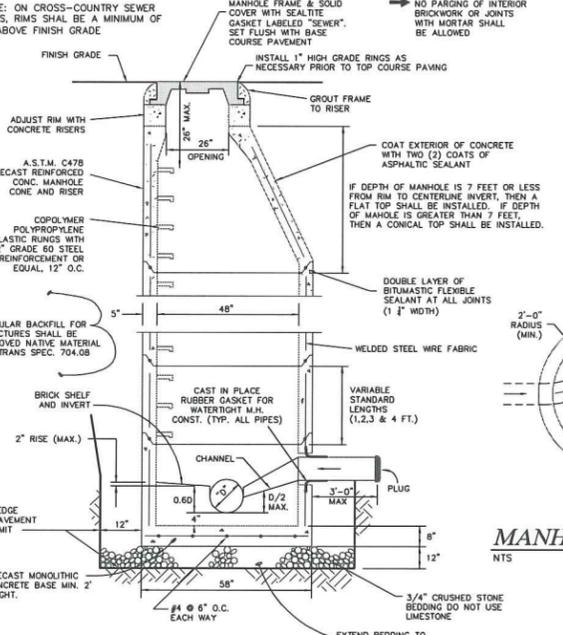
SANITARY & STORM SPECIFICATIONS

- 1) SANITARY AND STORM SEWER PIPES SHALL BE OF THE SIZE AND TYPE INDICATED ON THE PLANS. PVC PIPE SHALL BE SDR 35 CONFORMING TO ASTM D-3034, ASTM D-3212, AND ASTM F-4177. CORRUGATED METAL PIPE SHALL CONFORM TO AASHTO M-190 FOR ACPMP PIPE AND AASHTO M-246 TYPE B FOR POLYMER COATED STEEL PIPE. CORRUGATED POLYETHYLENE PIPE SHALL CONFORM TO AASHTO M294-90, TYPE S (SMOOTH LINED).
- 2) ALL NEW GRAVITY SANITARY SEWER MAINS SHALL BE LEAK TESTED BY A LOW PRESSURE AIR TEST AND DEFLECTION TESTED. THE LOW PRESSURE AIR TEST WILL BE USED TO SIMULATE INFILTRATION OR EXFILTRATION INTO OR OUT OF ALL GRAVITY SANITARY SEWERS. ALL TESTING WILL BE CONDUCTED UNDER THE SUPERVISION OF THE ENGINEER. AIR TESTING SHALL BE PERFORMED IN ACCORDANCE WITH ASTM C828-80. THE MINIMUM ALLOWED TIME FOR A PRESSURE DROP FROM 3.5 PSI TO 2.5 PSI SHALL BE 1.2 MINUTES PER 100 FEET OF 8" SEWER. AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS, THE DEFLECTION TEST MAY BE PERFORMED. NO PIPE SHALL EXCEED A DEFLECTION OF FIVE PERCENT (5%). IF THE DEFLECTION TEST IS RUN USING A RIGID BALL OR MANDREL, IT SHALL HAVE A DIAMETER EQUAL TO 95% OF THE INSIDE DIAMETER OF THE PIPE. THE TEST SHALL BE PERFORMED WITHOUT MECHANICAL PULLING DEVICES. ALL MANHOLE AND PIPELINE MATERIALS, METHODS AND TESTING SHALL BE IN ACCORDANCE WITH TOWN AND STATE STANDARDS AND THESE PLANS.
- 3) ALL SANITARY SEWER MANHOLES SHALL BE TESTED PRIOR TO CONSTRUCTION OF THE INVERT BY THE VACUUM TEST METHOD DESCRIBED IN THE TECHNICAL SPECIFICATIONS. FOR MANHOLES UP TO 10' DEEP THE MINIMUM ALLOWED TIME FOR A VACUUM DROP FROM 10" TO 9" OF MERCURY SHALL BE 2 MINUTES. FOR MANHOLES 10'-15' DEEP THE MINIMUM ALLOWED TIME SHALL BE 2 MINUTES AND 30 SECONDS.



CLEANOUT DETAIL (STORM & GRAVITY SEWER)

NOTE: ON CROSS-COUNTRY SEWER LINES, RIMS SHALL BE A MINIMUM OF 6" ABOVE FINISH GRADE.

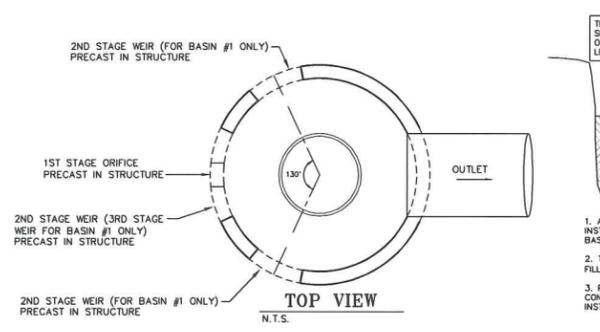


- NOTES:
1. THREE TIES SHALL BE TAKEN TO THE CAPPED END OF ALL LATERALS.
 2. EACH SEWER SERVICE LATERAL SHALL BE PRESSURE TESTED WITH THE SEWER MAIN.
 3. PROVIDE INSULATION AS FOLLOWS:
 - A. IN FLOWED AREAS, INSULATE WHERE 5' OF COVER CANNOT BE MAINTAINED.
 - B. IN UNFLOWED AREAS, INSULATE WHERE 4' OF COVER CANNOT BE MAINTAINED.

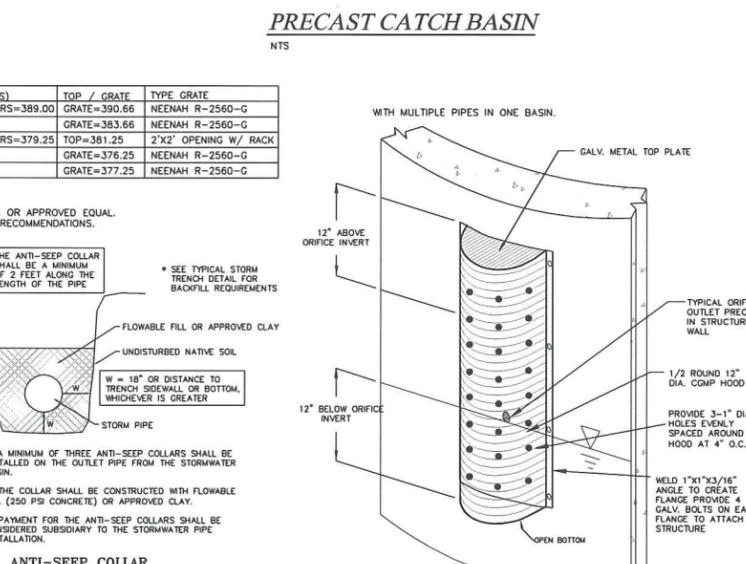
BASIN OUTLET STRUCTURE ELEVATIONS

OUTLET STRUCTURE	1ST STAGE ORIFICE	2ND STAGE ORIFICE	3RD STAGE WEIR(S)	OVERFLOW WEIR(S)	TOP / GRATE	TYPE GRATE
BASIN #1	4" ORIFICE=385.00	6.5" ORIFICE=386.85	(2) 12"X30" WEIRS = 388.00	(2) 12"X30" WEIRS=389.00	GRATE=390.66	NEENAH R-2560-G
BASIN #2	3" ORIFICE=380.00	3.5" ORIFICE=380.85	12" X 36" WEIR = 382.00	N / A	TOP=383.66	NEENAH R-2560-G
BASIN #3	4.5" ORIFICE=374.00	4.5" ORIFICE=375.75	15" X 36" WEIR = 378.00	(2) 12"X24" WEIRS=379.25	TOP=381.25	2'X2' OPENING W/ RACK
BASIN #4	4.5" ORIFICE=373.00	-	12" X 24" WEIR = 374.60	N / A	GRATE=376.25	NEENAH R-2560-G
BASIN #5	4" ORIFICE=373.00	-	12" X 24" WEIR = 376.25	N / A	GRATE=377.25	NEENAH R-2560-G

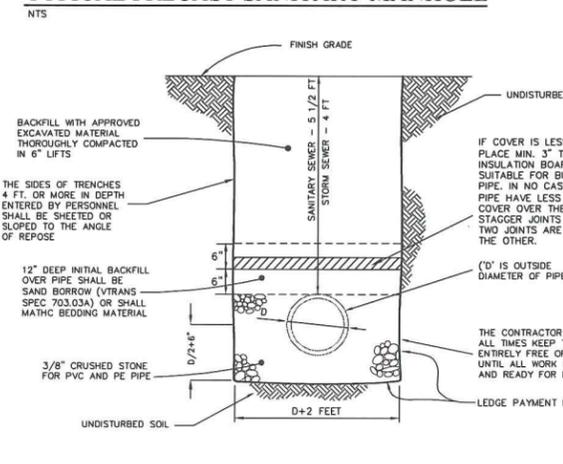
- WEIR DIMENSIONS ARE WIDTH X HEIGHT
- ALL ELEVATIONS ARE FOR THE INVERT OF THE ORIFICE AND BOTTOM OF WEIR
- RACKS SHALL BE HOPE STRUCTURAL PLASTIC AS MANUFACTURED BY PLASTIC SOLUTIONS, INC. OR APPROVED EQUAL. RACK SHALL BE BOLTED TO TOP OF STRUCTURE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.



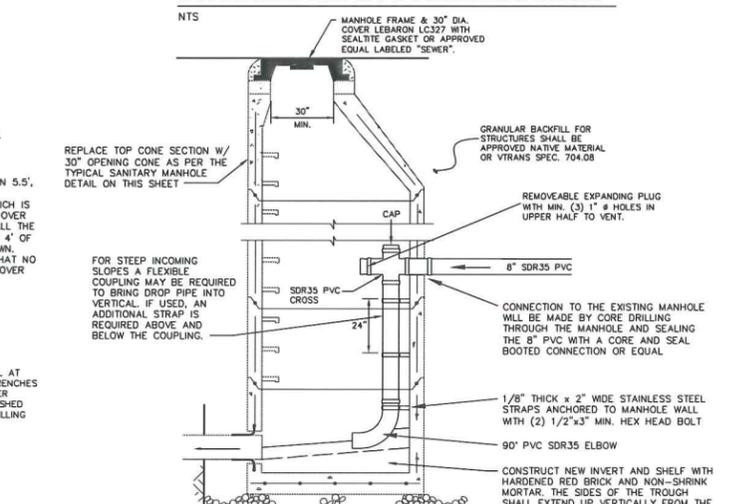
BASIN OUTLET STRUCTURE ORIFICE HOOD DETAIL



TYPICAL PRECAST SANITARY MANHOLE



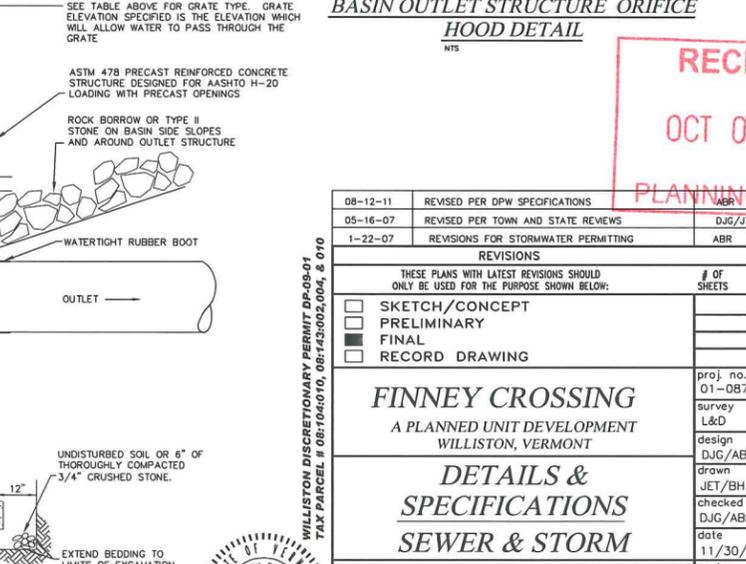
TYPICAL PRECAST STORM MANHOLE



ANTI-SEEP COLLAR

1. A MINIMUM OF THREE ANTI-SEEP COLLARS SHALL BE INSTALLED ON THE OUTLET PIPE FROM THE STORMWATER BASIN.
2. THE COLLAR SHALL BE CONSTRUCTED WITH FLOWABLE FILL (250 PSI CONCRETE) OR APPROVED CLAY.
3. PAYMENT FOR THE ANTI-SEEP COLLARS SHALL BE CONSIDERED SUBSIDIARY TO THE STORMWATER PIPE INSTALLATION.

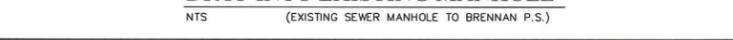
BASIN OUTLET STRUCTURE



TYPICAL SANITARY SEWER & STORM TRENCH



DROP INTO EXISTING MANHOLE



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REVISIONS	# OF SHEETS
08-12-11 REVISED PER DPW SPECIFICATIONS	ABR
05-16-07 REVISED PER TOWN AND STATE REVIEWS	DJG/JT
1-22-07 REVISIONS FOR STORMWATER PERMITTING	ABR

THESE PLANS WITH LATEST REVISIONS SHOULD ONLY BE USED FOR THE PURPOSE SHOWN BELOW:

SKETCH/CONCEPT
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 FINAL
 RECORD DRAWING

FINNEY CROSSING
A PLANNED UNIT DEVELOPMENT
WILLISTON, VERMONT

DETAILS & SPECIFICATIONS
SEWER & STORM

LAMOUREUX & DICKINSON
Consulting Engineers, Inc.
14 Morse Drive
Essex Junction, VT 05452
(802) 878-4450

proj. no. 01-DB7
survey L&D
design DJG/ABR
drawn JET/BH
checked DJG/ABR
date 11/30/05
scale
AS SHOWN
sht. no. 17

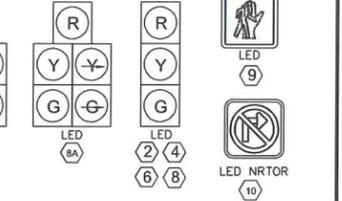
Kendall New 10/2011

FINAL PLANS

PAVEMENT MARKING LEGEND

- 24" DURABLE SOLID WHITE STOP BAR
- 4" DURABLE SOLID WHITE LINE
- DOUBLE 4" DURABLE SOLID YELLOW LINE
- DURABLE CROSSWALK MARKING
- 4" DURABLE DOTTED WHITE LINE, 2' LONG SPACED 4' APART
- 8" DURABLE SOLID YELLOW LINE
- DURABLE LETTER OR SYMBOL
- 4" DURABLE DASHED WHITE LINE, 10' LONG, SPACED 30' APART
- SINGLE 4" DURABLE SOLID YELLOW LINE

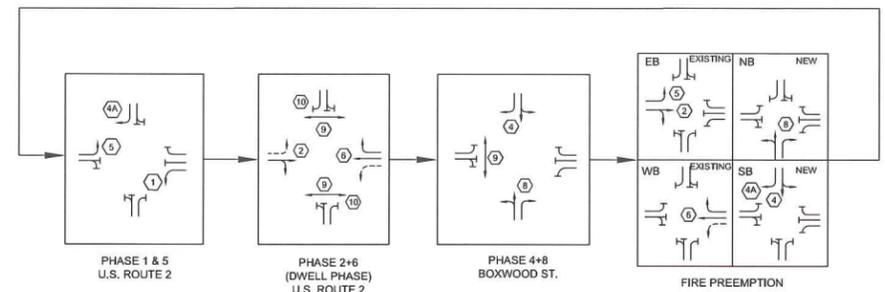
- EXISTING SIGNAL HEAD
- NEW SIGNAL HEAD
- MAST ARM POLE
- PEDESTAL POLE
- EXISTING SIGNAL CONTROLLER
- NEW LUMINAIRE
- VEHICLE DETECTOR LOOP NUMBER



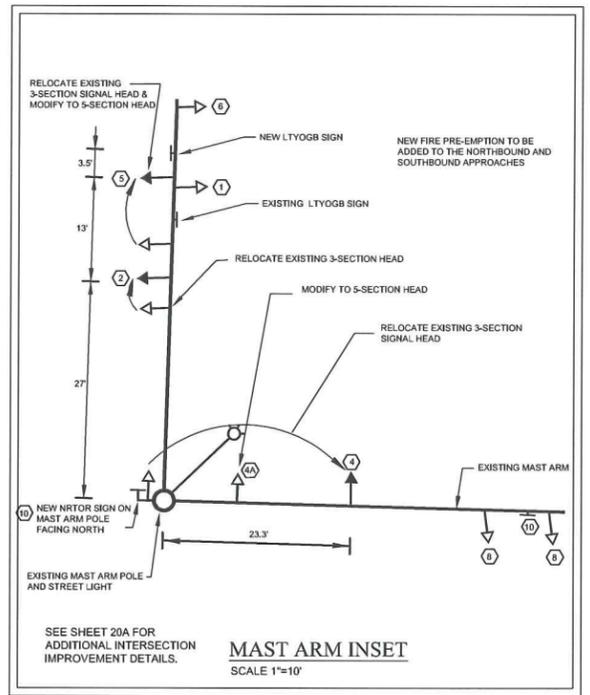
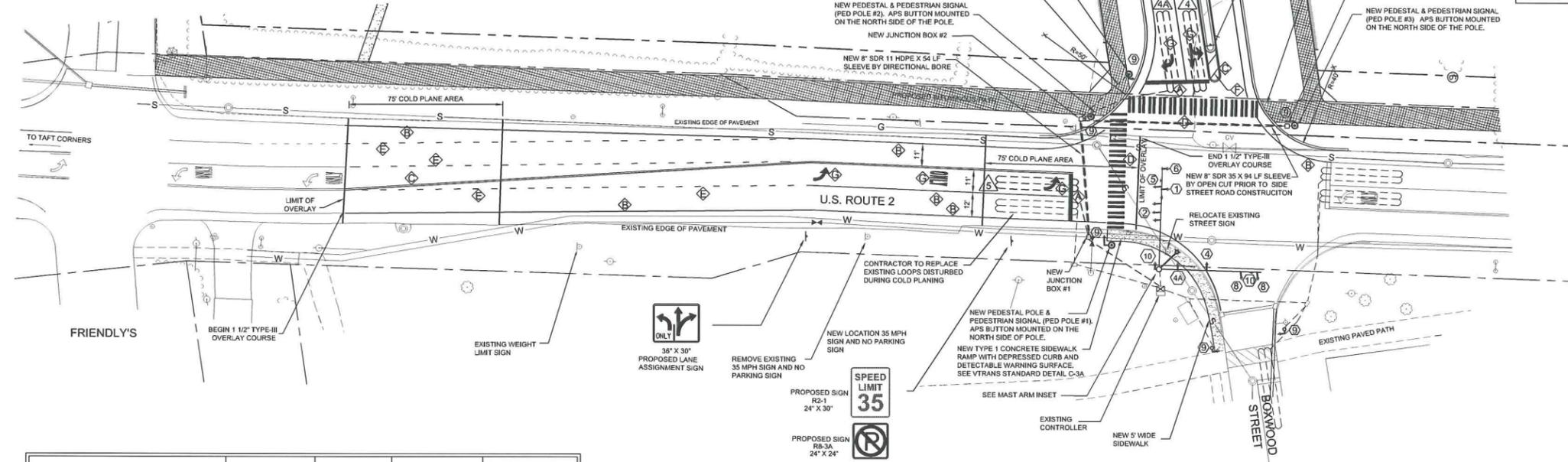
SIGNAL HEADS

NOTE:
 1. AT THE EXISTING CONTROLLER, U.S. ROUTE 2 IS CURRENTLY PROGRAMMED AS PHASE 4 & 8. AS PART OF THE INTERSECTION IMPROVEMENT WORK SHOWN ON THIS PLAN, THE SIGNAL SHALL BE REPROGRAMMED AND/OR REWIRED SO THAT U.S. ROUTE 2 IS PHASE 2 & 6.
 2. ALL PROPOSED PAVEMENT MARKINGS ON U.S. ROUTE 2 SHALL BE 3M INTERSECTION GRADE TAPE ROLLED INTO THE TOP LIFT OF PAVEMENT AT THE TIME OF PAVING.
 3. ON ALL POLES WITH AN APS BUTTON, THE TOP OF POLE FOUNDATION SHALL BE FLUSH WITH THE SIDEWALK. PROVIDE A RAMP FROM THE SIDEWALK TO THE POLE.
 4. ALL PROPOSED PERMANENT SIGN POSTS SHALL BE 3 LB/FT FLANGED CHANNEL.

THE CONTRACTOR SHALL NOTIFY "DIGSAFE" AT 1-888-DIG-SAFE PRIOR TO ANY EXCAVATION.



PHASING PLAN



MAST ARM INSET
SCALE 1"=10'

PROGRAM CONTROLLER FOR NEMA DUAL RING / SEMI-ACTUATED OPERATION	PHASE 1, 5 & 4A U.S. ROUTE 2	PHASE 2+6 U.S. ROUTE 2	PHASE 4+8 BOXWOOD ST.	FIRE PREEMPTION
VEH. EXTENSION	2	2	2	-
RT. TURN DELAY	-	5	5	-
MIN. GREEN	6	10	7	-
YELLOW CLEAR	4	4	4	4
RED CLEAR	2	2	2	2
AM PEAK (6:00-10:00 a.m.)	MAX. 1 GREEN	12	42	12
OFF PEAK	MAX. 2 GREEN	13	39	18
PM PEAK (2:30-7:00 p.m.)	MAX. 3 GREEN	12	49	15

NOTE: THERE SHALL BE NO SCHEDULED FLASHING TIME PERIOD. THE SIGNAL SHALL RUN ON OFF PEAK TIMINGS AT NIGHT. THE "NO RIGHT TURN ON RED" SIGN SHOULD BE WIRED TO ONLY BE ACTIVATED WHEN THE PEDESTRIAN BUTTONS ARE PUSHED.

CONDUIT SCHEDULE				
FROM	TO	WIRED CONDUIT		DESCRIPTION
		1 1/2"	2"	
CONTROLLER CABINET	JUNCTION BOX #1	42'	42'	SIGNAL WIRING & LOOP DETECTOR WIRING
JUNCTION BOX #1	LOOP LEAD IN #1	3'		LOOP DETECTOR WIRING
JUNCTION BOX #1	JUNCTION BOX #2	58'	58'	SIGNAL WIRING & LOOP DETECTOR WIRING
JUNCTION BOX #2	LOOP LEAD IN #8, #8A	23'		LOOP DETECTOR WIRING
JUNCTION BOX #2	PED POLE #2		7'	SIGNAL WIRING
JUNCTION BOX #2	JUNCTION BOX #3		100'	SIGNAL WIRING
JUNCTION BOX #3	PED POLE #3		3'	SIGNAL WIRING
JUNCTION BOX #2	PED POLE #4		32'	SIGNAL WIRING

* WORK SHALL INCLUDE NEW WIRING IN EXISTING CONDUIT TO MAKE A FULLY FUNCTIONAL SIGNAL.

VEHICLE LOOP DETECTOR SCHEDULE

LANE	LOOP #	SIZE	TYPE	# OF TURNS	CALL PHASE	MODE	INDUCTANCE (uH)		RESISTANCE (ohms)		LEAKAGE TO GROUND (m-ohms)
							CALC.	MEAS.	CALC.	MEAS.	
U.S. ROUTE 2 EB LT	1	6' x 40'	LONG	2	1	PRES.	354		0.77		
BOXWOOD ST. SB THLT	2	6' x 40'	LONG	2	8	PRES.	378		1.07		
BOXWOOD ST. SB RT	3	6' x 40'	LONG	2	8	PRES.*	374		1.03		

* DELAY ON RIGHT TURN LOOPS

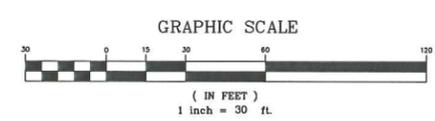
THE FOLLOWING COORDINATION SPLITS AND OFFSETS SHALL BE UPDATED IN THE CONTROLLER

U.S. ROUTE 2 / BOXWOOD STREET	SPLITS									OFFSET
	B1	B2	B3	B4	B5	B6	B7	B8	B9	
A.M. PEAK	18 s, 21%	48 s, 57%		18 s, 22%	18 s, 21%	48 s, 57%		18 s, 22%		11 SEC.
OFF PEAK	19 s, 22%	45 s, 51%		24 s, 27%	19 s, 22%	45 s, 51%		24 s, 27%		46 SEC.
PM PEAK	18 s, 19%	55 s, 57%		23 s, 24%	18 s, 19%	55 s, 57%		23 s, 24%		56 SEC.

ZEPHYR ROAD			
AM	OFF	PM	
9	36	36	4
5	18	18	4
1			

US ROUTE 2			
AM	OFF	PM	
20	20	20	3
284	396	563	
38	134	116	

2008 AAWDT			
AM	OFF	PM	
21	83	87	9
17	9	9	17
2			



LIST OF MAJOR EQUIPMENT U.S. ROUTE 2 / BOXWOOD ST.

EQUIPMENT	QUANTITY
MODIFY EXISTING 3-SECTION SIGNAL HEADS TO 5-SECTION HEADS WITH TUNNEL VISORS AND MOUNTING HARDWARE INCLUDES BACKPLATES ON ALL SIGNAL HEADS	2
LED HAND/MAN PEDESTRIAN SIGNAL HEADS	4
JUNCTION BOX	3
LEFT TURN YIELD ON GREEN BALL SIGN	1
APS PEDESTRIAN PUSH BUTTON ASSEMBLY W/ SIGN	4
FIRE PREEMPTION DETECTOR (BIDIRECTIONAL) & CONFIRMATION STROBE	1
LED NO RIGHT-TURN RED SIGNS	1
PEDESTRIAN PEDESTAL POLES	4

THE QUANTITIES LISTED ABOVE ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY. MISCELLANEOUS (UNLISTED) WIRE, CABLE, HARDWARE ETC., ARE REQUIRED TO PROVIDE FOR A FUNCTIONING TRAFFIC SIGNAL SYSTEM.

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10-1-07 REVISED AS PER VTRANS PLC
 5-14-07 REVISED AS PER VTRANS PLC

REVISIONS

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SKETCH/CONCEPT
 PRELIMINARY
 FINAL
 RECORD DRAWING

FINNEY CROSSING
 A PLANNED UNIT DEVELOPMENT
 WILLISTON, VERMONT

U.S. ROUTE 2 / BOXWOOD ST. INTERSECTION IMPROVEMENTS PLAN

proj. no. 01-087
 survey L&D
 design PLC/RJD
 drawn DB/PLC
 checked RJD/ABR
 date 11/30/05
 scale 1" = 30'
 sht. no. 19

LAMOUREUX & DICKINSON
 Consulting Engineers, Inc.
 14 Morse Drive
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FINAL PLANS

Ken Zeller Nov 10, 2011