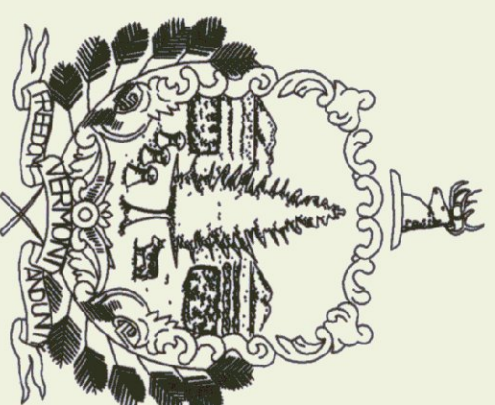


State of Vermont
 Department of Buildings & General Services
ISLAND POND STATE HIGHWAY GARAGE
 PROPOSED IMPROVEMENTS TO
 FLOOR DRAIN & SANITARY SEWER CONNECTION
 ISLAND POND, VERMONT

AGENCY OF ADMINISTRATION
 DEPARTMENT OF BUILDINGS & GENERAL SERVICES
 2 GOVERNOR AIKEN AVENUE
 MONTPELIER, VERMONT 05633-5801
 THOMAS W. TORTI, COMMISSIONER



James H. Douglas
 Governor

January 2003

ENGINEER: _____

C.L.D. CONSULTING ENGINEERS
 THE CURTIS HOUSE 256 RT. 5 SOUTH
 NORWICH, VERMONT 05055
 PHONE: (802) 649-1154 FAX: (802) 649-1159

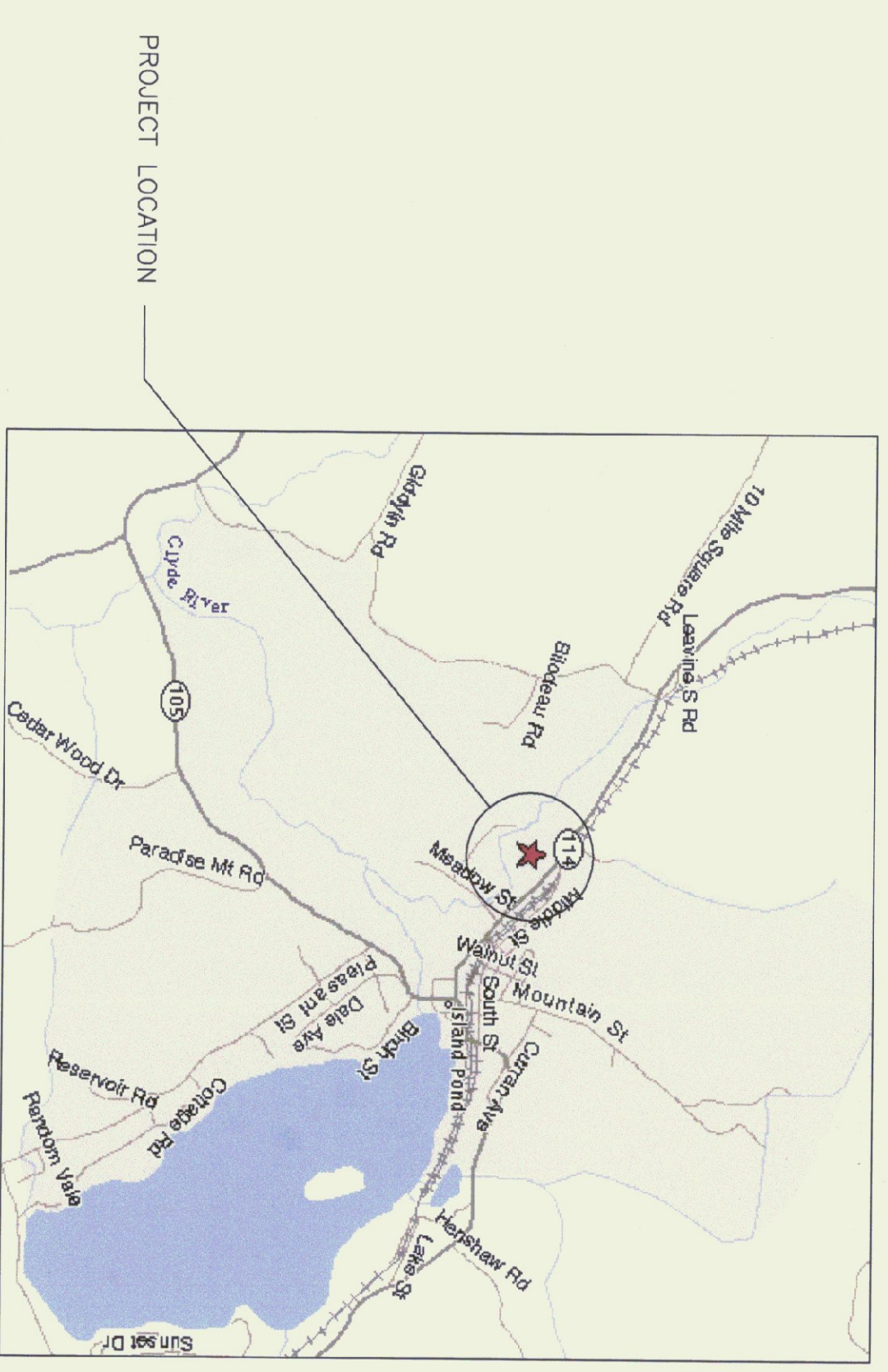
INDEX OF SHEETS

2	LAYOUT
3	PROFILE / DETAILS
4	DETAILS

CONVENTIONAL SYMBOLS

COUNTY LINE	
TOWN LINE	
LIMITS OF ACCESS	
POINT OF ACCESS	
FENCE LINE	
STONE WALL	
TRAVELED WAY	
GUARD RAIL	
RAILROAD	
SURVEY LINE	
CULVERT	
POWER POLE	
TELEPHONE POLE	
TREES	
CONTROL OF ACCESS	
PROPERTY LINE	
R.O.W. TAKING LINE	
SLOPE RIGHTS	
TOP OF CUT	
TOE OF SLOPE	

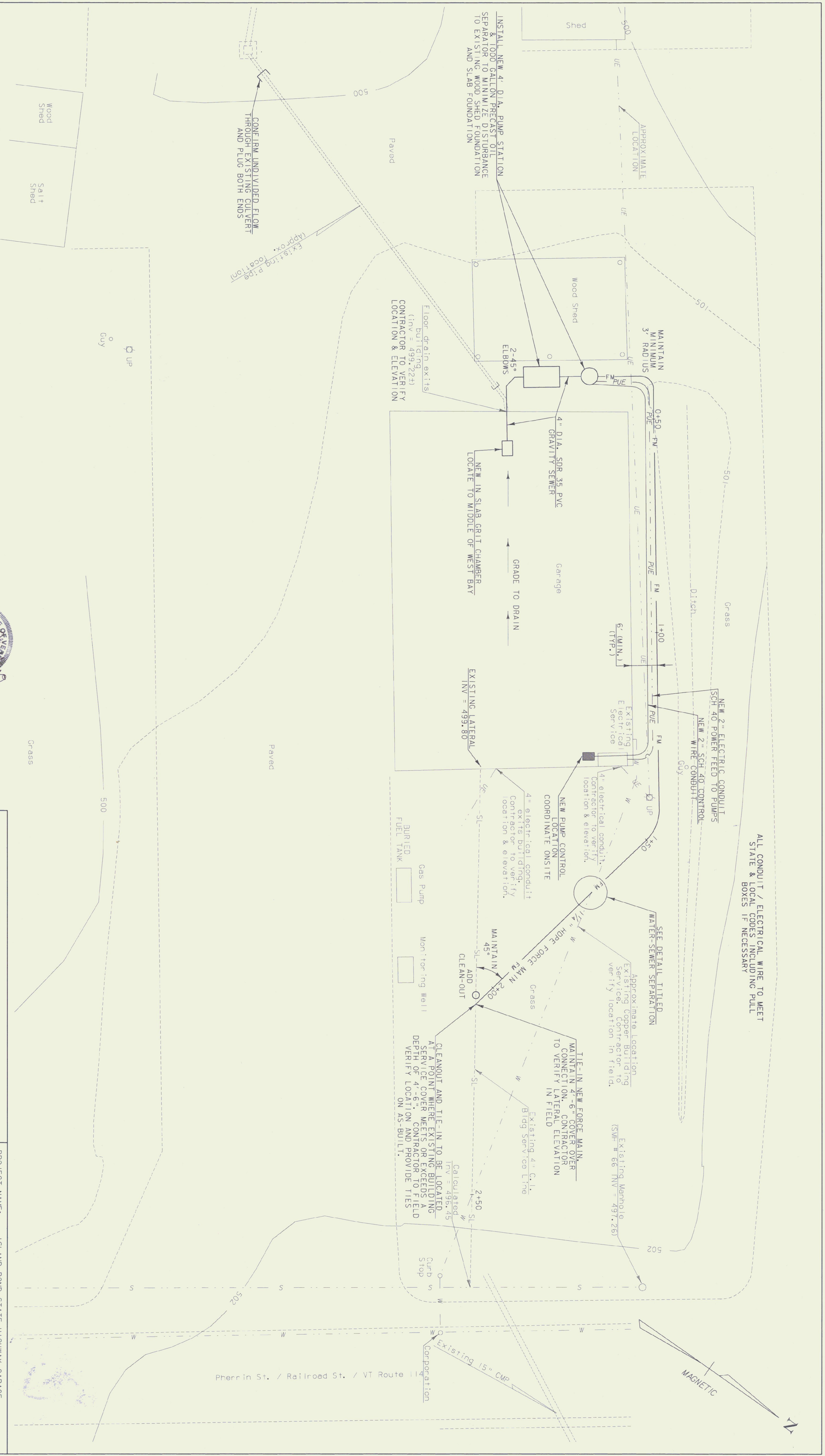
AGENCY OF TRANSPORTATION
 1 NATIONAL LIFE DRIVE DRAWER 33
 MONTPELIER, VERMONT 05633
 PATRICIA A. McDONALD, SECRETARY



PROJECT LOCATION MAP

THESE PLANS ARE SUBJECT TO SUCH ENGINEERING CHANGES AS MAY BE REQUIRED BY THE FEDERAL HIGHWAY ADMINISTRATION OR THE DIRECTOR OF PROJECT DEVELOPMENT. CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR THE CONSTRUCTION DATED 1990, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON MARCH 15, 1990 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

ALL CONDUIT / ELECTRICAL WIRE TO MEET STATE & LOCAL CODES INCLUDING PULL BOXES IF NECESSARY



INSTALL NEW 4" DIA. PUMP STATION & 1000 GALLON PRECAST STORAGE TANK TO SEPARATE WOOD SHED DISTANCE TO EXISTING CONDUIT AND SLAB FOUNDATION

MAINTAIN MINIMUM 3' RADIUS

4" DIA. SDR-35 PVC GRAVITY SEWER

NEW 2" ELECTRIC CONDUIT SCH 40 POWER FEED TO PUMPS
NEW 2" SCH 40 CONTROL WIRE CONDUIT

NEW PUMP CONTROL COORDINATE ON-SITE

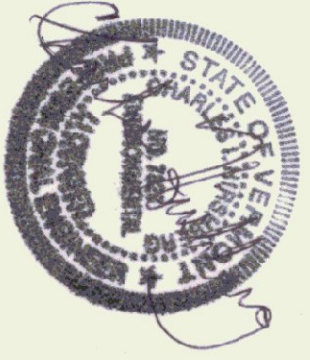
SEE DETAIL TITLED WATER-SEWER SEPARATION

TIE-IN NEW FORCE MAIN MAINTAIN 4'-6" COVER OVER CONNECTION, CONTRACTOR TO VERIFY LATERAL ELEVATION IN FIELD

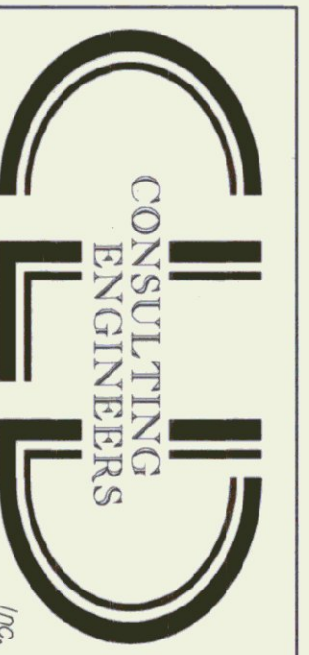
CLEANOUT AND TIE-IN TO BE LOCATED AT A POINT WHERE EXISTING BUILDING SERVICE COVER MEETS OR EXCEEDS A DEPTH OF 4'-6". CONTRACTOR TO VERIFY LOCATION AND PROVIDE TIES ON AS-BUILT.



DATUM	N/A
VERTICAL	N/A
HORIZONTAL	N/A



SCALE IN FEET
10 0 10



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PROJECT NAME:	ISLAND POND STATE HIGHWAY GARAGE
PROJECT NUMBER:	01-0120
FILE NAME:	01-01201bdr.dgn
PROJECT LEADER:	CIH
DESIGNED BY:	JMS
CLD REFERENCE NO.:	01-0120
PLOT DATE:	01/21/2002
DRAWN BY:	PGJ
CHECKED BY:	JMS
SHEET	2 OF 4

H-20 RATED FIBERGLASS TRAFFIC GRATING BY MGNITOLS, INC. OR EQUIVALENT

NEW #4 REINFORCING BARS @ 12" O.C.

SEAL W/ WATER RESISTANT GROUT

1'-0" MIN.

4" DIA. PVC DISCHARGE PIPING

MIN. SUMP

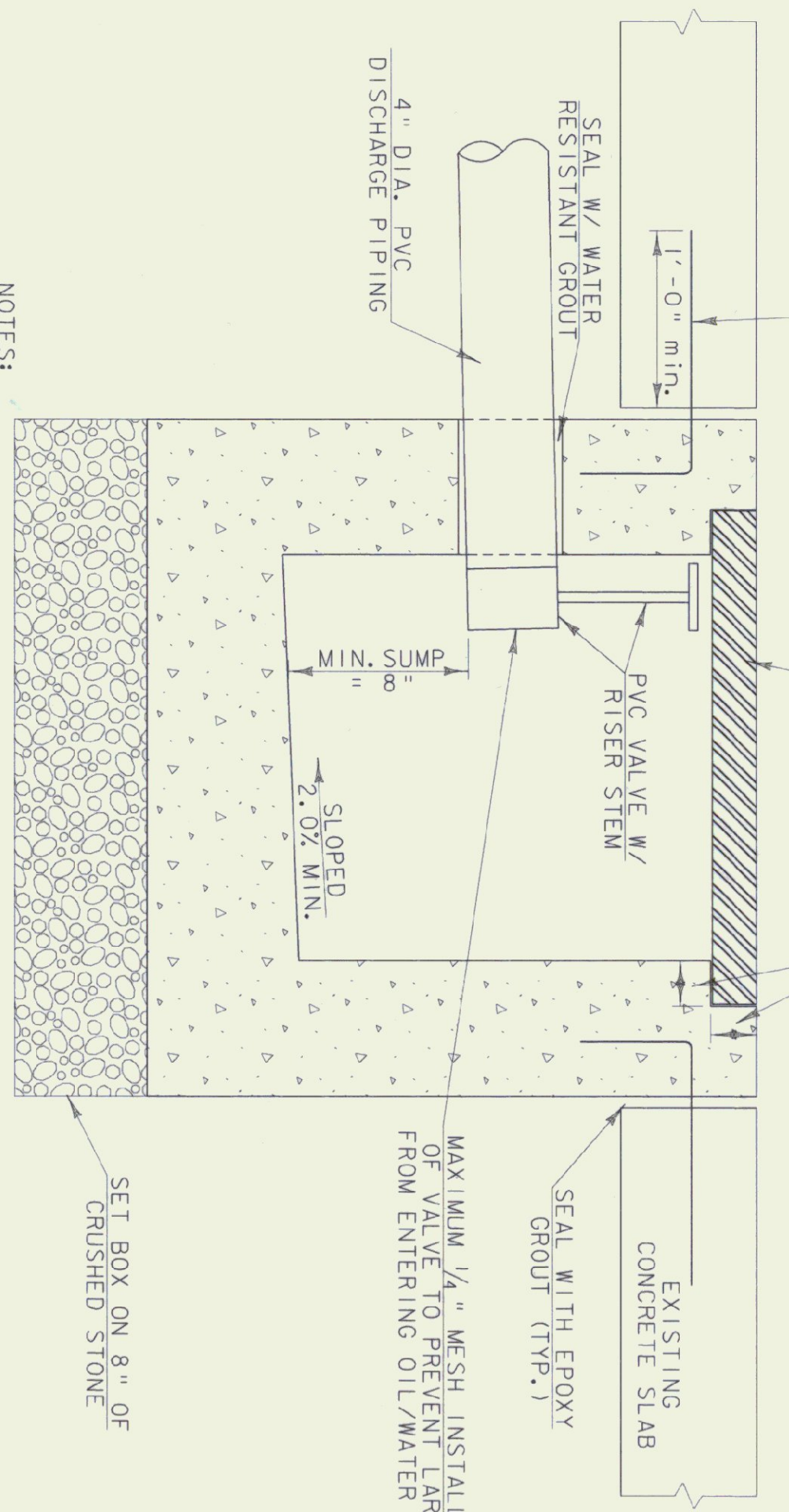
2.0% SLOPED

EXISTING CONCRETE SLAB

SEAL WITH EPOXY GROUT (TYP.)

DIMENSIONS TO FIT MANUFACTURER'S REQUIREMENTS FOR FIBERGLASS GRATE TO BE FLUSH WITH SLAB ELEVATION.

MAXIMUM 1/4" MESH INSTALLED AT END OF VALVE TO PREVENT LARGE DEBRIS FROM ENTERING OIL/WATER SEPARATOR.



- NOTES:
1. BOX EXTERIOR WALL DIMENSIONS ARE 2'-6" LONG X 2'-2" WIDE X 2'-5" HIGH W/ 6" WALLS.
 2. SAW CUT EXISTING CONCRETE SLAB, DRILL & DOWEL EXISTING SLAB, POUR CONCRETE TO MATCH EXISTING LAB GRADE & ALLOW FOR POSITIVE DRAINAGE.
 3. STEEL REINFORCEMENT PER VITRANS STANDARD D-8 "REINFORCED CONCRETE DROP INLET W/ PRECAST COVER". CONTRACTOR TO ALTER STEEL LENGTHS AS NECESSARY.
 4. CONCRETE MIX TO MEET CLASS "B" REQUIREMENTS PER VITRANS MATERIALS SPECIFICATIONS.

CAST-IN-PLACE FLOOR DRAIN & GRIT COLLECTION CHAMBER

"SANITARY" SOLID C.I. FRAME & COVER (H-20 LOADING) ADJUST TO MEET EXISTING TERRAIN

INSULATE WITH RIGID 2" THICK INSULATION TO DEPTH OF 4'-0" BELOW PROPOSED GRADE

INLET (FROM GARAGE FLOOR DRAIN)

4" TEE (TYP.)

8" 2'-6" 8"

ADJUST GRADE WITH BRICK OR PRECAST CONC. EXTENSIONS

GROUT (TYP.)

ADJUST RIM TO FINAL GRADING

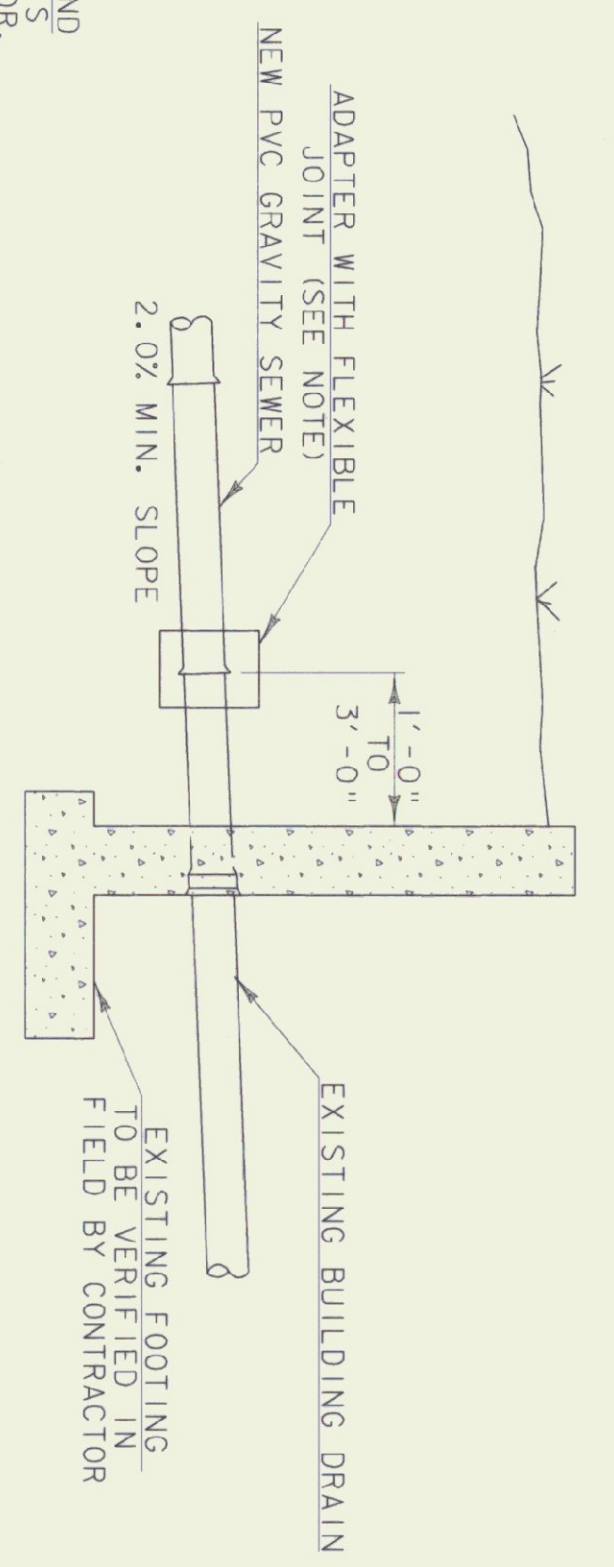
RIGID INSULATION (TYP.)

OUTLET TO PUMP STATION

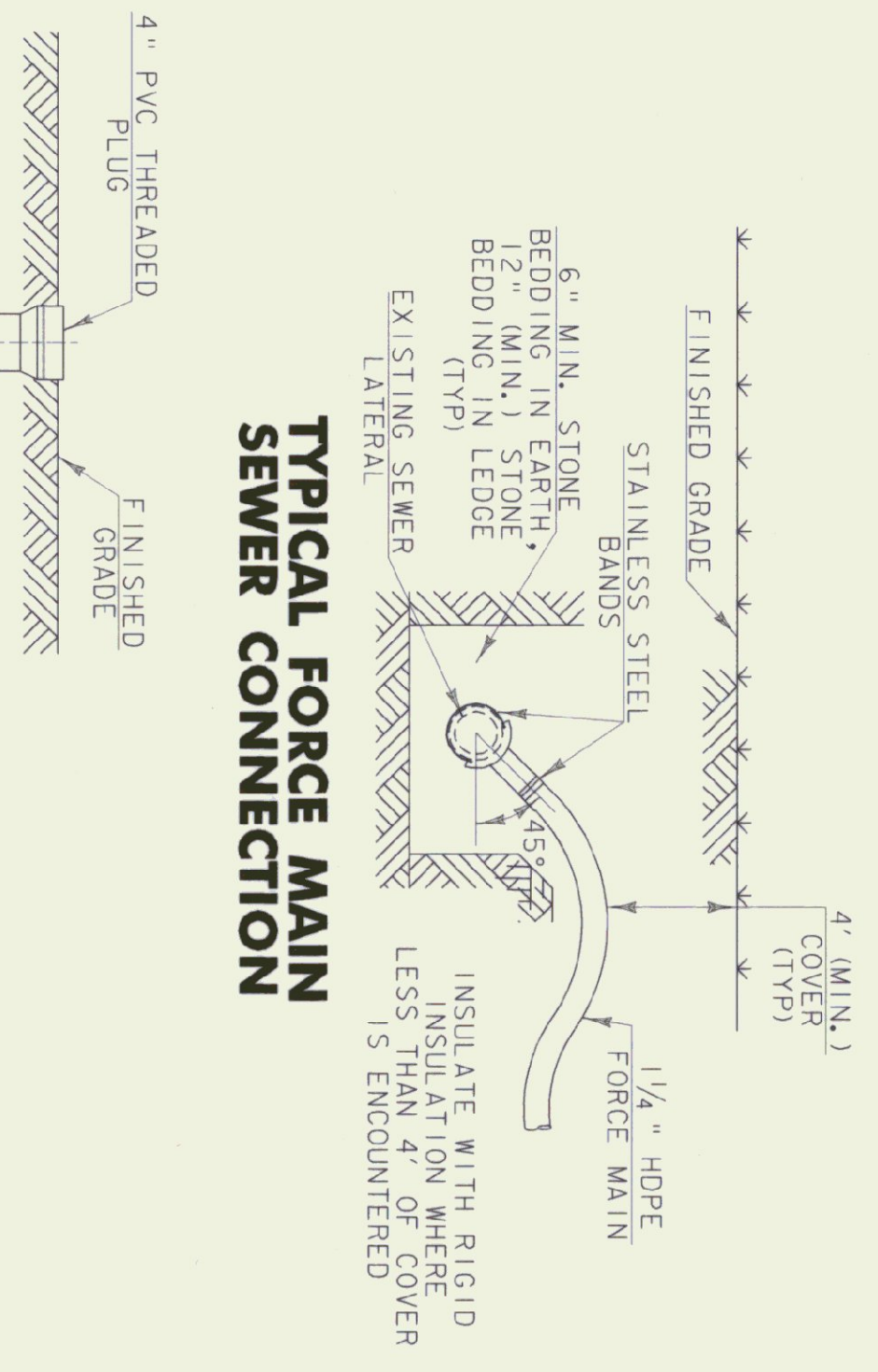
S.S. PIPE SUPPORT (TYP.)

- NOTES:
1. THE OIL SEPARATOR CHAMBER SHALL BE A 1000 GALLON SEPTIC TANK WITH 30" OPENING. THE CONCRETE SECTIONS SHALL BE CAPABLE OF WITHSTANDING H-20 LOADING. PIPE PENETRATIONS SHALL BE SEALED BY FLEXIBLE WATERIGHT BOOTS.
 2. THE EXTERIOR OF THE BOX SHALL RECEIVE TWO COATS OF ASPHALTIC SEAL COATING AT THE FACTORY.
 3. JOINTS BETWEEN THE CONCRETE SECTIONS SHALL BE SEALED BY BUTYL MASTIC (ASHTO M-1981).
 4. UNDERLOR PIPING SHALL BE RESTRAINED WITH STAINLESS STEEL TIE RODS.
 5. THE OIL SEPARATOR CHAMBER SHALL BE FILLED WITH WATER AND SUBJECTED TO A 24 HOUR HYDROSTATIC LEAKAGE TEST. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE A WATERIGHT STRUCTURE.
 6. INTERIOR PIPING SHALL BE PVC SCH 40. FITTINGS SHALL BE SOLVENT WELD TYPE.
 7. SOLVENT WELD TYPE.

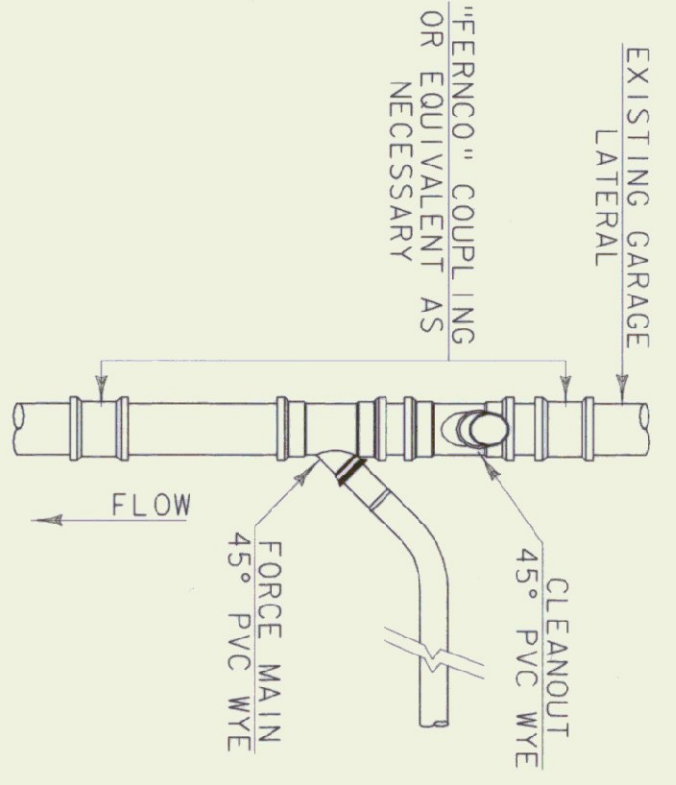
OIL SEPARATOR



TYPICAL FORCE MAIN SEWER CONNECTION



BUILDING SEWER CONNECTION



NOTE: JOINTS SHALL HAVE A NEOPRENE OR ELASTOMERIC GASKET FOR WATERIGHTNESS. ALL JOINTS SHALL BE PROPERLY MATCHED WITH THE PIPE MATERIALS USED. WHERE DIFFERING MATERIALS ARE TO BE CONNECTED, APPROPRIATE ADAPTERS SUCH AS "FERROCO" OR EQUIVALENT SHALL BE USED.

PRESSURE SEWER SYSTEM SPECIFICATIONS
FOR
ISLAND POND STATE HIGHWAY GARAGE

Vitrans Standard Specifications for Construction

All Materials and installations to be in conformance with Vitrans Standard Specifications for Construction, 2001, except the items listed below. Installation shall be executed in an workman like manner:

- Materials**
- Force Main: Shall be 1/4" diameter Heavy Duty Polyethylene pipe, rated 200 psi.
 - Force Main Joints & Fittings: Shall be pressure rated at or above the Force Main pipe specified. 90 degree angle bends are not to be secured with written permission of the Engineer. Joints are to be secured with stainless steel bands.
 - Gravity Sewer: Shall be 4 inch diameter SDR 35 PVC pipe with push on joints. Gravity Sewer shall be installed with invert elevations as indicated on the Plans and shall have a minimum slope of 2.00%.

Gravity Joints & Fittings: Joints shall be assembled such that bell ends of the pipe are facing up slope and spigot ends are correspondingly facing down slope. Where existing materials do not allow fitted joint connection with new SDR 35 pipe, couplings similar or equal to "FERROCO" may be used.

Utility Conduits: Electric service shall be installed in conduit as indicated on the Plans or a min diameter SCH 40 PVC electrical conduit. Joints shall be push-on solvent-welded type and shall be installed with marker tape installed on the top of the conduit. Conduit shall be terminated as indicated on the Plans and shall be installed with an accepted manufacturer cap. Conduit to be installed w/ wire included. All wire to conform to NEC and State and Local codes.

Manhole Chamber: The pump chamber shall be water-tight, pre-cast concrete manhole with booted pipe connections.

Pump Chamber Appurtenances: A double rail pump lift system with brass/bronze castings, top guide rail bracket, wall stand-off brackets, and rail foot. Rails to be 1/4" stainless steel. System to be for 2" discharge/disconnect. Provide stainless steel lifting chains. System to be Goulds Pump Simplex System, Campbell Manufacturing Disconnect System, or approved equal.

Pump: Shall be a submersible, effluent type pump with a minimum capacity of 20 gallons per minute against a total head of 25 feet. Pump shall be of cast iron construction with a stainless steel impeller. The pump motor shall be a non-hazardous, 110 volt, 1 phase, 1/2 HP. The pump shall be ABS "Schwenger" model SE4V, GOULDS 3885-WE Series, Model WE05H, or approved equal.

Control Panel: Shall be a Simplex NEMA 4X panel. Panel to be single phase, 60 HZ, 230 volt. Shall include through door mounted H-0-A switch and run light. Control panel shall be equipped with a visual and audible alarm for high water and low water. Switches shall be mercury activated float type. One switch for each function shall be installed: pump on, pump off, high water alarm, low water alarm. Control panel also to include cycle counter. Panel shall be Goulds Pumps "A" Series Electrical Control Panel, Ohio Electrical Control, Inc., "Cougar" Series Control Panel, or approved equal.

Rigid Styrofoam Insulation: Shall be 2 inch thick "Blue Board" with tongue and groove edges manufactured by Dow Industries or equivalent.

Cast-In-Place Grit Chamber: Grit chamber shall be cast into existing concrete slab. Saw cut existing slab and dowel and grout reinforcing steel as indicated on the Detail. Existing concrete drainage trough in garage drainage into new otherwise shaped to appropriate grade to provide positive drainage into new grit chamber. Install fiberglass grate per manufacturers instruction.

Capping of Existing Pipes: Existing sewer and drainage pipes shall be capped with cast-in-place concrete or other suitable means.

Testing

Once the entire sewer system has been installed it shall be pressure tested by the Contractor. The gravity and Force Main shall be tested in accordance with E.P.A. Small Scale Wastewater Treatment and Disposal Rules, 1996, Chapter 1, Appendix I-A, Section I-A-02 and Section I-A-04 respectively.

ALL DETAILS NOT TO SCALE



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PROJECT NAME:	ISLAND POND STATE HIGHWAY GARAGE	PLOT DATE:	01/22/2002
PROJECT NUMBER:	01-0120	DRAWN BY:	PCJ
FILE NAME:	01-01201.dwt.dgn	CHECKED BY:	JMS
PROJECT LEADER:	CH	SHEET	4 OF 4
DESIGNED BY:	JMS		
CLD REFERENCE NO.:	01-0120		