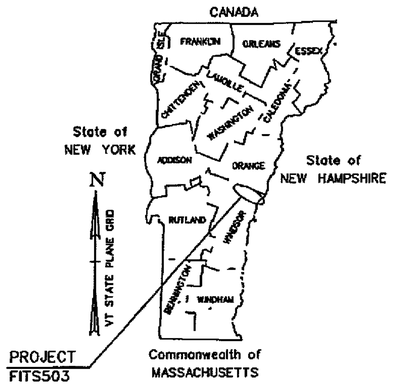
STATE OF VERMONT
AGENCY OF TRANSPORTATION

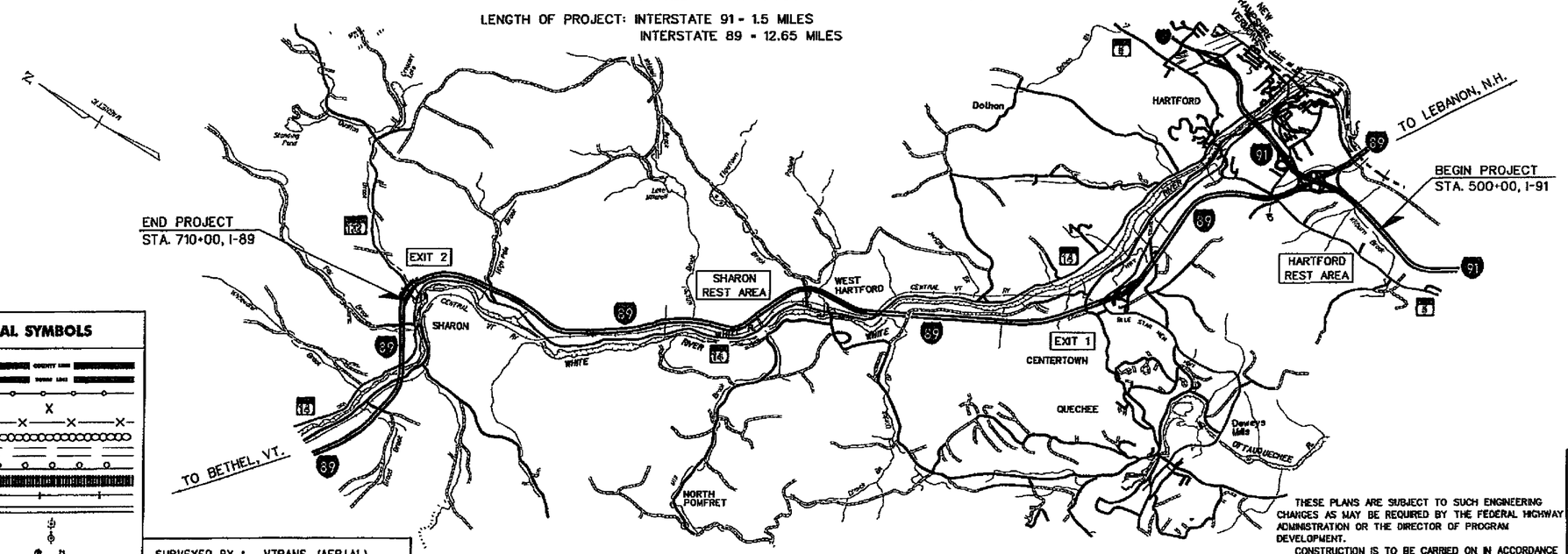


PROPOSED IMPROVEMENT
FIBER OPTIC NETWORK INFRASTRUCTURE PROJECT
TOWNS OF HARTFORD & SHARON
COUNTY OF WINDSOR
I-89 FIBER OPTIC NETWORK DESIGN - PHASE 1

PROJECT LOCATION: I-91 FROM THE HARTFORD REST AREA NORTH TO I-89, AND NORTH ON I-89 TO THE TOWN OF SHARON (EXIT 2)

PROJECT DESCRIPTION: WORK TO BE PERFORMED UNDER THIS CONTRACT INCLUDES INSTALLATION OF 6-DUCT CONDUIT BANK, ONE FIBER OPTIC CABLE, 4000 LF OF DIRECTIONAL DRILLING, INSTALLATION OF HANDOLES AND SPLICE VAULTS, TRAFFIC MAINTENANCE AND ATTACHMENT OF TWO STEEL CONDUITS TO 1050 LF BRIDGE.

LENGTH OF PROJECT: INTERSTATE 91 - 1.5 MILES
INTERSTATE 89 - 12.65 MILES



PLAN

SCALE 1" = 4000'-0"
4000 0 4000

CONVENTIONAL SYMBOLS

COUNTY LINE	
TOWN LINE	
LIMITS OF ACCESS	
POINT OF ACCESS	X
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	SR SR SR
TOP OF CUT	
TOE OF SLOPE	

SURVEYED BY : VTRANS (AERIAL)
SURVEYED DATE : UNKNOWN

DATUM
VERTICAL UNKNOWN
HORIZONTAL NAD 1983

THESE PLANS ARE SUBJECT TO SUCH ENGINEERING CHANGES AS MAY BE REQUIRED BY THE FEDERAL HIGHWAY ADMINISTRATION OR THE DIRECTOR OF PROGRAM DEVELOPMENT.

CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2006, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JUNE 15, 2006 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATOR
APPROVED Peg L Thump DATE 10/18/10

DIRECTOR OF OPERATIONS
APPROVED [signature] DATE 9/27/10

PROJECT MANAGER : MARK GERRISH

PROJECT NAME : HARTFORD SHARON
PROJECT NUMBER : FITS503

SHEET 1 OF 70 SHEETS

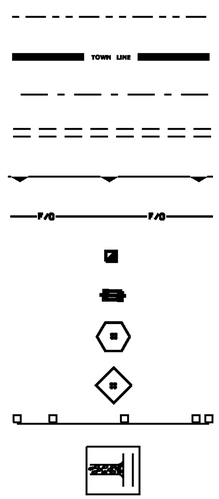
INDEX OF SHEETS

1	TITLE SHEET
2	INDEX, LEGEND & ABBREVIATIONS
3 - 4	QUANTITY SHEETS
5	GENERAL NOTES
6 - 7	GENERAL PROJECT NOTES
8	CONSTRUCTION NOTES
9	ACTION ITEM NOTES
10	KEY PLAN
11 - 24	FIBER OPTIC LAYOUT PLANS
	UTILITY PLANS & BORE PLANS
25	HARTFORD REST AREA
26	I-89/I-91 INTERCHANGE
27	I-89 OVER VT. 5
28	EXIT 1 OFF-RAMP
29	EXIT 1 ON-RAMP
30	SHARON REST AREA
31	SHARON REST AREA EXIT RAMP
32	EXIT 2
33	I-89 OVER VT. 132
34	FIBER OPTIC REEL CALCULATIONS
35	RUNNINGLINE ROLL-UP
36 - 40	CONSTRUCTION DETAILS
	UTILITY REFERENCE PLANS
41	HARTFORD REST AREA
42	SHARON REST AREA
	STRUCTURAL ATTACHMENT PLANS
43	BRIDGE 11N HANGER SYSTEM NOTES
44	BRIDGE 11N PLAN & ELEVATION
45	BRIDGE 11N FRAMING PLAN
46	BRIDGE 11N HANGER SYSTEM SECTIONS
47	PIPE SUPPORT DETAILS - ABUTMENT 2
48	PIPE SUPPORT DETAILS - ABUTMENT 4
	EPSC PLANS
49	EPSC NARRATIVE
50 - 63	EPSC LAYOUT PLANS
64 - 65	EPSC DETAILS
	TRAFFIC MANAGEMENT PLANS
66	TRAFFIC MANAGEMENT NOTES
67 - 69	TRAFFIC MANAGEMENT DETAILS
70	TRAFFIC MANAGEMENT SIGN SUMMARY

VAOT STANDARD SHEETS

E-100	01-02-2004
E-102A	05-01-2004
E-103	03-01-2004
E-106	03-01-2004
E-107	06-30-2003
E-108	06-08-2009
E-110	08-08-1995
E-112	01-23-1997

LEGEND



STATE LINE

TOWN LINE

EXISTING RIGHT-OF-WAY LINE

EXISTING CULVERT

EXISTING LIMIT OF WETLAND

PROPOSED COMMUNICATION CONDUIT

PROPOSED HANDHOLE

PROPOSED SPLICE VAULT

CONSTRUCTION NOTE

ACTION ITEM

PROPOSED SILT FENCE

STABILIZED CONSTRUCTION ENTRANCE

ABBREVIATONS

AHJ	AUTHORITIES HAVING JURISDICTION
BFG	BELOW FINISH GRADE
BSP	BLACK STEEL PIPE
CRM	CABLE ROUTE MARKERS
EMS	ELECTRONIC MARKING SYSTEM
EOP	EDGE OF PAVEMENT
FOC	FIBER OPTIC CABLE
HDD	HORIZONTAL DIRECTIONAL DRILLING
HDPE	HIGH DENSITY POLYETHYLENE
HH	HANDHOLE
NB	NORTHBOUND
NEC	NATIONAL ELECTRIC CODE
NTS	NOT TO SCALE
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
PVC	POLYVINYL CHLORIDE
RA	REST AREA
ROW	RIGHT-OF-WAY
SB	SOUTHBOUND
SV	SPLICE VAULT
STA	STATION
UG	UNDERGROUND
VTRANS	VERMONT AGENCY OF TRANSPORTATION

PROJECT NAME: HARTFORD SHARON
PROJECT NUMBER: FITS503

FILE NAME: z06e142INX.dgn
PROJECT LEADER: J. YOUNG
DESIGNED BY: J. DURANTE
INDEX, LEGEND & ABBREVIATIONS

PLOT DATE: 9/15/2010
DRAWN BY: S. GUNN
CHECKED BY: J. YOUNG
SHEET 2 OF 70

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 1

SUMMARY OF ESTIMATED QUANTITIES											TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
						ROADWAY	EROSION CONTROL	UTILITIES - BID ITEMS	RAILROAD - BID ITEMS	BRIDGE	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
										1	1		LS	STRUCTURAL STEEL	506.75				
										50	50		LF	REMOVING AND RESETTING FENCE	620.50				
										100	100		LF	REMOVE AND RESET GUARDRAIL	621.75				
										2440	2440		LF	SLEEVES FOR UTILITIES .	625.10				
						375					375		HR	UNIFORMED TRAFFIC OFFICERS	630.10				
						1					1		LS	FIELD OFFICE, ENGINEERS	631.10				
						1					1		LS	MOBILIZATION/DEMOBILIZATION	635.11				
							150				150		SY	GEOTEXTILE FOR SILT FENCE	649.51				
							10				10		LB	SEED, WINTER RYE	651.17				
							1				1		LS	EPSC PLAN	652.10				
							90				90		HR	MONITORING EPSC PLAN	652.20				
							1				1		LU	MAINTENANCE OF EPSC PLAN (N.A.B.I)	652.30				
							7550				7550		SY	TEMPORARY EROSION MATTING	653.20				
							10				10		CY	TEMPORARY STONE CHECK DAM, TYPE I	653.25				
							110				110		CY	VEHICLE TRACKING PAD	653.35				
								8			8		EACH	SPECIAL PROVISION (FIBER OPTIC ACCEPTANCE TESTING)	900.620				
								165			165		EACH	SPECIAL PROVISION (FIBER OPTIC CABLE ROUTE MARKER)	900.620				
										424	424		EACH	SPECIAL PROVISION (FIELD DRILLING HOLES IN STRUCTURAL STEEL)	900.620				
								50			50		EACH	SPECIAL PROVISION (FURNISH AND INSTALL HANDHOLE)	900.620				
								4			4		EACH	SPECIAL PROVISION (FURNISH AND INSTALL SPLICE VAULT AND HANDHOLE)	900.620				
								8			8		EACH	SPECIAL PROVISION (FUSION SPLICE FIBER OPTIC CABLE END SPLICE)	900.620				
								132			132		EACH	SPECIAL PROVISION (TEST HOLES)	900.620				
								1624			1624		LF	SPECIAL PROVISION (ADDITIONAL SPIDER PLOW PRE-RIPPING)	900.640				
								5688			5688		LF	SPECIAL PROVISION (ADDITIONAL TRACTOR PLOW PRE-RIPPING)	900.640				
								500844			500844		LF	SPECIAL PROVISION (AIR TEST HDPE CONDUITS AND INSTALL MULE TAPE)	900.640				
								47399			47399		LF	SPECIAL PROVISION (CAT PLOW INSTALLATION OF HDPE INNER DUCT)	900.640				
								600			600		LF	SPECIAL PROVISION (CONCRETE ENCASEMENT OF CONDUITS OR DUCTS)	900.640				
							460				460		LF	SPECIAL PROVISION (EROSION SOCK, STRAW WATTLES)	900.640				
								79724			79724		LF	SPECIAL PROVISION (FIBER OPTIC CABLE)	900.640				
								3060			3060		LF	SPECIAL PROVISION (HORIZONTAL DIRECTIONAL DRILLING IN EARTH) (8" CASING PIPE)	900.640				
								973			973		LF	SPECIAL PROVISION (HORIZONTAL DIRECTIONAL DRILLING IN ROCK) (8" CASING PIPE)	900.640				
								150			150		LF	SPECIAL PROVISION (REMOVE AND RESTORE ASPHALT PAVING)	900.640				
								10828			10828		LF	SPECIAL PROVISION (SPIDER PLOW INSTALLATION OF HDPE INNER DUCT)	900.640				
								4573			4573		LF	SPECIAL PROVISION (TRENCH AND PLACE PVC CONDUITS IN EARTH)	900.640				
								3530			3530		LF	SPECIAL PROVISION (TRENCH AND PLACE STEEL PIPE CARRIERS IN EARTH)	900.640				
								4451			4451		LF	SPECIAL PROVISION (TRENCH AND PLACE STEEL PIPE CARRIERS IN ROCKY SOILS)	900.640				
								1			1		LS	SPECIAL PROVISION (EMS LOCATOR DEVICES)	900.645				
						1					1		LS	SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)	900.645				
								1			1		LU	SPECIAL PROVISION (END-TO-END FIBER OPTIC ACCEPTANCE TEST)	900.650				

PROJECT NAME: HARTFORD SHARON
PROJECT NUMBER: FITS503

FILE NAME: z06e142QNT.dgn
PROJECT LEADER: J. YOUNG
DESIGNED BY: J. DURANTE
QUANTITY SHEET #1

PLOT DATE: 10/01/2010
DRAWN BY: S. GUNN
CHECKED BY: J. YOUNG
SHEET 3 OF 70

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 2

SUMMARY OF ESTIMATED QUANTITIES																TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
							ROADWAY	EROSION CONTROL	UTILITIES - BID ITEMS	RAILROAD - BID ITEMS	BRIDGE					GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
									1							1		LU	SPECIAL PROVISION (HARTFORD REST AREAS) (NEW INFRASTRUCTURE WITH NEW AND EXISTING CONDUITS)	900.650				
										1						1		LU	SPECIAL PROVISION (MAINTENANCE OF RAILROAD TRAFFIC) (N.A.B.I.)	900.650				

PROJECT NAME:	HARTFORD SHARON
PROJECT NUMBER:	FITS503
FILE NAME: z06e142QNT.dgn	PLOT DATE: 10/01/2010
PROJECT LEADER: J. YOUNG	DRAWN BY: S. GUNN
DESIGNED BY: J. DURANTE	CHECKED BY: J. YOUNG
QUANTITY SHEET #2	SHEET 4 OF 70

STATE OF VERMONT
AGENCY OF TRANSPORTATION

GENERAL NOTES

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE AGENCY OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 2006, AND ITS LATEST REVISIONS.

2. THE ORTHOPHOTOS USED AS THE PLAN BACKGROUND WERE SUPPLIED BY THE AGENCY OF TRANSPORTATION.

3. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT SILTATION OR POLLUTION, ESPECIALLY THE DISCHARGE OF RAW CONCRETE, INTO ANY BROOK, STREAM OR RIVER.

4. ANY CONNECTIONS THAT ARE NOT DETAILED ON THE PLANS SHALL BE DETAILED BY THE FABRICATOR AND SUBMITTED TO THE ENGINEER FOR APPROVAL.

5. ALL WELDING SHALL CONFORM TO THE PROVISIONS OF VERMONT SPECIFICATION 506.10.

GENERAL CONSTRUCTION NOTES

1. THESE PLANS ARE INTENDED TO SERVE AS A CONSTRUCTION LAYOUT. DRAWINGS SHOULD NOT BE "SCALED". IN GENERAL, THE DETAILS ARE INTENDED TO SHOW THE END RESULT OF THE DESIGN, HOWEVER MINOR MODIFICATIONS MAY BE REQUIRED TO SUIT SPECIFIC SITE CONDITIONS, OR JOB SITE DIMENSIONS. SUCH MODIFICATIONS WILL BE EITHER COMPENSATED FOR UNDER THE UNIT PRICE ARRANGEMENT, OR WILL BE SUBJECT TO DECISIONS MADE BY THE OWNER'S REPRESENTATIVE AT THE SITE.

2. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS TO THEIR SATISFACTION AND WILL NOTIFY THE VTRANS RESIDENT ENGINEER ON ANY DISCREPANCIES PRIOR TO BEGINNING THE WORK.

3. CHANGES TO, ADDITIONS OR DELETIONS OF WORK SHALL BE BROUGHT TO THE ENGINEER PRIOR TO EXECUTION. THE ENGINEER WILL MAKE A DETERMINATION REGARDING THE REQUESTS AND WILL ISSUE WRITTEN INSTRUCTION TO THE CONTRACTOR BEFORE CHANGES ARE EXECUTED.

4. ALL WORK PERFORMED, AND MATERIALS INSTALLED IN THE EXECUTION OF THE WORK SHALL BE UNDERTAKEN IN STRICT ADHERENCE TO ALL APPLICABLE CODES, STANDARDS, REGULATIONS, AND ORDINANCES OF GOVERNMENTAL AGENCIES HAVING JURISDICTION AT THE WORK SITE.

5. THE CONTRACTOR SHALL SCHEDULE THE WORK IN A MANNER SO AS TO HAVE THE LEAST DISTURBANCE ON THE EXISTING UTILITIES AT THE WORK SITE INCLUDING INTERRUPTIONS TO ELECTRIC, TELEPHONE AND OTHER COMMUNICATIONS, GAS, SEWER, WATER, AND ANY OTHER UTILITY AT THE WORK SITE.

6. THE CONTRACTOR SHALL TAKE ALL-REASONABLE MEASURES TO MINIMIZE THE NOISE LEVELS ASSOCIATED WITH THE WORK AND WILL SCHEDULE WORK SO AS TO MINIMIZE THE EFFECTS OF THE NOISE ON THE LOCAL INHABITANTS.

7. AT THE END OF EACH WORK PERIOD, THE CONTRACTOR WILL MAKE REASONABLE EFFORTS TO KEEP THE WORK AREA CLEAN AND FREE OF CONSTRUCTION DEBRIS, RUBBISH, SPOILS, TRASH, AND OTHER FOREIGN MATERIALS. ALL SUCH RUBBISH, DEBRIS AND LIKE MATERIALS SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL ORDINANCES, RULES AND REGULATIONS OF THE JURISDICTIONAL AUTHORITY, INCLUDING ENVIRONMENTAL REGULATIONS.

8. THE CONTRACTOR SHALL SUPERVISE AND EXECUTE THE WORK USING THE HIGHEST QUALITY CONSTRUCTION SKILLS AND ATTENTION TO DETAIL. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR, AND HAVE CONTROL OVER THE CONSTRUCTION MEANS METHODS, TECHNOLOGIES, SEQUENCES, AND PROCEDURES.

9. NO TRENCHES SHALL REMAIN OPEN DURING NON-WORK PERIODS. ALL EXCAVATIONS SHALL BE FILLED AT THE END OF WORK SHIFT REGARDLESS OF PROGRESS OF THE WORK.

10. NO TRENCHES SHALL REMAIN OPEN DURING CONSTRUCTION PERIODS WITHOUT CONSTRUCTION FENCING AND OTHER REQUIRED WARNING DEVICES THAT MAY INCLUDE CONES, FLASHING BEACONS, AND WARNING TAPE CORDONING OFF THE CONSTRUCTION AREA.

11. IF SNOW PLOWING OPERATIONS OR WINTER MAINTENANCE IS TAKING PLACE IN THE PROJECT AREA, VTRANS DISTRICT 4 OFFICE MUST BE CONTACTED PRIOR TO THE START OF ANY CONSTRUCTION DURING THAT TIME PERIOD.

SITE WORK GENERAL NOTES

1. CALL BEFORE YOU DIG NOTIFICATIONS AND FOLLOW-UP.

2. REMOVE DEBRIS IN ACCORDANCE WITH LOCAL ORDINANCES.

CONSTRUCTION SAFETY PLAN NOTES

1. PRE-CONSTRUCTION DAILY SAFETY MEETINGS - TAILGATE SAFETY INSTRUCTION

   a. EMPLOYEE IN CHARGE

   b. MOVE WORK SITE DURING SHIFT

PROJECT NAME:	HARTFORD SHARON		
PROJECT NUMBER:	FITS503		
FILE NAME:	z02848471GNT.dgn	PLOT DATE:	10/1/2010
PROJECT LEADER:	J. YOUNG	DRAWN BY:	S. GUNN
DESIGNED BY:	J. WILSON	CHECKED BY:	J. YOUNG
GENERAL NOTES SHEET #1		SHEET 5	OF 70

GENERAL PROJECT NOTES:

1. PRIOR TO THE START OF WORK, CONFORM TO ALL OF THE REQUIREMENTS WITH REGARD TO UTILITY NOTIFICATIONS AND REQUIRED SUBMITTALS FOR THE MAINTENANCE AND PROTECTION OF TRAFFIC.

2. "DIG SAFE" SHALL BE NOTIFIED AT 888-344-7233 AT LEAST 72 HOURS PRIOR TO THE START OF ANY EXCAVATION ON THE PROJECT. CONTRACTOR IS RESPONSIBLE TO ALSO CONTACT VTRANS AND ANY TOWNSHIP/COUNTY WHOSE JURISDICTION THE WORK IS TO BE PERFORMED WITHIN.

3. PROVIDE EROSION PROTECTION, BALES OF HAY AND/OR SEDIMENTATION FENCE TO PROTECT WETLAND RESOURCES. BARRIERS ARE TO BE PLACED WITHIN 10'-0" FROM THE EOP OR AS SHOWN ON THE PLANS AND/OR AS REQUIRED BY SPECIFICATIONS OR DIRECTED BY VTRANS.

4. PEDESTRIAN AND VEHICLE ACCESS TO ABUTTING PROPERTIES SHALL BE MAINTAINED IN A SAFE CONDITION AT ALL TIMES. ANY CLOSURES OF SIDEWALKS OR OTHER MEANS OF PEDESTRIAN OR VEHICLE ACCESS SHALL REQUIRE PRIOR APPROVAL FROM VTRANS.

5. AREAS OUTSIDE THE LIMIT OF WORK THAT ARE DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AT NO ADDITIONAL COST TO VTRANS.

6. UTILITY INFORMATION SHOWN ON THE CONSTRUCTION PLANS IS FOR INFORMATIONAL PURPOSES ONLY AND SHALL BE VERIFIED IN THE FIELD. ALL DIMENSIONS AND ELEVATIONS SHALL BE FIELD CHECKED BEFORE PROCEEDING WITH NEW WORK. POTENTIAL UTILITIES CONFLICTS SHALL BE EXPOSED FOR VERIFICATION. ANY DISCREPANCIES OR CONFLICTS SHALL BE REPORTED TO VTRANS IMMEDIATELY.

7. IF REQUIRED FOR OPERATIONS, OVERHEAD UTILITY LINES SHALL BE RELOCATED BY THE UTILITY COMPANY AT NO ADDITIONAL COST TO VTRANS OR THE UTILITY COMPANY.

8. LOCATIONS OF EXISTING SIGNS, TREES, ETC ARE APPROXIMATE ONLY. EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD.

9. ALL CONSTRUCTION SHALL BE IN COMPLIANCE WITH ALL APPLICABLE VTRANS, NEC, AND OSHA GUIDELINES.

10. EQUIPMENT AND MATERIALS SHALL BE STORED AT LEAST 4 FEET BEHIND GUARDRAIL OR AT LEAST 30 FEET FROM THE EDGE OF TRAVEL, OR IN STORAGE AREAS APPROVED BY VTRANS AND/OR THE APPROPRIATE AUTHORITIES.

11. NO EQUIPMENT OR MATERIALS SHALL BE STORED ON SIDEWALK OR WITHIN WETLAND BUFFER ZONES (WITHIN 100 FEET OF THE EDGE OF THE WETLAND RESOURCES AREAS) AT ANY TIME.

12. EXCAVATED MATERIAL SHALL BE STORED AWAY FROM THE PAVED ROADWAY WHENEVER POSSIBLE. ALL SPILLED MATERIAL SHALL BE REMOVED. REMOVAL OF ALL EXCESS MATERIALS SHALL BE PROPERLY DISPOSED.

13. EXISTING SIGNS, DELINEATORS, GUARDRAILS, MARKERS, FENCES,TREES, SHRUBS, WALKS, STEPS, ETC. THAT ARE DISTURBED DURING CONSTRUCTION SHALL BE REPLACED OR RESTORED TO THEIR ORIGINAL CONDITION OR TO THE SATISFACTION OF THE VERMONT AGENCY OF TRANSPORTATION AND/OR THE APPROPRIATE AUTHORITIES.

14. APPROPRIATE ACTIONS SHALL BE TAKEN TO PREVENT SEDIMENT, DEBRIS, AND ALL POLLUTANTS FROM ENTERING ANY STORM DRAINAGE SYSTEM DURING ALL DEMOLITION, EXCAVATION, TRENCHING, BORING, GRADING, OR OTHER CONSTRUCTION OPERATIONS THAT ARE PART OF THE PROJECT. THE METHOD OF PREVENTING SOILS FROM ENTERING THE DRAINAGE SYSTEM SHALL BE APPROVED BY THE ENGINEER. SOIL THAT ENTERS A DRAINAGE SYSTEM OR EXISTING INFRASTRUCTURE FROM CONSTRUCTION OPERATIONS SHALL BE CLEANED OUT AT NO ADDITIONAL COST TO VTRANS.

15. ALL RULES AND REGULATIONS OF ALL AUTHORITIES HAVING JURISDICTION OVER CONSTRUCTION AREA SHALL BE ADHERED TO.

16. EACH 1-1/4" CONDUIT SHALL CONTAIN A PULL STRING BETWEEN HANDHOLE/MANHOLE LOCATIONS. THE PULL STRING SHALL BE OF SUFFICIENT TACTILE STRENGTH TO PULL AND INSTALL A TYPICAL 288 STRAND, SINGLE MODE, DOUBLE JACKETED, FOC.

17. FIBER OPTIC CABLE WARNING SIGNS SHALL BE INSTALLED AT LINE OF SIGHT OR AT 1500 FT INTERVALS, AT EACH HANDHOLE LOCATION, AND ON EACH SIDE OF BRIDGE CROSSING, DIRECTIONAL DRILLS, RIVERS, ROADWAYS, RAILROADS, AND HIGHWAY TRANSITIONS, ETC.

GENERAL PROJECT NOTES (CONTINUED):

18. THE CONTRACT DOCUMENT PLANS ARE PROVIDED WITH EMBEDDED AERIAL ORTHOPHOTOS FOR BIDDING PURPOSES. THE CONTRACTOR SHALL NOT COPY OR DISTRIBUTE THE AERIAL ORTHOPHOTOS WITHOUT THE CONSENT OF VTRANS.

19. THE PROJECT'S HIGHWAY AERIAL PHOTOS WERE PROVIDED BY VTRANS AND PROJECT SURVEY CONDUCTED BY VTRANS (AERIAL).

20. ALL EMERGENCY HIGHWAY CROSSOVERS SHALL REQUIRE THE REMOVAL AND REPLACEMENT OF EXISTING ASPHALT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPLACEMENT AND RESTORATION OF CROSSOVERS TO THEIR ORIGINAL CONDITION AND TO THE SATISFACTION OF THE VERMONT AGENCY OF TRANSPORTATION AND/OR THE APPROPRIATE AHJ.

21. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE RUNNING LINE CONDUITS TO BE INSTALLED CONSISTENTLY AS TWO (1-1/4") CONDUITS WIDE BY THREE (1-1/4") CONDUITS DEEP, UNLESS OTHERWISE SPECIFIED. THE CONTRACTOR SHALL ENSURE THE CONDUITS ARE INSTALLED WITHOUT ANY HELICAL WRAPS OR LINEAR DISTORTIONS. ANY METHODS USED FOR THE SECURING OF CONDUITS DURING INSTALLATION SHALL BE SUBMITTED TO THE ENGINEER AND VTRANS FOR APPROVAL.

22. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF THE CONDUIT RUNNING LINE AT A MINIMUM INSTALLATION DEPTH OF 42" TO THE TOP OF CONDUITS 1 AND 2. ANY DEVIATIONS ABOVE THE MINIMUM REQUIRED INSTALLATION DEPTH SHALL BE SUBMITTED TO THE ENGINEER AND VTRANS FOR APPROVAL.

23. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF THE CONDUIT RUNNING LINE AT A MAXIMUM OF 14FT OFF THE CENTERLINE OF THE ROADWAY'S OUTER MOST PAVEMENT MARKING, UNLESS NOTED OTHERWISE.

24. RUNNING LINE CONSTRUCTION METHODS AND LOCATIONS ARE APPROXIMATE. CONSTRUCTION METHODS ARE SUBJECT TO CHANGE BASED ON FIELD CONDITIONS. ALL CHANGES SHALL BE EXPRESSED TO VTRANS AND/OR THE ENGINEER PRIOR TO THE START OF ANY ADDITIONAL WORK. CHANGES IN WORK WILL NOT BE UNDERTAKEN UNTIL COMPLETELY DOCUMENTED FOR APPROVAL BY VTRANS.

25. HANDHOLE, SPLICE VAULTS, AND SPLICE LOCATIONS AND QUANTITIES ARE SUBJECT TO CHANGE BASED ON THE FIELD CONDITIONS. ALL CHANGES SHALL BE EXPRESSED TO VTRANS AND/OR THE ENGINEER, PRIOR TO THE START OF ANY ADDITIONAL WORK. CHANGES IN WORK WILL NOT BE UNDERTAKEN UNTIL COMPLETELY DOCUMENTED FOR APPROVAL BY VTRANS.

26. HANDHOLE, SPLICE VAULTS, AND SPLICE LOCATIONS ARE APPROXIMATE. CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL SPLICE LOCATIONS PRIOR TO FIBER OPTIC INSTALLATION. LOCATIONS VARIANCE IS TO BE APPROVED BY THE ENGINEER PRIOR TO THE INSTALLATION OF THE HANDHOLE, CONDUIT, AND FIBER OPTIC CABLE.

27. ALL SPLICE VAULT LOCATIONS WILL CONTAIN ONE 4FT X 4FT X 6FT PRECAST CONCRETE STRUCTURE SPLICE VAULT, AND ONE 4FT X 6FT X 3FT OPEN BOTTOM HANDHOLE. BOTH THE HANDHOLE AND SPLICE VAULT WILL BE INSTALLED TO FINISH GRADE WITH THE APPROVED H-20 LOAD RATED LIDS, OR GREATER. THE SPLICE VAULT LIDS SHALL BE LOCKABLE AND MADE OF DIAMOND PLATE STEEL. THE SPLICE VAULT STRUCTURE WILL FURNISH ONLY CONDUITS 1 AND 2, AT A DEPTH OF 60" WHILE THE HANDHOLE WILL FURNISH CONDUITS 3, 4, 5, AND 6 ALONG THE RUNNING LINE AT A DEPTH OF 36". THE CONTRACTOR IS RESPONSIBLE FOR THE CONDUIT COLORED COORDINATION AND CONSISTENCY ON THE ENTIRE RUNNING LINE, PROVIDED WITHIN THE CONTRACT DOCUMENTS.

28. ALL CONDUITS HOUSING CABLES SHALL BE SEALED WITH FIBER OPTIC GROMMET, AS APPROVED BY THE ENGINEER. ALL OPEN ENDS OF CONDUITS SHALL BE PLUGGED WITH PROPER EQUIPMENT, AS APPROVED BY THE ENGINEER. THE USE OF TAPE TO SEAL THE ENDS OF OPEN CONDUITS IS NOT PERMITTED.

29. ALL HANDHOLE PENETRATION LOCATIONS SHALL BE SEALED WITH APPROVED MANUFACTURER'S ENTRY SEALANT.

30. ALL HANDHOLES WILL REQUIRE: GEOTEXTILE MATTING, ¾" STONE AT MINIMUM DEPTH OF 8FT, A LAYER OF ½" WIRE MESH, SEALANTS AT CONDUIT PENETRATIONS, ALL EMPTY CONDUITS TO BE PLUGGED, CABLE GROMMETS FOR CONDUITS IN USE, AND AN EMS SENSOR PLACED ABOVE THE LID. THE CONTRACTOR IS RESPONSIBLE TO SUBMIT MATERIAL DATA SHEETS FOR ALL MATERIALS USED, TO THE ENGINEER FOR APPROVAL.

GENERAL PROJECT NOTES (CONTINUED):

31. EACH HANDHOLE INSTALLATION LOCATION WILL REQUIRE ONE 3FT X 5FT X 3FT HANDHOLE AND ONE 4FT X 6FT X 3FT HANDHOLE, UNLESS OTHERWISE NOTED. EACH HANDHOLE WILL HAVE TWO 4" X 4" KNOCKOUTS PRE-CUT FOR THE PENETRATION OF CONDUITS. EACH HANDHOLE LOCATION WILL REQUIRE 55FT OF TRENCHING FROM THE CENTERLINE OF MARKED HANDHOLE LOCATIONS. THE 3FT X 5FT X 3FT HANDHOLE WILL FURNISH CONDUITS 1 AND 2 WHILE THE 4FT X 6FT X 3FT HANDHOLE WILL FURNISH CONDUITS 3, 4, 5, AND 6 ALONG THE RUNNING LINE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONDUIT COLOR COORDINATION AND CONSISTENCY ALONG THE ENTIRE BACKBONE. FOR SPECIFIC INFORMATION ON THE HANDHOLE LOCATION DESIGN, REFERENCE DETAILS PROVIDED WITHIN THE CONTRACT DOCUMENTS.

32. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING, INSTALLING, AND PROGRAMMING THE ELECTRIC MARKING SYSTEM (EMS) TO IDENTIFY EACH HANDHOLE'S LOCATION BELOW GRADE. THE EMS SENSORS SHALL BE PROGRAMMED TO IDENTIFY EACH HANDHOLE INDIVIDUALLY WITH A HANDHOLE NUMBER AND DESCRIPTION. THE DESCRIPTION SHALL INCLUDE HANDHOLE CONDUIT NUMBERS AND CONTENTS.

33. STATIONING OF THE HANDHOLES ON THE CONTRACT DRAWINGS IS LOCATED ALONG THE CENTER OF THE RUNNIING LINE AND CENTER OF THE REQUIRED 55 FOOT TRENCH AT EACH HANDHOLE LACTION.

34. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL EFFORTS REQUIRED IN KEEPING ALL EXISTING AND NEW CONDUITS FREE OF DEBRIS. IF SEDIMENTS AND/OR DEBRIS ENTER THE CONDUITS DURING INSTALLATION IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REMOVE AND RESTORE CONDUITS TO THEIR ORIGINAL MANUFACTURING STATE, WITH NO ADDITIONAL COST INCURRED TO VTRANS.

35. FUSION WELD REEL ENDS, TRANSITIONS, AND BREAK POINTS OF HDPE CONDUITS. THE USE OF COMPRESSION FITTINGS IS NOT PERMITTED.

36. ALL CONDUITS WILL BE AIR TESTED FOR CONTINUITY AND INTEGRITY AFTER INSTALLATION AND PRIOR TO THE INSTALLATION OF ANY CABLES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUPPLYING A "SLUG" OR "MANDREL" DURING ENTIRE CONDUIT RUN FROM HANDHOLE/MANHOLE TO THE PROCEEDING MANHOLE/HANDHOLE. THE MANDREL SHALL BE SEGMENTED WITH AN OUTER DIAMETER EQUAL TO 90% OF THE INSIDE DIAMETER OF THE CONDUIT, AND SHALL BE 10" IN LENGTH. THE TEST SHALL BE CONSIDERED ACCEPTABLE WHEN THE MANDREL CAN PASS THROUGH THE ENTIRE CONDUIT RUNNING LINE. EACH CONDUIT WILL BE TESTED AND EACH CONDUIT RUN SHALL BE VERIFIED ALONG THE ENTIRE RUNNING LINE ROUTE.

37. TEMPORARY STORAGE LOCATIONS HAVE BEEN IDENTIFIED THROUGHOUT THE CONTRACT DRAWINGS. THESE LOCATIONS HAVE BEEN APPROVED FOR THE STORAGE OF MATERIALS AND EQUIPMENT. IF THE CONTRACTOR REQUIRES ANY ADDITIONAL EQUIPMENT OR MATERIALS STORAGE AREAS IT MUST BE APPROVED BY VTRANS AND/OR THE PROPER AUTHORITIES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO RESTORE ALL STORAGE LOCATIONS TO THEIR ORIGINAL STATE AND/OR THE SATISFACTION OF VTRANS AND/OR THE PROPER AUTHORITIES.

38. NON-METALLIC FIBER OPTIC CABLE WARNING TAPE SHALL BE PLACED 12" BELOW FINISH GRADE FOR ALL OPEN TRENCH AND PLOW OPERATIONS ALONG THE RUNNING LINE.

39. BITUMINOUS CONCRETE PAVEMENT SHALL BE SAW-CUT. NO JACK-HAMMERING WILL BE PERMITTED.

PROJECT NAME: HARTFORD SHARON
PROJECT NUMBER: FITS503

FILE NAME: z06e142GNT2.dgn
PROJECT LEADER: J. YOUNG
DESIGNED BY: J. DURANTE
GENERAL PROJECT NOTES (1 OF 2)

PLOT DATE: 10/1/2010
DRAWN BY: S. GUNN
CHECKED BY: J. YOUNG
SHEET 6 OF 70

GENERAL PROJECT NOTES (CONTINUED):

40. THE LOCATION AND SAFE CROSSING OF ALL UTILITIES, DRAINAGE, PIPING, ETC, SHALL BE FIELD VERIFIED. HAND DIG AND POT-HOLE WHERE REQUIRED, WHEN APPROVED BY VTRANS AND LOCAL GOVERNING AGENCIES.

41. WHEN POSSIBLE AND PRACTICAL, A MINIMUM 12" SEPARATION BETWEEN CONDUIT RUNNING LINE AND FOREIGN SUBSTRUCTURES SHALL BE MAINTAINED. ANY DEVIATIONS SHALL BE EXPRESSED TO THE ENGINEER, PRIOR TO THE START OF ANY ADDITIONAL WORK. CHANGES IN WORK WILL NOT BE UNDERTAKEN UNTIL COMPLETELY DOCUMENTED FOR APPROVAL BY VTRANS AND WILL BE COMPLETED FOR NO ADDITIONAL COST TO VTRANS.

42. WHEN CROSSING EXISTING UTILITIES, INCLUDING DRAINAGE PIPES, THE NEW INSTALLATION MUST MAINTAIN A MINIMUM INSTALLATION DEPTH OF 42" TO THE TOP OF CONDUITS 5 AND 6. IF THIS MINIMUM DEPTH CAN NOT BE ACHIEVED, THE CONDUITS MUST BE PLACED BELOW THE EXISTING UTILITY. ALTERNATE SUGGESTED REMEDIES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL. RUNNING LINE CONDUIT INSTALLATION DEPTH OF LESS THAN 42" WILL REQUIRE MECHANICAL PROTECTION BY EITHER A CONCRETE CAP OR TWO 4" STEEL PIPES. ALL SCENARIOS LESS THAN 42" SHALL BE EXPRESSED TO THE ENGINEER, PRIOR TO THE START OF ANY ADDITIONAL WORK. CHANGES TO WORK WILL NOT BE UNDERTAKEN UNTIL COMPLETELY DOCUMENTED AND APPROVED BY VTRANS AND WILL BE COMPLETED FOR NO ADDITIONAL COST TO VTRANS.

43. UNLESS OTHERWISE NOTED, ALL PVC SHALL BE SCHEDULE 40 PVC.

44. CONSTRUCTION AS-BUILT DRAWINGS SHALL BE MAINTAINED DURING THE ENTIRE CONSTRUCTION PROCESS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PRESENTATION OF A COMPLETE AS-BUILT SET, ON REPRODUCIBLE FULL-SIZE PAPER, WITHIN SEVEN DAYS OF THE COMPLETION OF WORK.

45. ALL TRENCHES AND EXCAVATIONS MUST BE BACK FILLED AND COMPACTED DAILY.

46. STEEL PLATES MAY BE REQUIRED ON TOP OF TRENCH LINES IF THE BACK FILL TRENCH IS NOT COMPLETED - AT OWNER'S REPRESENTATIVE'S DISCRETION.

47. CONSTRUCTION FENCING SHALL BE USED TO CORDON OFF UN-RESTORED TRENCH AND FURROWS.

48. THE CONTRACTOR SHALL INSTALL PREFABRICATED HEX-PAC, OR APPROVED EQUAL OF 6X1-1/4" PVC RIGID CONDUITS, WITH 2X3 ORIENTED SPACERS AND SUPPORT TO ENSURE THE LINEAR INSTALLATION OF ALL CONDUITS DURING TRADITIONAL TRENCH AND PLACE CONSTRUCTION.

49. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING THE FIBER OPTIC CABLE COIL IN ALL HANDHOLES, SPLICE VAULTS, REGENERATION HUTS, NODES, AND DATA CENTERS. CONTRACTOR SHALL USE VELCRO STRAPS TO SECURE FIBER OPTIC COILS NEATLY IN PLACE. ALL ADDITIONAL ITEMS REQUIRED FOR SECURING THE FIBER OPTIC CABLE COIL WITHIN HANDHOLES OR MANHOLES, MUST BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

50. THE CONTRACTOR SHALL SUPPLY ALL NECESSARY SWIVELS AND PULLING EYES TO ROUTE CABLES THROUGH HANDHOLES AND CABLE VAULTS.

51. THE CONTRACTOR SHALL CONDUCT FIBER OPTIC LOSS TESTS OF THE ENTIRE LENGTH OF CABLE, VIA THE APPROVED OTDR, TO DEMONSTRATE ALL FUSION SPLICE LOSSES ARE IN ACCORDANCE WITH THE ANSI/TIA-568-C.3 WITH A MAXIMUM SPLICE LOSS OF .3 dB ON A BIDIRECTIONAL AVERAGE.

PROJECT NAME:	HARTFORD SHARON
PROJECT NUMBER:	FITS503
FILE NAME: z06e142GNT3.dgn	PLOT DATE: 10/1/2010
PROJECT LEADER: J. YOUNG	DRAWN BY: S. GUNN
DESIGNED BY: J. DURANTE	CHECKED BY: J. YOUNG
GENERAL PROJECT NOTES (2 OF 2)	SHEET 7 OF 70

CONSTRUCTION NOTES:

1. DRAINAGE STRUCTURE AND/OR CULVERTS MAY HAVE INADEQUATE COVER. CONTRACTOR RESPONSIBLE FOR FIELD VERIFYING DEPTH OF COVER AT EACH STRUCTURE BY EXPOSING TOP OF PIPE PRIOR TO INSTALLATION.

2. DRAINAGE STRUCTURES AND/OR CULVERTS PARALLEL TO RUNNING LINE CONDUIT INSTALLATION. DRAINAGE INFRASTRUCTURE MAY HAVE INADEQUATE COVER. CONTRACTOR RESPONSIBLE FOR FIELD VERIFYING DEPTH OF COVER AT EACH STRUCTURE BY EXPOSING TOP OF THE PIPE PRIOR TO INSTALLATION.

3. THE EXISTING FIELD CONDITION, SLOPE GRADES, DRAINAGE STRUCTURES AND/OR CULVERTS CAUSES THE RUNNING LINE CONDUIT INSTALLATION TO BE WITHIN 14FT OFF THE CENTERLINE OF THE OUTERMOST PAVEMENT MARKINGS. THE CONTRACTOR IS RESPONSIBLE FOR ANY DISRUPTION TO EXISTING INFRASTRUCTURE AND WILL REPAIR OR REPLACE ANY ALTERATION OF EXISTING INFRASTRUCTURE AT NO COST TO VTRANS. FOR SPECIFIC INFORMATION ON DIVERTING THE RUNNING LINE CONDUITS AROUND EXISTING DRAINAGE STRUCTURES AND/OR CULVERT, REFERENCE THE DETAIL PROVIDED WITHIN THE CONTRACT DOCUMENTS.

4. BRIDGE CROSSING MAY HAVE INADEQUATE COVER. CONTRACTOR RESPONSIBLE FOR FIELD VERIFYING DEPTH OF COVER AT EACH STRUCTURE BY EXPOSING TOP OF BRIDGE STRUCTURE PRIOR TO INSTALLATION. BASED ON FIELD INVESTIGATIONS THE CONTRACTOR IS RESPONSIBLE FOR THE USE OF TWO 4" BLACK STEEL PIPE CARRIERS FOR PROTECTION OF CONDUITS AS NEEDED, UNLESS NOTED OTHERWISE.

5. ROCK OUTCROP AND/OR ROCK WALL MAY AFFECT THE INSTALLATION AND STRENGTH OF HDPE CONDUITS. THE CONTRACTOR IS REQUIRED TO TRENCH AND INSTALL TWO 4" BLACK GALVANIZED STEEL SCHEDULE 40 ENCASING PIPES. THE CONTRACTOR IS RESPONSIBLE FOR PLACING CONDUITS 1 AND 2 IN ONE STEEL PIPE WITH CONDUIT 3, 4, 5, AND 6 IN THE ADJACENT STEEL PIPE. FOR INFORMATION ON SPECIFIC INSTALLATION DETAILS, REFERENCE THE DETAILS PROVIDED WITHIN THE CONTRACT DOCUMENTS.

6. ROCK OUTCROP AND/OR ROCK WALL CAUSES THE RUNNING LINE CONDUIT INSTALLATION TO BE WITHIN 14FT OF THE CENTERLINE OF THE OUTERMOST PAVEMENT MARKINGS. THE CONTRACTOR IS RESPONSIBLE FOR ANY DEMOLITION OF ADJACENT SOILS AT NO COST TO VTRANS. FOR INFORMATION ON SPECIFIC INSTALLATION DETAILS ALONG ROCK OUTCROPS AND ROCK WALLS, REFERENCE THE DETAIL PROVIDED WITHIN THE CONTRACT DOCUMENTS.

7. CONDUIT TRANSITION THROUGH THE MEDIAN OF I-89 ROW. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING CABLE ROUTE MARKERS (CRM) AT THE START AND END OF TRANSITIONS FOR UTILITY IDENTIFICATION. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING COVER ON ANY CULVERTS, DRAIN STRUCTURES, AND EXISTING INFRASTRUCTURE IN THE FIELD PRIOR TO INSTALLATION. ANY DEVIATIONS IN THE TRANSITION DESIGN WILL NEED TO BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

8. EMERGENCY HIGHWAY CROSSOVER. THE CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL AND REPLACEMENT OF EXISTING ASPHALT TO THE ORIGINAL CONDITION.

9. SPLICE VAULT LOCATION. ALL SPLICE VAULT LOCATIONS WILL CONTAIN ONE 4FT X 4FT X 6FT CONCRETE STRUCTURE SPLICE VAULT AND ONE 4FT X 6FT X 3FT OPEN BOTTOM HANDHOLE. CONTRACTOR RESPONSIBLE FOR THE INSTALLATION AT FINISH GRADE AND ALL RESTORATION EFFORTS. THE SPLICE VAULT STRUCTURE WILL FURNISH ONLY CONDUITS 1 AND 2, WHILE THE HANDHOLE WILL FURNISH CONDUITS 3, 4, 5, AND 6. EACH FIBER OPTIC SPLICE VAULT LOCATION SHALL HAVE A 100FT FIBER OPTIC COIL FOR FUTURE FIBER SPLICING. CONTRACTOR RESPONSIBLE FOR SECURING THE FIBER OPTIC CABLE COIL IN THE HANDHOLE. CONTRACTOR SHALL USE VELCRO STRAPS TO SECURE FIBER OPTIC COILS NEATLY IN PLACE. IF ANY OTHER OR ADDITIONAL ITEM WILL BE USED FOR SECURING THE FIBER OPTIC CABLE COIL WITHIN THE HANDHOLE, IT MUST BE SUBMITTED TO THE ENGINEER FOR APPROVAL. THE CONTRACTOR IS RESPONSIBLE FOR THE CONDUIT COLORED COORDINATION AND CONSISTENCY ON THE ENTIRE BACKBONE. FOR SPECIFIC INFORMATION ON THE SPLICE VAULT LOCATION DESIGN, REFERENCE THE DETAIL PROVIDED WITHIN THE CONTRACT DOCUMENTS.

CONSTRUCTION NOTES (CONTINUED):

10. DUAL HANDHOLE SETUP WITH FIBER OPTIC SPARE COIL. THE FIBER AND SPARE FIBER OPTIC COIL WILL BE INSTALLED IN THE 3FT X 5FT X 3FT VTRANS HANDHOLE. HANDHOLE SHALL BE FURNISHED WITH A MINIMUM FIBER OPTIC CABLE COIL OF 50FT, UNLESS NOTED OTHERWISE. CONTRACTOR RESPONSIBLE FOR SECURING FIBER OPTIC CABLE IN HANDHOLE. CONTRACTOR SHALL USE VELCRO STRAPS TO SECURE FIBER OPTIC COILS NEATLY IN PLACE.

11. DUAL HANDHOLE SETUP WITH FIBER OPTIC SPLICE POINT. THE FIBER, SPLICE ENCLOSURE, AND SPARE FIBER OPTIC COIL WILL BE INSTALLED IN THE 3FT X 5FTX 3FT VTRANS HANDHOLE. HANDHOLE SHALL BE FURNISHED WITH A MINIMUM FIBER OPTIC CABLE COIL OF 50FT, FROM EACH CABLE END, UNLESS NOTED OTHERWISE. CONTRACTOR RESPONSIBLE FOR SECURING THE FIBER OPTIC CABLE COIL IN MANHOLE. CONTRACTOR SHALL USE VELCRO STRAPS TO SECURE FIBER OPTIC COIL NEATLY IN PLACE. IF ANY OTHER OR ADDITIONAL ITEMS WILL BE USED FOR SECURING THE FIBER OPTIC COIL WITHIN THE HANDHOLE, IT MUST BE SUBMITTED TO ENGINEER FOR APPROVAL.

12. BRIDGE ATTACHMENT STEEL PIPE CARRIERS SHALL PENETRATE EACH HANDHOLE. MAXCELL, OR AN APPROVED EQUAL INNER DUCT SHALL BE UTILIZED IN STEEL PIPE CARRIERS, BETWEEN THE HANDHOLES, ON EACH SIDE OF BRIDGE. DURING INSTALLATION THE CONTRACTOR SHALL KEEP THE STEEL PIPE CARRIERS AND RUNNING LINE AT 60" BELOW FINAL GRADE UNTIL THE PIPES EXIT OUTSIDE THE FINISH GRADE OF THE HILL, ALONG THE BRIDGE WALL.

13. SPLICE VAULT #2 IS LOCATED IN THE MEDIAN NORTHWEST OF THE NEW HAMPSHIRE BORDER. SPLICE VAULT #2 REQUIRES THE SAME EXCAVATION AND INSTALLATION REQUIREMENTS AS ALL OTHER SPLICE VAULTS WITH THE EXCEPTION OF FIBER OPTIC CABLE INSTALLATION. THIS WILL BE THE TERMINUS POINT FOR ALL CONDUITS NEAR THE NEW HAMPSHIRE BORDER. THE UNUSED CONDUIT PENETRATIONS ON THE SOUTHEAST SIDE OF THE MANHOLE AND HANDHOLE SHALL BE SEALED WITH AN APPROVED PENETRATION SEALANT. AN 18" CORRUGATED HDPE STORM DRAIN IS LOCATED UNDER THE HIGHWAY CROSSOVER; THE COVER IS UNKNOWN. THE STORM DRAIN PIPE IS LOCATED APPROXIMATELY 10FT FROM THE CENTER POINT OF THE SPLICE VAULT LOCATION TOWARD THE CENTER OF THE MEDIAN. THIS LOCATION IS APPROXIMATELY AT THE I-89 MILE POST 0.05. THE LOCATION OF THIS SPLICE VAULT IS APPROXIMATELY 15FT SOUTH OF THE "NO U-TURN" SIGN AND 18FT PERPENDICULAR TO THE NORTHBOUND EDGE OF TRAVEL WAY.

14. ALL DIRECTIONAL BORES STARTING AND/OR STOPPING AT HIGHWAY CROSSOVERS SHALL DISCHARGE OR ENTER THE GROUND AT THE APPROXIMATE CENTER OF HANDHOLE TRENCH WORK. THE MINIMUM REQUIREMENT FOR THE START AND/OR END POINT OF THE BORE IS 18FT PERPENDICULAR TO THE CENTERLINE OF THE OUTERMOST PAVEMENT MARKING AND 20FT PERPENDICULAR TO THE EDGE OF PAVEMENT OF THE EMERGENCY CROSSOVER.

15. SPLICE VAULT #3 SHALL INVOLVE THE SAME EXCAVTION AND INSTALLATION AS ALL OTHER SPLICE VAULT LOCATIONS WITH THE EXCEPTION OF ONE ADDITIONAL PENETRATION TO THE WALLS OF BOTH THE MANHOLE AND HANDHOLE. THE 4FT X 4FT X 6FT MANHOLE AND THE 4FT X 6FT X 3FT HANDHOLE WILL HAVE TWO PENETRATIONS FOR CONDUITS ON THE SOUTHEAST SIDE, WITH THE TYPICAL PENETRATIONS ON THE NORTHWEST SIDE. THE CONTRACTOR SHALL INSTALL THE CONDUITS FROM THE CAT PLOW TO SV#2 ON THE SOUTHEAST WALL OF THE HANDHOLE AND MANHOLE. FOR ADDITIONAL INFORMATION SEE ACTION ITEM #3.

PROJECT NAME: HARTFORD SHARON
PROJECT NUMBER: FITS503

FILE NAME: z06e142GNT4.dgn
PROJECT LEADER: J. YOUNG
DESIGNED BY: J. DURANTE
CONSTRUCTION NOTES

PLOT DATE: 10/1/2010
DRAWN BY: S. GUNN
CHECKED BY: J. YOUNG
SHEET 8 OF 70

ACTION ITEM NOTES:

1. THE I-91 NORTHBOUND (NB) HARTFORD REST AREA IS THE START OF THE PROJECT. THE NB HARTFORD REST AREA HAS BEEN PARTIALLY DEMOLISHED AND IS CURRENTLY CLOSED AND NOT IN USE. ANY SCHEDULED UPGRADES TO THIS SITE ARE UNKNOWN. THE I-91 NB HARTFORD REST AREA IS THE FUTURE LOCATION OF A VTRANS NETWORK REGENERATION SITE.

   THE NETWORK REGENERATION SITE SHALL BE A FENCED IN AREA APPROXIMATELY 85FT BY 150 FT, PROVIDING VTRANS WITH 4 TO 6 UNITS, APPROXIMATELY 10FT X 30FT IN SIZE. AN INDIVIDUAL BAY WILL BE USED AS A COMMUNICATIONS DATA CENTER WHERE THE FIBER OPTIC NETWORKS WILL TERMINATE/JOIN, PROVIDING A NETWORK NODE LOCATION FOR VTRANS.

   THE CONTRACTOR IS RESPONISBLE FOR UTILIZING AN EXISTING MANHOLE AT THE I-91 NB REST AREA AND AN EXISTING 6" HDPE BORE CASING BETWEEN THE I-91 NORTHBOUND AND SOUTHBOUND (SB) HARTFORD REST AREA. A MANHOLE AT THE I-91 NB REST AREA WAS FOUND TO BE FILLED WITH WATER DURING FIELD INGVESTIGATIONS. IT IS THE CONTRACTORS RESPONISBILITY TO LOCATE THIS MANHOLE, THE 6" HDPE BORE CASING, AND VERIFYING THE CONNECTION TO THE I-91 SB REST AREA. THE CONTRACTOR SHALL INSTALL 6 NEW MAXCESS, OR APPROVED EQUAL, INNER DUCTS. TWO OF THE INNER DUCTS SHALL BE INSTALLED WITHIN AN EXISTING 2" HDPE INNER DUCT LOCATED WITHIN THE EXISTING 6" BORE CASING TO SPLICE VAULT #1 AS SHOWN ON THE CONTRACT PLANS FOR USE BY VTRANS. THE CONTRACTOR SHALL ALSO INSTALL 4 INNER DUCTS IN THE EXISTING 6" HDPE BORE CASING TO SPLICE VAULT #1 AS SHOWN ON THE CONTRACT PLANS FOR USE BY OTHERS.

   THE CONTRACTOR IS RESPONSIBLE FOR SECURING 500FT OF SPARE FIBER OPTIC CABLE WITHIN THE EXISTING MANHOLE AND INSTALLING THE FIBER OPTIC WITHIN THE EXISTING 2" HDPE INNER DUCT. FOR ADDITIONAL INFORMATION REFER TO THE CONTRACT ROUTE LAYOUT PLANS.

2. THE I-91 SB HARTFORD REST AREA IS ANTICIPATED TO BE CLOSED AND UNDER CONSTRUCTION FOR IMPROVEMENTS; EXACT DATES HAVE NOT BEEN CONFIRMED. ALL FIBER OPTIC INFRASTRUCTURE LOCATIONS ARE APPROXIMATE AND FIELD VERIFICATION IS REQUIRED BY THE CONTRACTOR. PROPOSED REST AREA CONSTRUCTION AND UTILITY PLANS HAVE BEEN SUPPLIED BY VTRANS AND INCLUDED IN THE CONTRACT PLANS FOR REFERENCE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY INFORMATION AT THE REST AREA AND TO COORDINATE CONSTRUCTION ACTIVITIES WITH ANY OTHER CONSTRUCTION ACTIVITIES OR CONDITIONS AT THE REST AREA PRIOR TO BID AND CONSTRUCTION. THE CONTRACTOR SHALL INSTALL SPLICE VAULT #1 AT THIS REST AREA.

   THE SPLICE VAULT SHALL INTERCEPT THE EXISTING 6" HDPE BORE CASING AS SPECIFIED ON THE CONTRACT PLANS. THE CONTRACTOR SHALL INSTALL INNER DUCTS 1 AND 2 WITHIN THE 2" INNER DUCT INTO THE 4FT X 4FT X 6FT CONCRETE SPLICE VAULT. THE SPLICE VAULT SHALL HAVE A MINIMUM H-20 LOAD RATING, DIAMOND PLATE LOCKABLE LID, CLOSED BOTOM, AND SECURING HARDWARE FOR INSTALLATION OF THE REMAINING 4 INNER DUCTS IN THE ADJACENT 4FT X 6FTX 3FT. ADDITIONAL DUCT OR CARIERS MAY BE REQUIRED FOR THIS INSTALLATION. FOR ADDITIONAL INFORMATION REFER TO THE CONTRACT ROUTE LAYOUT PLANS.

3. THE CONTRACTOR SHALL INSTALL SIX 1-¼" HDPE DUCTS FROM SPLICE VAULT #2 (STA. 45+25) TO SPLICE VAULT #3 (STA. 5+00) WITH ONE INTERMEDIATE HANDHOLE AT STA. 24+00. THESE CONDUITS SHALL BE SIX DISSIMILAR COLORS, OR CONTAIN DIFFERENT MARKINGS THAN THE DUCTS INSTALLED ON THE RUNNING LINE FOR THE ENTIRE PROJECT. THE CONTRACTOR IS NOT RESPONSIBLE FOR THE INSTALLATION OF ANY FIBER OPTIC CABLES IN THESE CONDUITS. THE CONDUITS SHALL BE AIR TESTED AND HAVE MULE TAPE INSTALLED IN THE SAME FASHION AS ALL OTHER DUCTS ON THIS PROJECT. THE SOUTHEAST SIDE OF BOTH THE SPLICE VAULT MANHOLE AND HANDHOLE SHALL HAVE AN ADDITIONAL MANUFACTURER PENETRATION TO INCORPORATE THE INSTALLATION OF ADDITIONAL DUCTS TO SPLICE VAULT #2. AT THE HANDHOLE #3 LOCATION THE CONTRACTOR SHALL INSTALL DUCTS 1A AND 2A IN THE 3FT X 5FT X 3FT HANDHOLE AND THE REMAINING DUCTS 3A, 4A, 5A AND 6A IN THE THE 4FT X 6FT X 3FT HANDHOLE. FOR ADDITIONAL INFORMATION ON THE INSTALLATION OF SPLICE VAULT #3 REFERENCE CONSTRUCTION NOTE 15. FOR SPECIFIC INFORMATION ON THE SPLICE VAULT LOCATION DESIGN, REFERENCE THE DETAIL PROVIDED WITHIN THE CONTRACT DOCUMENTS.

4. APPROXIMATE LOCATIONS OF KNOWN EXISTING UTILITIES HAVE BEEN IDENTIFIED ON THE CONTRACT PLANS FOR THE VERMONT ROUTE 5 BORE CROSSING. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CALL DIG SAFE AND VERIFY ALL FIELD CONDITIONS PRIOR TO THE START OF WORK.

5. SHARON REST AREA IS UNDERGOING RENOVATIONS. THE LOCATION OF THE PROPOSED FIBER OPTIC INFRASTRUCTURE IS APPROXIMATE AND FIELD VERIFICATION I S REQUIRED BY THE CONTRACTOR. REST AREA CONSTRUCTION AND UTILITY PLANS HAVE BEEN SUPPLIED BY VTRANS AND ARE INCLUDED IN THE CONTRACT PLANS FOR REFERENCE. THE CONTRACTOR IS RESPONSIBLE TO FIELD VERIFY THE REST AREA AND CONSTRUCTION PROGRESS OR CONDITIONS IN THE FIELD PRIOR TO BID AND CONSTRUCTION.

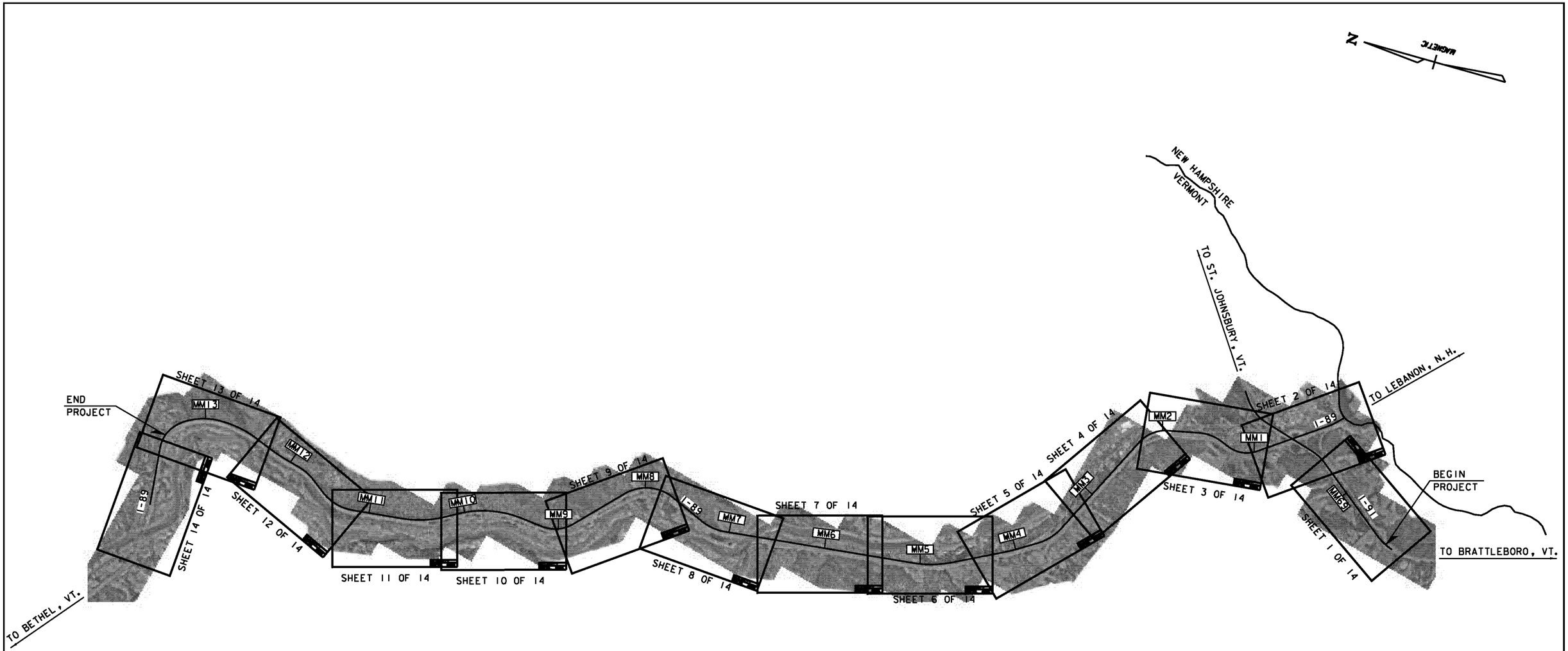
   THE SHARON REST AREA WILL INCORPORATE ONE 4FT X 4FT X 6FT CONCRETE SPLICE VAULT FOR CONDUITS 1 AND 2. THE SPLICE VAULT SHALL HAVE A MINIMUM LOAD RATING OF H-20, DIAMOND PLATE LOCKABLE LID, CLOSED BOTTOM, AND SECURING HARDWARE FOR CONDUITS 3,4,5 AND 6. THE SPLICE VAULT WILL BE LOCATED WITHIN A MAXIMUM OF 150FT FROM THE EXISTING UTILITY POLE FOUND AT THE SOUTH EAST CORNER OF THE SITE. THE FIBER OPTIC AND CONDUIT INFRASTRUCTURE WILL ENTER THE REST AREA BUILDING IN THE FUTURE.

   THE CONTRACTOR IS RESPONSIBLE FOR SECURING 500FT OF SPARE FIBER OPTIC CABLE WITHIN THE PROPOSED SPLICE VAULT. FOR ADDITIONAL INFORMATION REFER TO THE CONTRACT PLANS.

6. UNDERGROUND UTILITIES WERE OBSERVED IN THE FIELD ALONG THE NORTH SIDE OF VERMONT ROUTE 132 BETWEEN THE ON AND OFF RAMPS TO I-89. THE APPROXIMATE LOCATION IS SHOWN ON THE CONTRACT PLANS, BUT THE ACTUAL LOCATION IS UNKNOWN. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CALL DIG SAFE AND VERIFY ALL FIELD CONDITIONS PRIOR TO THE START OF WORK.

7. END OF PROJECT LOCATION. RUNNING LINE CONDUITS TO BE STUBBED OUT OF GROUND A MINIMUM OF 5FT. A MINIMUM 150FT OF FIBER OPTIC CABLE SHALL BE COILED AND STORED IN THE MEET ME HANDHOLE LOCATED AT THE BOTTOM OF THE POLE. THE COIL SHALL COMPENSATE FOR THE FIBER TO TRANSITION FROM THE HANDHOLE, OUT TO THE OPEN END OF CONDUIT, WITH A MINIMUM 50FT COIL REMAINING.

PROJECT NAME: HARTFORD SHARON	
PROJECT NUMBER: FITS503	
FILE NAME: z06e142CNT5.dgn	PLOT DATE: 10/1/2010
PROJECT LEADER: J. YOUNG	DRAWN BY: S. GUNN
DESIGNED BY: J. DURANTE	CHECKED BY: J. YOUNG
ACTION ITEM NOTES	SHEET 9 OF 70



KEY PLAN

SCALE 1" = 2500'-0"

2500 0 2500

PROJECT NAME:	HARTFORD SHARON
PROJECT NUMBER:	FITS503
FILE NAME: z06e142KEY.dgn	PLOT DATE: 9/16/2010
PROJECT LEADER: J. YOUNG	DRAWN BY: S. GUNN
DESIGNED BY: J. DURANTE	CHECKED BY: J. YOUNG
KEY PLAN - LAYOUT PLANS	SHEET 10 OF 70

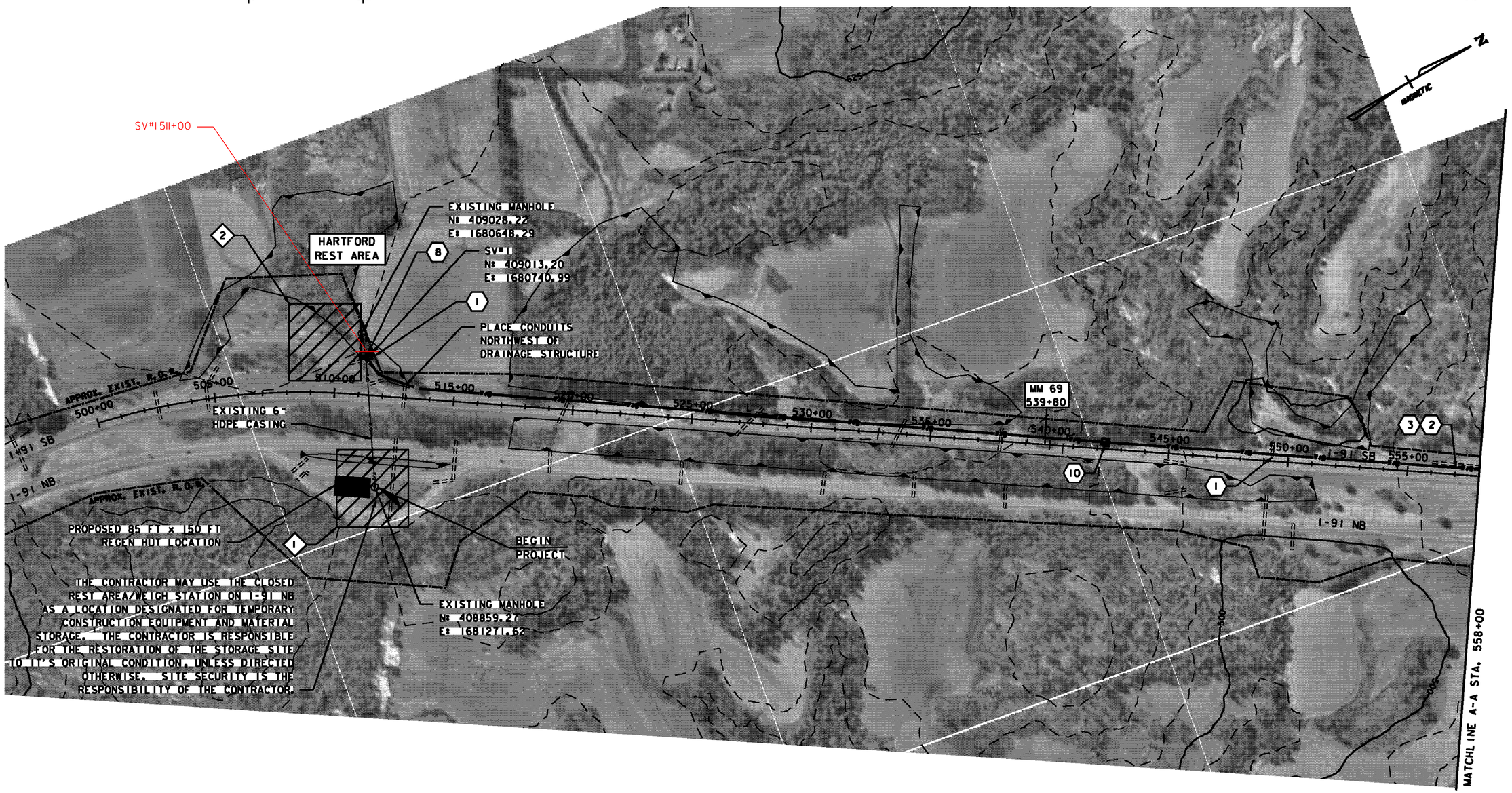
TBD

SV#1
511+~~20~~00

SPIDER PLOW

HH#1
542+33

SPIDER PLOW



LEGEND

- PROPOSED HANDHOLE
- PROPOSED SPLICE VAULT
- PROPOSED COMMUNICATION CONDUIT
- EXISTING LIMIT OF WETLAND
- CONSTRUCTION NOTE
- ACTION ITEM
- EXISTING MANHOLE

LAYOUT PLAN

SCALE 1" = 200'-0

200 0 200

TABULATION OF CONSTRUCTION METHODOLOGY

CAT TRACTOR PLOW:	0
SPIDER PLOW:	4600'
TRENCH AND PLACE DUCT OR CONDUIT AS NOTED ON PLAN DRAWINGS:	150'
DIRECTIONAL BORE - 8" BSP CASING:	0
HANDHOLES - 2 AT EACH LOCATION:	1
DIG TEST HOLES - LOCATE FOREIGN STRUCTURES:	3
BRIDGE ATTACHMENT:	0
INSTALL CABLE MARKERS:	10
PULL FIBER OPTIC CABLE INTO DUCT:	6000'
SPLICE VAULT & HANDHOLE SETUP:	1

PROJECT NAME: HARTFORD SHARON
PROJECT NUMBER: FITS503

FILE NAME: z06e142LA1.dgn
PROJECT LEADER: J. YOUNG
DESIGNED BY: J. DURANTE
LAYOUT PLAN (SHEET 1 OF 14)

PLOT DATE: 9/15/2010
DRAWN BY: S. GUNN
CHECKED BY: J. YOUNG
SHEET 11 OF 70

CAT PLOW | SV#3 45+25 | SV #3 43+82 | HH#4 42+05 | CAT PLOW | HH#3 24+00 | CAT PLOW | SV#2 ~~5+00~~ | SV #2 3+69

DIRECTIONAL DRILL/BORE

MATCHLINE B-B STA. 52+00

VT. 5

I-91 NB

I-91 SB

595+00

590+00

585+00

580+00

575+00

570+00

565+00

560+00

FIELD INVESTIGATIONS FOUND AN UNMARKED PIPE HEADING ACROSS I-89 NB. COVER UNKNOWN

DIRECTIONAL DRILL SHALL AVOID CULVERT

SV#3
N: 416493.86
E: 1682042.04

APPROX. EXIST. R.O.W.

I-89 NB

I-89 SB

50+00 45+00 40+00 35+00 30+00 25+00 20+00 15+00 10+00 5+00

STA. 30+96.65 I-89 NB =
STA. 582+15.00 I-91 SB

PLACE HANDHOLE BEHIND GUARDRAIL

AVOID CULVERT BY INSTALLING RUNNING LINE BETWEEN CULVERT & ROCK WALL

THROUGHOUT THE ENTIRE INTERCHANGE THE RUNNING LINE WILL BE WITHIN 14 FT OF THE CENTERLINE FROM THE OUTERMOST PAVEMENT MARKING

AT STA. 17+90 +/- THERE IS AN EXISTING OVERHEAD HIGHWAY SIGN FOUNDATION LOCATED 13FT OFF THE CENTERLINE OF THE OUTERMOST PAVEMENT MARKING. INSTALL RUNNING LINE AT 6 FT OFF THE CENTER OF THE EXISTING FOUNDATION.

INSTALL SPLICE VAULT #2 IN I-89 MEDIAN ROW, SOUTH OF THE EMERGENCY HIGHWAY CROSSOVER AT APPROX. STA. 5+00

RUNNING LINE REMAINS IN THE I-89 NB MEDIAN ROW

INSTALL THE CENTER OF SPLICE VAULT TRENCH AREA AT APPROX. 18" PERPENDICULAR TO THE CENTERLINE OF OUTERMOST PAVEMENT MARKING AND 15 FT PERPENDICULAR TO THE EXISTING "NO U-TURN" SIGN. THE CENTER OF EXCAVATION IS APPROX. 10 FT OFF THE CENTERLINE OF THE EXISTING 18" CORRUGATED DRAIN PIPE.

SV#2
N: 413903.97
E: 1685125.24

VERMONT
NEW HAMPSHIRE

CONNECTICUT RIVER

I-89 NB
I-89 SB

MATCHLINE A-A STA. 558+00

HH#4 42+05

TRENCH & PLACE APPROX. 2060'

HH#2 567+25

SPIDER PLOW

TABULATION OF CONSTRUCTION METHODOLOGY

CAT TRACTOR PLOW:	4242'
SPIDER PLOW:	910'
TRENCH AND PLACE DUCT OR CONDUIT AS NOTED ON PLAN DRAWINGS:	2060'
DIRECTIONAL BORE - 8" BSP CASING:	265'
HANDHOLES - 2 AT EACH LOCATION:	3
DIG TEST HOLES - LOCATE FOREIGN STRUCTURES:	14
BRIDGE ATTACHMENT:	0
INSTALL CABLE MARKERS:	14
PULL FIBER OPTIC CABLE INTO DUCT:	4185'
SPLICE VAULT & HANDHOLE SETUP:	2

LEGEND

- PROPOSED HANDHOLE
- PROPOSED SPLICE VAULT
- PROPOSED COMMUNICATION CONDUIT
- EXISTING LIMIT OF WETLAND
- CONSTRUCTION NOTE
- ACTION ITEM
- EXISTING MANHOLE

LAYOUT PLAN

SCALE 1" = 200'-0

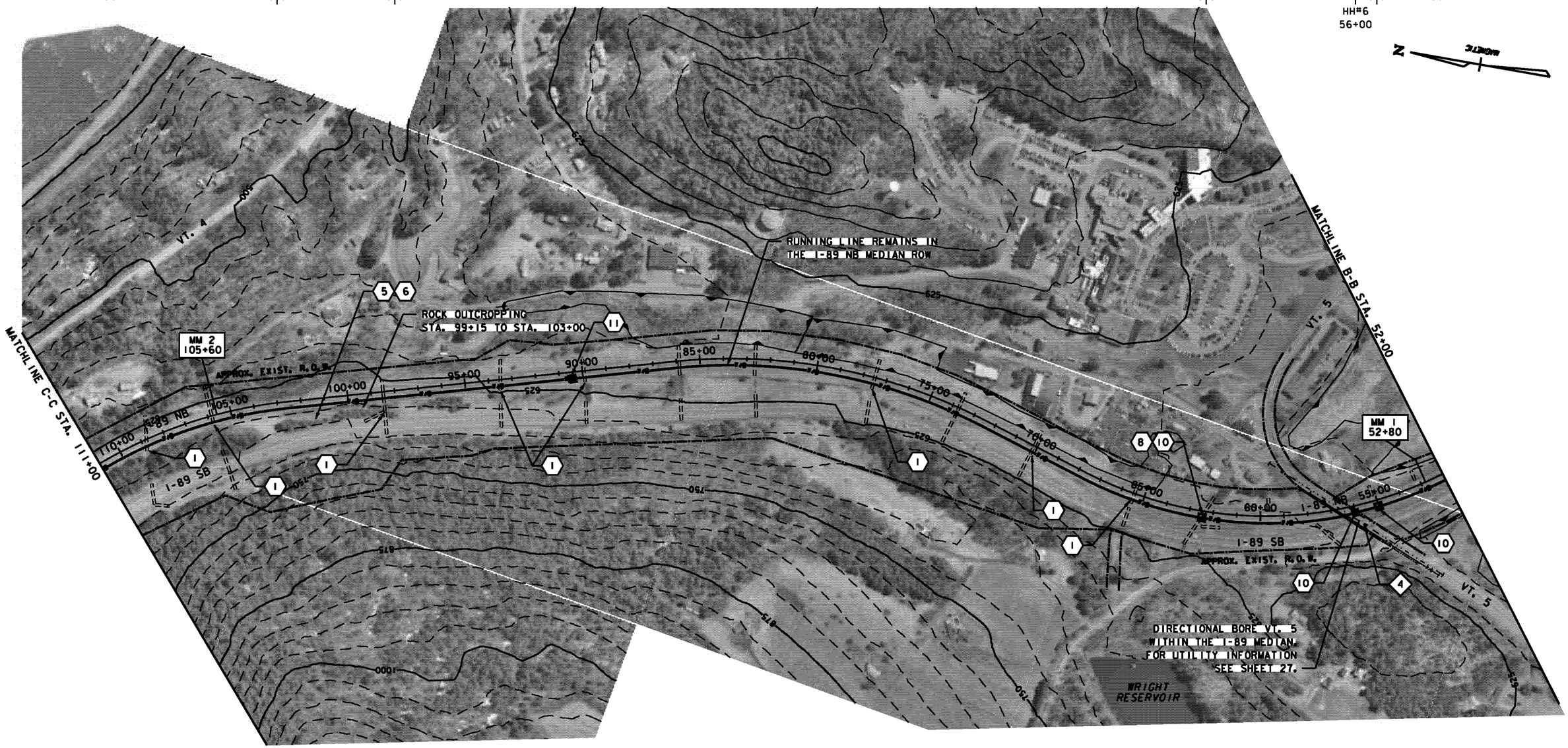
200 0 200

PROJECT NAME: HARTFORD SHARON
PROJECT NUMBER: FITS503

FILE NAME: z06e142LA2.dgn
PROJECT LEADER: J. YOUNG
DESIGNED BY: J. DURANTE
LAYOUT PLAN (SHEET 2 OF 14)

PLOT DATE: 9/15/2010
DRAWN BY: S. GUNN
CHECKED BY: J. YOUNG
SHEET 12 OF 70

CAT PLOW | 103+00 | TRENCH | 98+00 | CAT PLOW | HH#8S 90+45 | CAT PLOW | HH#7 62+30 | DIRECTIONAL DRILL/BORE | HH#5 55+00 | CAT PLOW | HH#6 56+00



LEGEND

- PROPOSED HANDHOLE
- PROPOSED SPLICE VAULT
- PROPOSED COMMUNICATION CONDUIT
- EXISTING LIMIT OF WETLAND
- CONSTRUCTION NOTE
- ACTION ITEM
- EXISTING MANHOLE

LAYOUT PLAN

SCALE 1" = 200'-0

200 0 200

TABULATION OF CONSTRUCTION METHODOLOGY

CAT TRACTOR PLOW:	3840'
SPIDER PLOW:	0
TRENCH AND PLACE DUCT OR CONDUIT AS NOTED ON PLAN DRAWINGS:	500'
DIRECTIONAL BORE - 8" BSP CASING:	675'
HANDHOLES - 2 AT EACH LOCATION:	4
DIG TEST HOLES - LOCATE FOREIGN STRUCTURES:	8
BRIDGE ATTACHMENT:	0
INSTALL CABLE MARKERS:	11
PULL FIBER OPTIC CABLE INTO DUCT:	6175'
SPLICE VAULT & HANDHOLE SETUP:	0

PROJECT NAME: HARTFORD SHARON
PROJECT NUMBER: FITS503

FILE NAME: z06e142LA3.dgn
PROJECT LEADER: J. YOUNG
DESIGNED BY: J. DURANTE
LAYOUT PLAN (SHEET 3 OF 14)

PLOT DATE: 9/15/2010
DRAWN BY: S. GUNN
CHECKED BY: J. YOUNG
SHEET 13 OF 70



LEGEND

- PROPOSED HANDHOLE
- PROPOSED SPLICE VAULT
- PROPOSED COMMUNICATION CONDUIT
- EXISTING LIMIT OF WETLAND
- CONSTRUCTION NOTE
- ACTION ITEM
- EXISTING MANHOLE

LAYOUT PLAN

SCALE 1" = 200'-0

200 0 200

TABULATION OF CONSTRUCTION METHODOLOGY

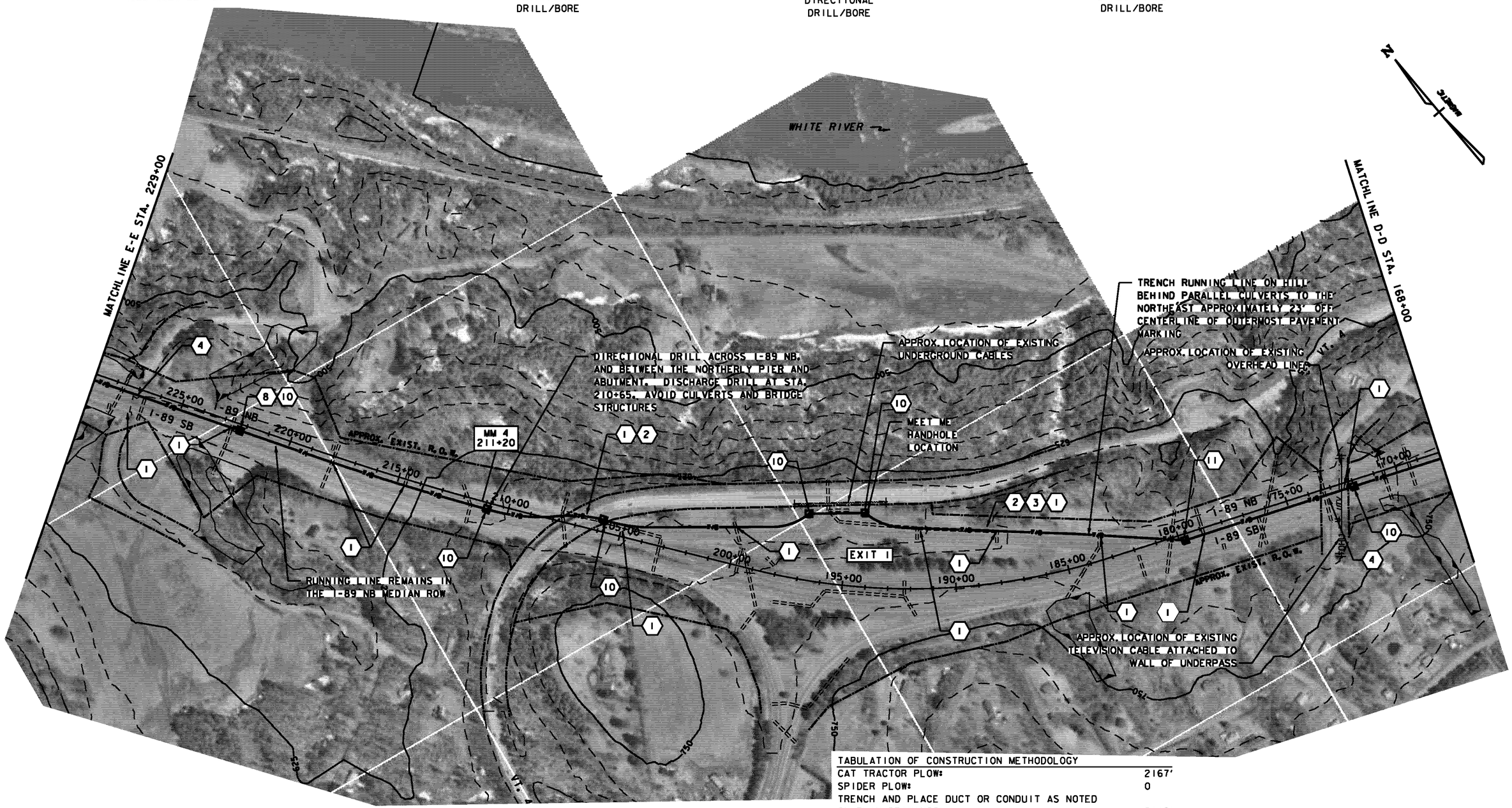
CAT TRACTOR PLOW:	5590'
SPIDER PLOW:	0
TRENCH AND PLACE DUCT OR CONDUIT AS NOTED ON PLAN DRAWINGS:	0
DIRECTIONAL BORE - 8" BSP CASING:	0
HANDHOLES - 2 AT EACH LOCATION:	2
DIG TEST HOLES - LOCATE FOREIGN STRUCTURES:	10
BRIDGE ATTACHMENT:	0
INSTALL CABLE MARKERS:	6
PULL FIBER OPTIC CABLE INTO DUCT:	5800'
SPLICE VAULT & HANDHOLE SETUP:	0

PROJECT NAME: HARTFORD SHARON
PROJECT NUMBER: FITS503

FILE NAME: z06e142LA4.dgn
PROJECT LEADER: J. YOUNG
DESIGNED BY: J. DURANTE
LAYOUT PLAN (SHEET 4 OF 14)

PLOT DATE: 9/15/2010
DRAWN BY: S. GUNN
CHECKED BY: J. YOUNG
SHEET 14 OF 70

CAT PLOW 228+00 TRENCH (OLD QUECHEE RD.) HH#17 222+25 CAT PLOW HH#16 210+93 HH#15 205+88 DIRECTIONAL DRILL/BORE TRENCH HH#14 196+98 HH#13 194+25 DIRECTIONAL DRILL/BORE TRENCH 184+35 HH#12S 179+75 DIRECTIONAL DRILL/BORE CAT PLOW 173+55 TRENCH HH#11 172+55 CAT PLOW



LEGEND

- PROPOSED HANDHOLE
- PROPOSED SPLICE VAULT
- PROPOSED COMMUNICATION CONDUIT
- EXISTING LIMIT OF WETLAND
- CONSTRUCTION NOTE
- ACTION ITEM
- EXISTING MANHOLE

LAYOUT PLAN
SCALE 1" = 200'-0
200 0 200

TABULATION OF CONSTRUCTION METHODOLOGY

CAT TRACTOR PLOW:	2167'
SPIDER PLOW:	0
TRENCH AND PLACE DUCT OR CONDUIT AS NOTED ON PLAN DRAWINGS:	2118'
DIRECTIONAL BORE - 8" BSP CASING:	1100'
HANDHOLES - 2 AT EACH LOCATION:	7
DIG TEST HOLES - LOCATE FOREIGN STRUCTURES:	13
BRIDGE ATTACHMENT:	0
INSTALL CABLE MARKERS:	11
PULL FIBER OPTIC CABLE INTO DUCT:	6474'
SPLICE VAULT & HANDHOLE SETUP:	0

PROJECT NAME: HARTFORD SHARON
PROJECT NUMBER: FITS503

FILE NAME: z06e142LA5.dgn
PROJECT LEADER: J. YOUNG
DESIGNED BY: J. DURANTE
LAYOUT PLAN (SHEET 5 OF 14)
PLOT DATE: 10/1/2010
DRAWN BY: S. GUNN
CHECKED BY: J. YOUNG
SHEET 15 OF 70

HH#20
286+27.5
TRENCH

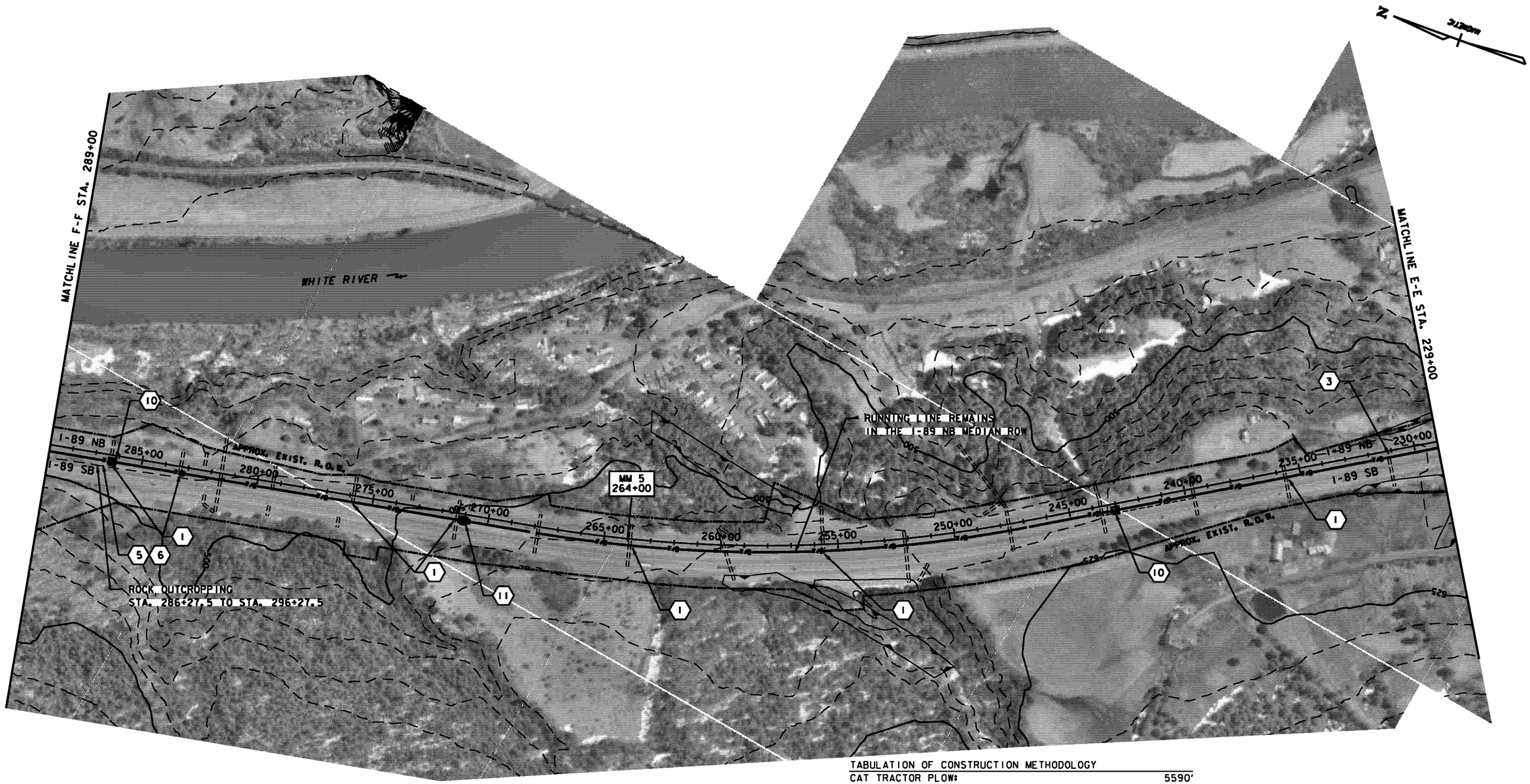
CAT PLOW

HH#19S
271+06

CAT PLOW

HH#18
243+06

CAT PLOW



LEGEND

- PROPOSED HANDHOLE
- PROPOSED SPLICE VAULT
- PROPOSED COMMUNICATION CONDUIT
- EXISTING LIMIT OF WETLAND
- CONSTRUCTION NOTE
- ACTION ITEM
- EXISTING MANHOLE

LAYOUT PLAN

SCALE 1" = 200'-0

200 0 200

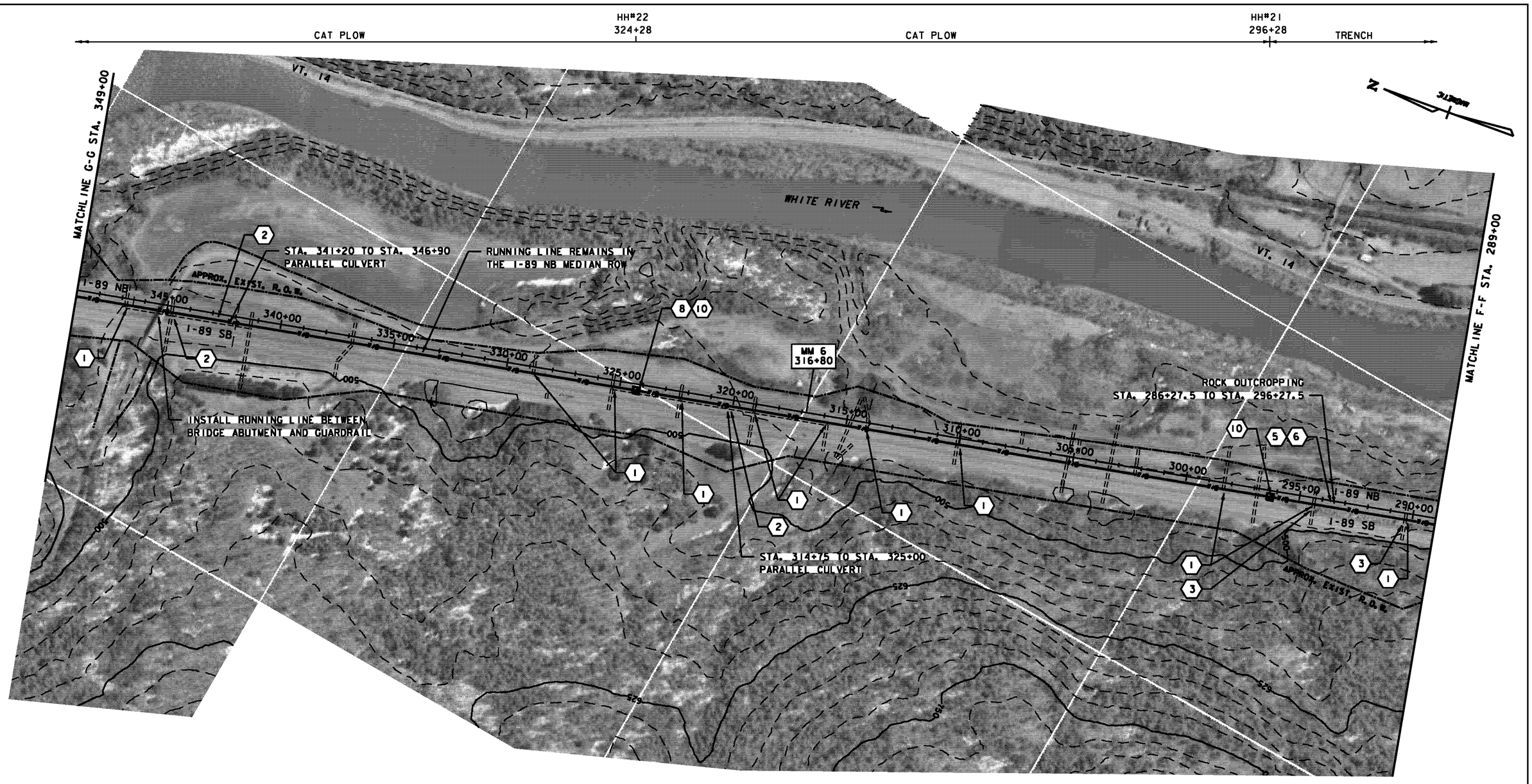
TABULATION OF CONSTRUCTION METHODOLOGY

CAT TRACTOR PLOW:	5590'
SPIDER PLOW:	0
TRENCH AND PLACE DUCT OR CONDUIT AS NOTED ON PLAN DRAWINGS:	245'
DIRECTIONAL BORE - 8" BSP CASING:	0
HANDHOLES - 2 AT EACH LOCATION:	3
DIG TEST HOLES - LOCATE FOREIGN STRUCTURES:	7
BRIDGE ATTACHMENT:	0
INSTALL CABLE MARKERS:	9
PULL FIBER OPTIC CABLE INTO DUCT:	6200'
SPLICE VAULT & HANDHOLE SETUP:	0

PROJECT NAME: HARTFORD SHARON
PROJECT NUMBER: FITS503

FILE NAME: z06e142LA6.dgn
PROJECT LEADER: J. YOUNG
DESIGNED BY: J. DURANTE
LAYOUT PLAN (SHEET 6 OF 14)

PLOT DATE: 9/15/2010
DRAWN BY: S. GUNN
CHECKED BY: J. YOUNG
SHEET 16 OF 70



LEGEND

- PROPOSED HANDHOLE
- PROPOSED SPLICE VAULT
- PROPOSED COMMUNICATION CONDUIT
- EXISTING LIMIT OF WETLAND
- CONSTRUCTION NOTE
- ACTION ITEM
- EXISTING MANHOLE

LAYOUT PLAN

SCALE 1" = 200'-0

200 0 200

TABULATION OF CONSTRUCTION METHODOLOGY

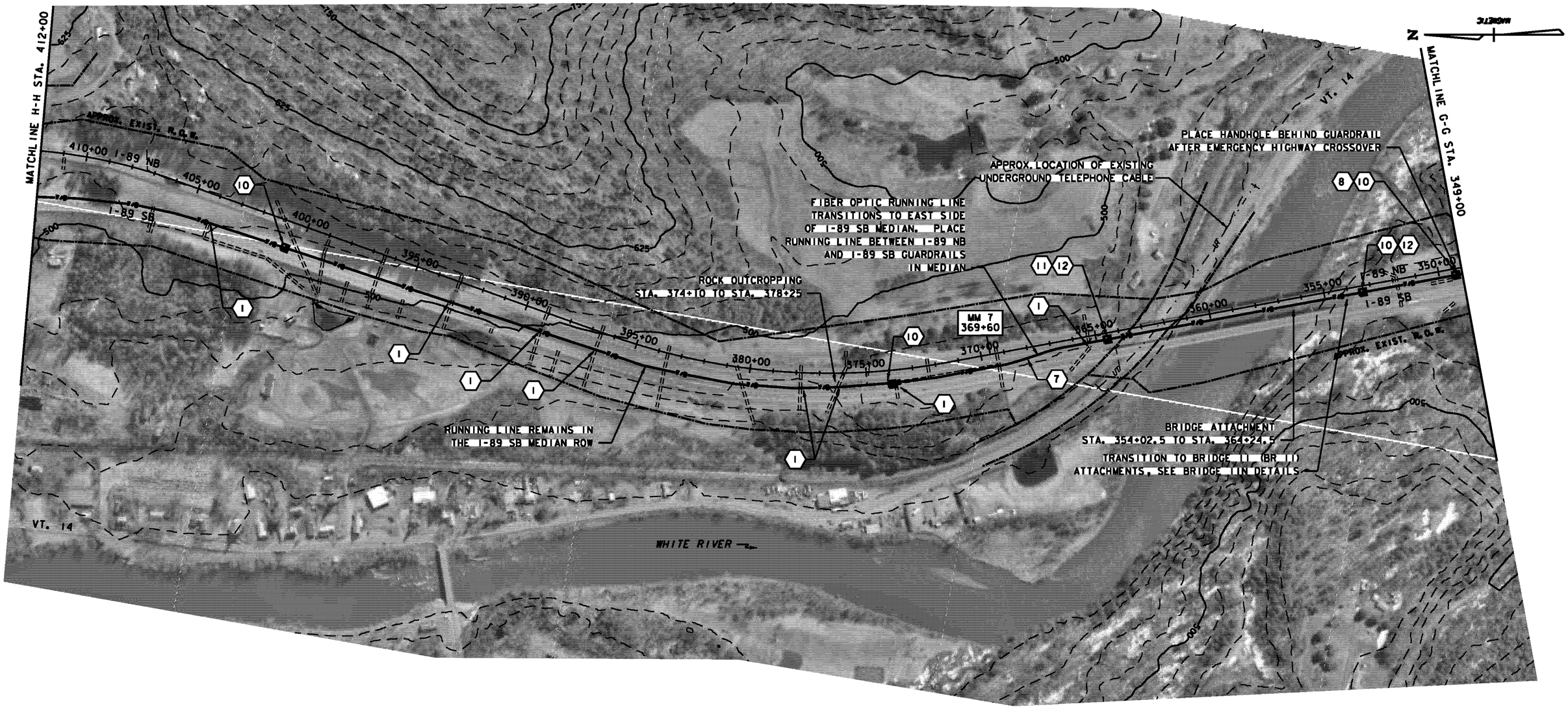
CAT TRACTOR PLOW:	5190'
SPIDER PLOW:	0
TRENCH AND PLACE DUCT OR CONDUIT AS NOTED ON PLAN DRAWINGS:	700'
DIRECTIONAL BORE - 8" BSP CASING:	0
HANDHOLES - 2 AT EACH LOCATION:	2
DIG TEST HOLES - LOCATE FOREIGN STRUCTURES:	11
BRIDGE ATTACHMENT:	0
INSTALL CABLE MARKERS:	9
PULL FIBER OPTIC CABLE INTO DUCT:	6200'
SPLICE VAULT & HANDHOLE SETUP:	0

PROJECT NAME: HARTFORD SHARON
PROJECT NUMBER: FITS503

FILE NAME: z06e142LA7.dgn
PROJECT LEADER: J. YOUNG
DESIGNED BY: J. DURANTE
LAYOUT PLAN (SHEET 7 OF 14)

PLOT DATE: 9/15/2010
DRAWN BY: S. GUNN
CHECKED BY: J. YOUNG
SHEET 17 OF 70

CAT PLOW | HH#27 400+65 | CAT PLOW | 378+25 | TRENCH | HH#26 374+10 | CAT PLOW | HH#25S 364+92 | BRIDGE ATTACHMENT | HH#24 353+35 | TRENCH | HH#23 349+28 | CAT PLOW



LEGEND

- PROPOSED HANDHOLE
- PROPOSED SPLICE VAULT
- PROPOSED COMMUNICATION CONDUIT
- EXISTING LIMIT OF WETLAND
- CONSTRUCTION NOTE
- ACTION ITEM
- EXISTING MANHOLE

LAYOUT PLAN

SCALE 1" = 200'-0

200 0 200

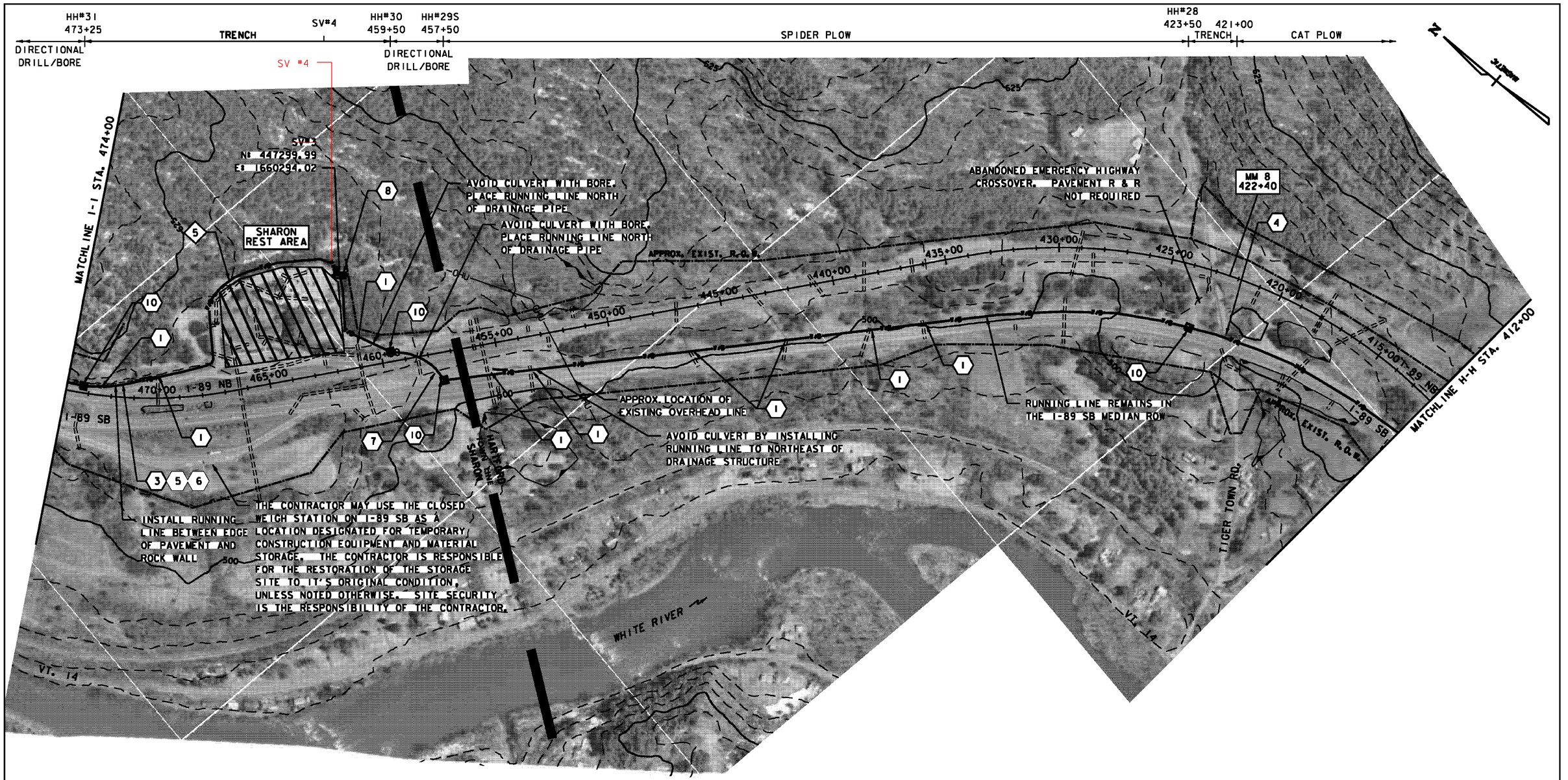
TABULATION OF CONSTRUCTION METHODOLOGY

CAT TRACTOR PLOW:	4184'
SPIDER PLOW:	0
TRENCH AND PLACE DUCT OR CONDUIT AS NOTED ON PLAN DRAWINGS:	740'
DIRECTIONAL BORE - 8" BSP CASING:	0
HANDHOLES - 2 AT EACH LOCATION:	5
DIG TEST HOLES - LOCATE FOREIGN STRUCTURES:	8
BRIDGE ATTACHMENT:	1102'
INSTALL CABLE MARKERS:	11
PULL FIBER OPTIC CABLE INTO DUCT:	6560'
SPLICE VAULT & HANDHOLE SETUP:	0

PROJECT NAME: HARTFORD SHARON
PROJECT NUMBER: FITS503

FILE NAME: z06e142LA8.dgn
PROJECT LEADER: J. YOUNG
DESIGNED BY: J. DURANTE
LAYOUT PLAN (SHEET 8 OF 14)

PLOT DATE: 9/15/2010
DRAWN BY: S. GUNN
CHECKED BY: J. YOUNG
SHEET 18 OF 70



LEGEND

- PROPOSED HANDHOLE
- PROPOSED SPLICE VAULT
- PROPOSED COMMUNICATION CONDUIT
- EXISTING LIMIT OF WETLAND
- CONSTRUCTION NOTE
- ACTION ITEM
- EXISTING MANHOLE

LAYOUT PLAN

SCALE 1" = 200'-0

200 0 200

TABULATION OF CONSTRUCTION METHODOLOGY

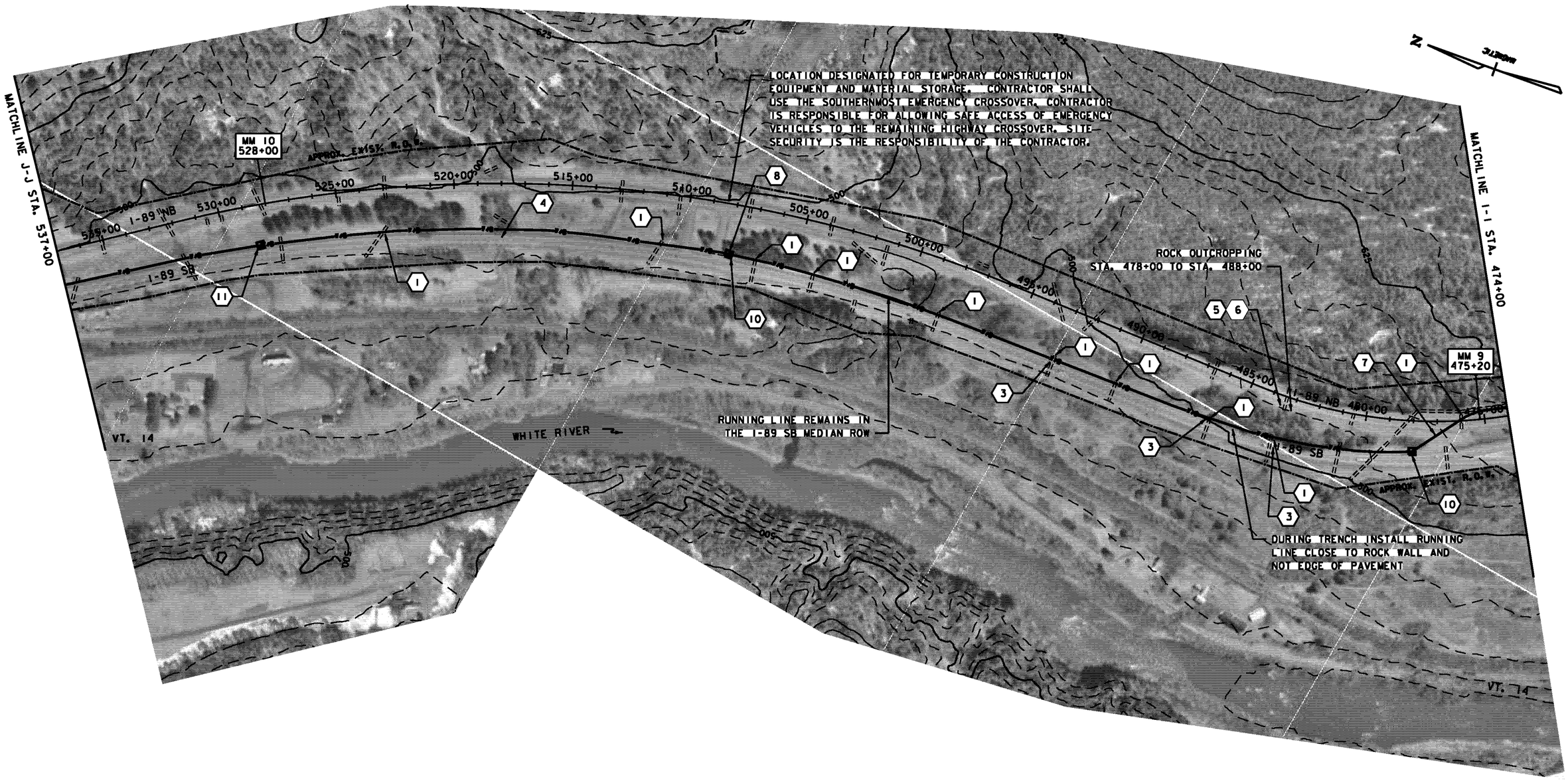
CAT TRACTOR PLOW:	900'
SPIDER PLOW:	3345'
TRENCH AND PLACE DUCT OR CONDUIT AS NOTED ON PLAN DRAWINGS:	2225'
DIRECTIONAL BORE - 8" BSP CASING:	600'
HANDHOLES - 2 AT EACH LOCATION:	4
DIG TEST HOLES - LOCATE FOREIGN STRUCTURES:	9
BRIDGE ATTACHMENT:	0
INSTALL CABLE MARKERS:	13
PULL FIBER OPTIC CABLE INTO DUCT:	7710'
SPLICE VAULT & HANDHOLE SETUP:	1

PROJECT NAME: HARTFORD SHARON
PROJECT NUMBER: FITS503

FILE NAME: z06e142LA9.dgn
PROJECT LEADER: J. YOUNG
DESIGNED BY: J. DURANTE
LAYOUT PLAN (SHEET 9 OF 14)

PLOT DATE: 9/15/2010
DRAWN BY: S. GUNN
CHECKED BY: J. YOUNG
SHEET 19 OF 70

CAT PLOW | HH#34S 528+50 | CAT PLOW | HH#33 510+25 508+00 TRENCH | SPIDER PLOW | 488+00 | TRENCH | HH#32 478+00 DIRECTIONAL DRILL/BORE



LEGEND

- PROPOSED HANDHOLE
- PROPOSED SPLICE VAULT
- PROPOSED COMMUNICATION CONDUIT
- EXISTING LIMIT OF WETLAND
- CONSTRUCTION NOTE
- ACTION ITEM
- EXISTING MANHOLE

LAYOUT PLAN

SCALE 1" = 200'-0

200 0 200

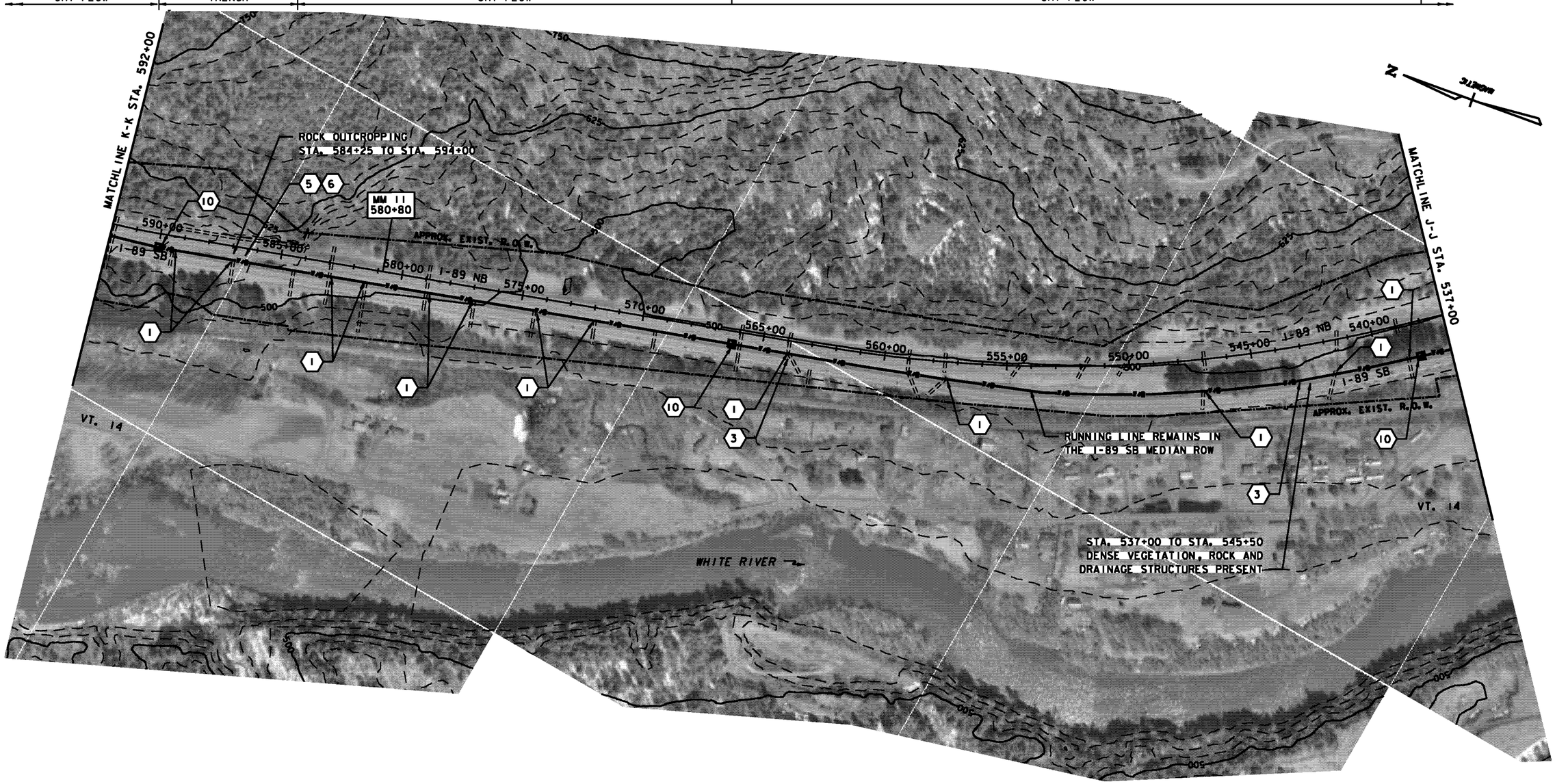
TABULATION OF CONSTRUCTION METHODOLOGY

CAT TRACTOR PLOW:	2620'
SPIDER PLOW:	1973'
TRENCH AND PLACE DUCT OR CONDUIT AS NOTED ON PLAN DRAWINGS:	1170'
DIRECTIONAL BORE - 8" BSP CASING:	373'
HANDHOLES - 2 AT EACH LOCATION:	3
DIG TEST HOLES - LOCATE FOREIGN STRUCTURES:	10
BRIDGE ATTACHMENT:	0
INSTALL CABLE MARKERS:	10
PULL FIBER OPTIC CABLE INTO DUCT:	6605'
SPLICE VAULT & HANDHOLE SETUP:	0

PROJECT NAME: HARTFORD SHARON
PROJECT NUMBER: FITS503

FILE NAME: z06e142LA10.dgn
PROJECT LEADER: J. YOUNG
DESIGNED BY: J. DURANTE
LAYOUT PLAN (SHEET 10 OF 14)

PLOT DATE: 9/15/2010
DRAWN BY: S. GUNN
CHECKED BY: J. YOUNG
SHEET 20 OF 70



LEGEND

- PROPOSED HANDHOLE
- PROPOSED SPLICE VAULT
- PROPOSED COMMUNICATION CONDUIT
- EXISTING LIMIT OF WETLAND
- CONSTRUCTION NOTE
- ACTION ITEM
- EXISTING MANHOLE

LAYOUT PLAN

SCALE 1" = 200'-0

200 0 200

TABULATION OF CONSTRUCTION METHODOLOGY

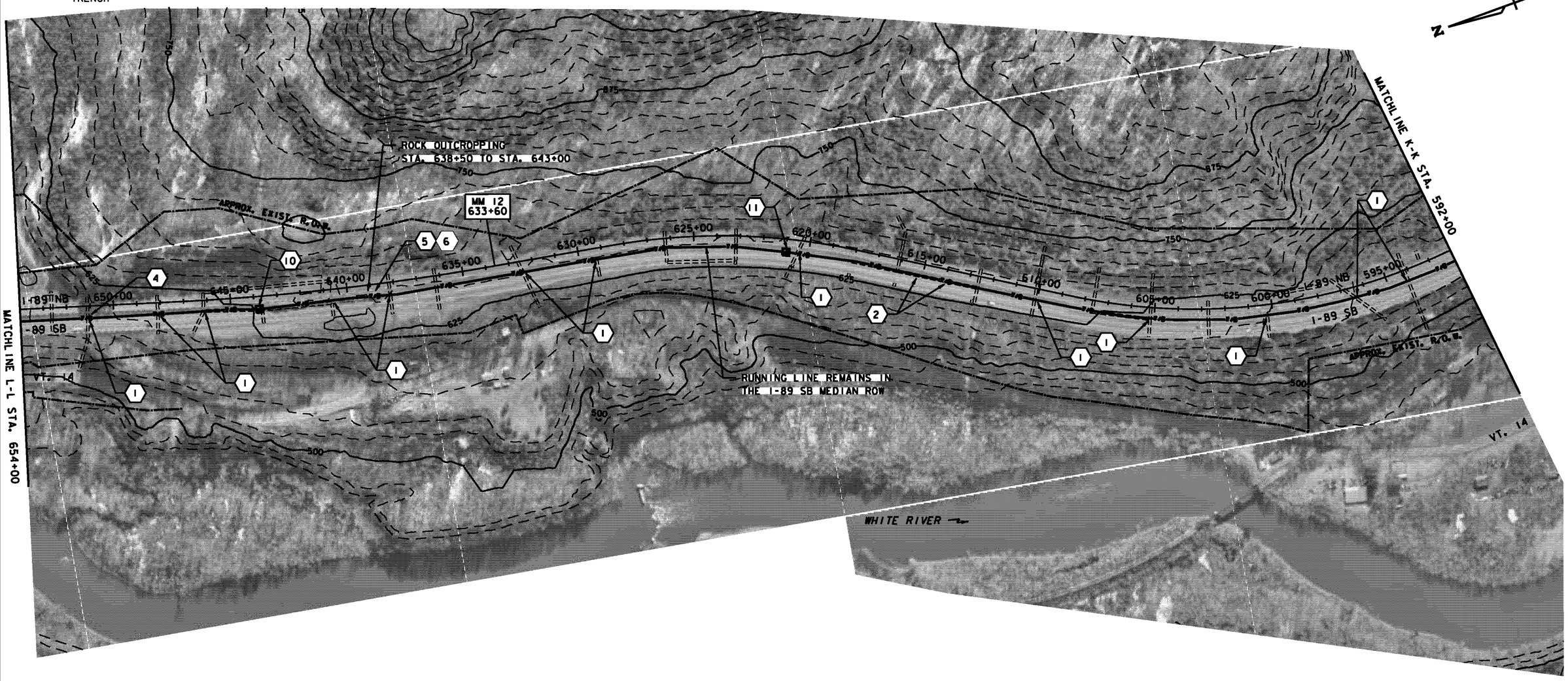
CAT TRACTOR PLOW:	4788'
SPIDER PLOW:	0'
TRENCH AND PLACE DUCT OR CONDUIT AS NOTED ON PLAN DRAWINGS:	550'
DIRECTIONAL BORE - 8" BSP CASING:	0
HANDHOLES - 2 AT EACH LOCATION:	3
DIG TEST HOLES - LOCATE FOREIGN STRUCTURES:	13
BRIDGE ATTACHMENT:	0
INSTALL CABLE MARKERS:	10
PULL FIBER OPTIC CABLE INTO DUCT:	5650'
SPLICE VAULT & HANDHOLE SETUP:	0

PROJECT NAME: HARTFORD SHARON
PROJECT NUMBER: FITS503

FILE NAME: z06e142LA11.dgn
PROJECT LEADER: J. YOUNG
DESIGNED BY: J. DURANTE
LAYOUT PLAN (SHEET 11 OF 14)

PLOT DATE: 9/15/2010
DRAWN BY: S. GUNN
CHECKED BY: J. YOUNG
SHEET 21 OF 70

CAT PLOW 651+50 — TRENCH — 650+50 CAT PLOW HH*39 643+50 TRENCH 638+00 CAT PLOW HH*38S 621+00 CAT PLOW



LEGEND

- PROPOSED HANDHOLE
- PROPOSED SPLICE VAULT
- PROPOSED COMMUNICATION CONDUIT
- EXISTING LIMIT OF WETLAND
- CONSTRUCTION NOTE
- ACTION ITEM
- EXISTING MANHOLE

LAYOUT PLAN

SCALE 1" = 200'-0

200 0 200

TABULATION OF CONSTRUCTION METHODOLOGY

CAT TRACTOR PLOW:	5468'
SPIDER PLOW:	0
TRENCH AND PLACE DUCT OR CONDUIT AS NOTED ON PLAN DRAWINGS:	623'
DIRECTIONAL BORE - 8" BSP CASING:	0
HANDHOLES - 2 AT EACH LOCATION:	2
DIG TEST HOLES - LOCATE FOREIGN STRUCTURES:	13
BRIDGE ATTACHMENT:	0
INSTALL CABLE MARKERS:	8
PULL FIBER OPTIC CABLE INTO DUCT:	6350'
SPLICE VAULT & HANDHOLE SETUP:	0

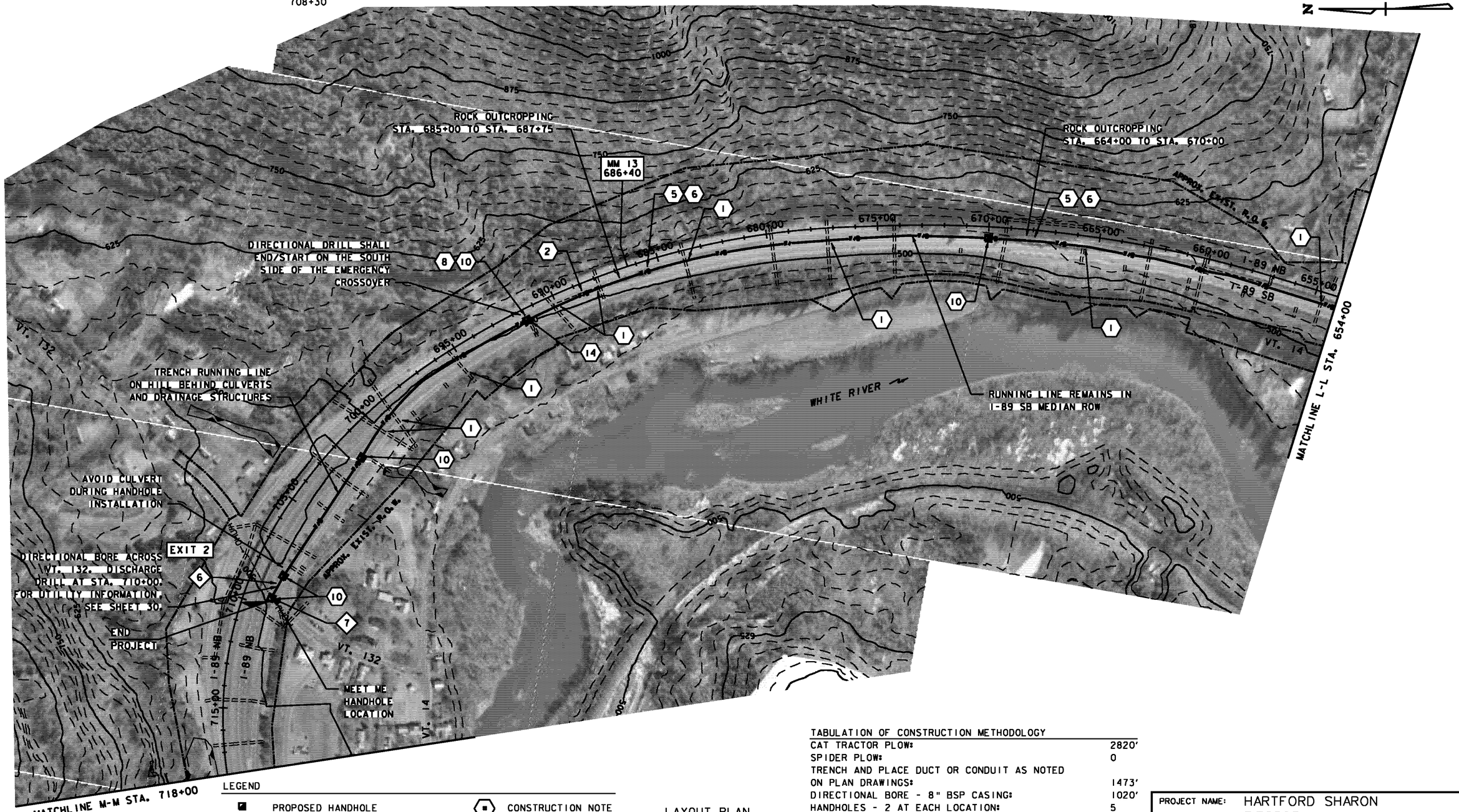
PROJECT NAME: HARTFORD SHARON
PROJECT NUMBER: FITS503

FILE NAME: z06e142LA12.dgn
PROJECT LEADER: J. YOUNG
DESIGNED BY: J. DURANTE
LAYOUT PLAN (SHEET 12 OF 14)

PLOT DATE: 9/15/2010
DRAWN BY: S. GUNN
CHECKED BY: J. YOUNG
SHEET 22 OF 70

HH#44S 709+60 — TRENCH — HH#42 701+50 — DIRECTIONAL DRILL/BORE — HH#41 691+50 — PLOW — 687+75 — TRENCH — 685+00 — CAT PLOW — HH#40 670+00 — TRENCH — 664+00 — CAT PLOW

HH#43 708+30



LEGEND

- PROPOSED HANDHOLE
- PROPOSED SPLICE VAULT
- PROPOSED COMMUNICATION CONDUIT
- EXISTING LIMIT OF WETLAND
- CONSTRUCTION NOTE
- ACTION ITEM
- EXISTING MANHOLE

LAYOUT PLAN

SCALE 1" = 200'-0

200 0 200

TABULATION OF CONSTRUCTION METHODOLOGY

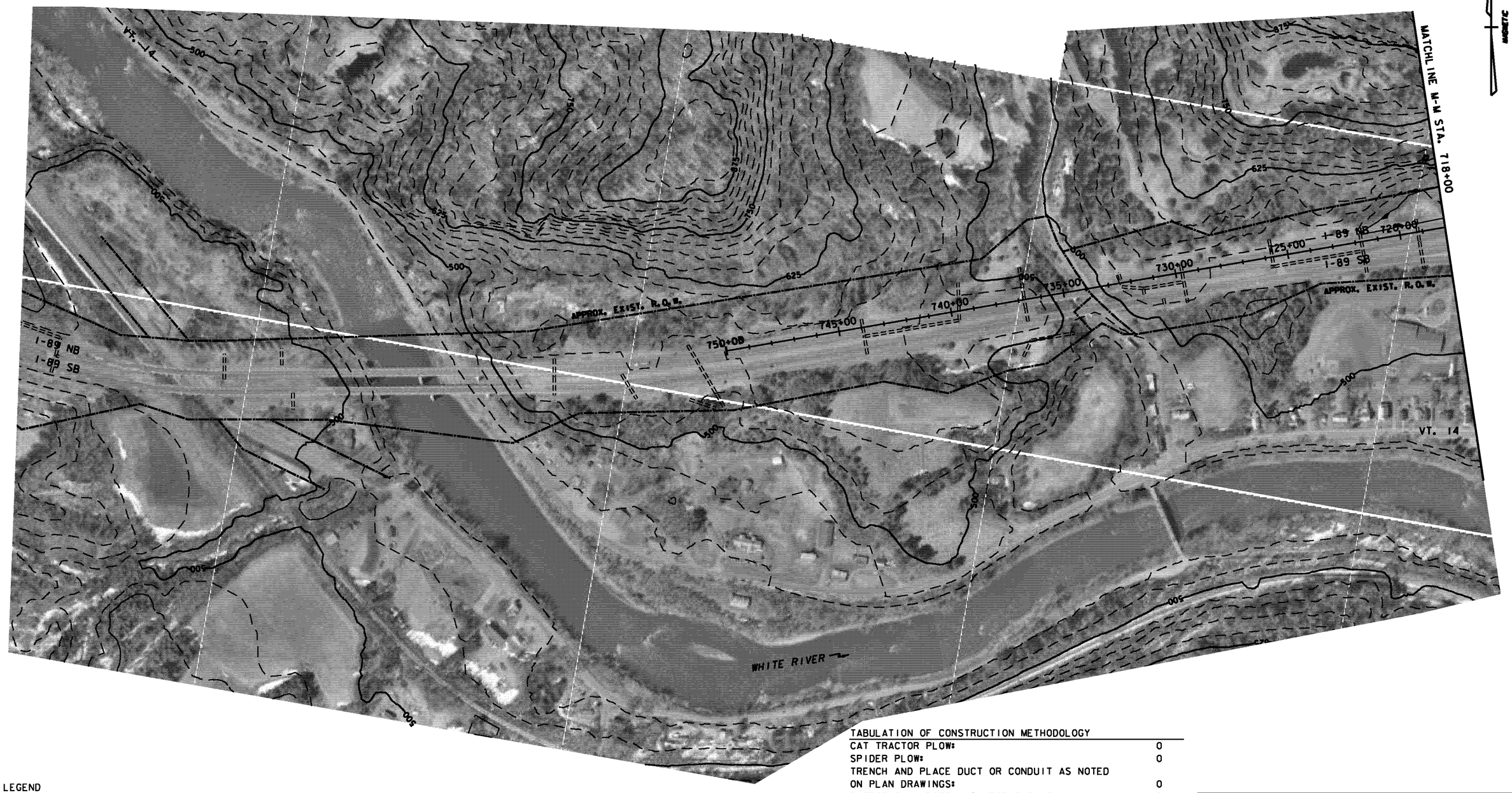
CAT TRACTOR PLOW:	2820'
SPIDER PLOW:	0
TRENCH AND PLACE DUCT OR CONDUIT AS NOTED ON PLAN DRAWINGS:	1473'
DIRECTIONAL BORE - 8" BSP CASING:	1020'
HANDHOLES - 2 AT EACH LOCATION:	5
DIG TEST HOLES - LOCATE FOREIGN STRUCTURES:	7
BRIDGE ATTACHMENT:	0
INSTALL CABLE MARKERS:	11
PULL FIBER OPTIC CABLE INTO DUCT:	5960'
4FT x 4FT x 6FT CONCRETE CABLE VAULT:	0

PROJECT NAME: HARTFORD SHARON
PROJECT NUMBER: FITS503

FILE NAME: z02848471LA13.dgn
PROJECT LEADER: J. YOUNG
DESIGNED BY: J. DURANTE
LAYOUT PLAN (SHEET 13 OF 14)

PLOT DATE: 9/15/2010
DRAWN BY: S. GUNN
CHECKED BY: J. YOUNG
SHEET 23 OF 70

NO WORK PROPOSED ON THIS SHEET; PROVIDED FOR INFORMATIONAL PURPOSES



LAYOUT PLAN
SCALE 1" = 200'-0
200 0 200

LEGEND

- PROPOSED HANDHOLE
- PROPOSED SPLICE VAULT
- PROPOSED COMMUNICATION CONDUIT
- EXISTING LIMIT OF WETLAND
- CONSTRUCTION NOTE
- ACTION ITEM
- EXISTING MANHOLE

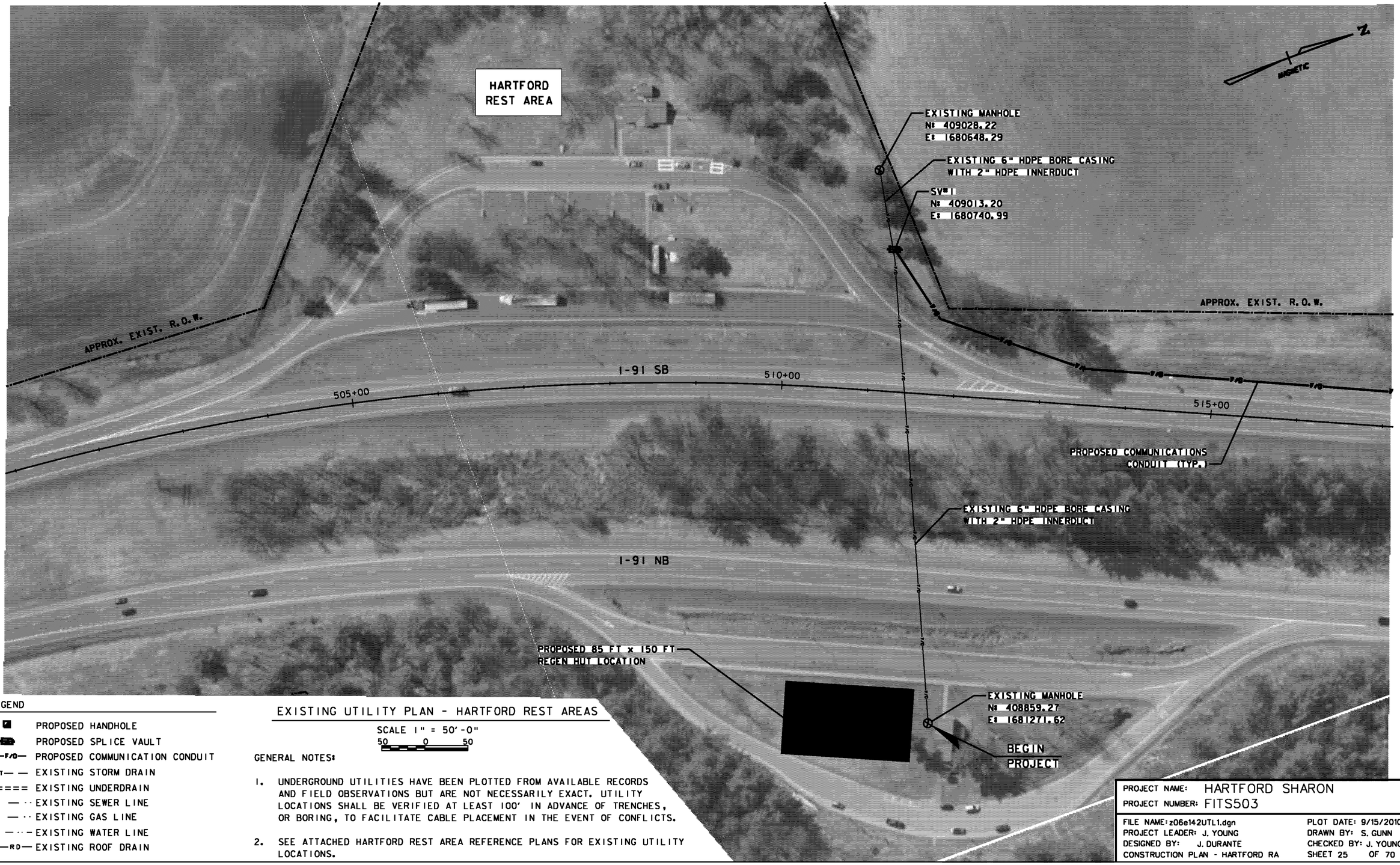
TABULATION OF CONSTRUCTION METHODOLOGY

CAT TRACTOR PLOW:	0
SPIDER PLOW:	0
TRENCH AND PLACE DUCT OR CONDUIT AS NOTED ON PLAN DRAWINGS:	0
DIRECTIONAL BORE - 8" BSP CASING:	0
HANDHOLES - 2 AT EACH LOCATION:	0
DIG TEST HOLES - LOCATE FOREIGN STRUCTURES:	0
BRIDGE ATTACHMENT:	0
INSTALL CABLE MARKERS:	0
PULL FIBER OPTIC CABLE INTO DUCT:	0
SPLICE VAULT & HANDHOLE SETUP:	0

PROJECT NAME: HARTFORD SHARON
PROJECT NUMBER: FITS503

FILE NAME: z06e142LA14.dgn
PROJECT LEADER: J. YOUNG
DESIGNED BY: J. DURANTE
LAYOUT PLAN (SHEET 14 OF 14)

PLOT DATE: 9/15/2010
DRAWN BY: S. GUNN
CHECKED BY: J. YOUNG
SHEET 24 OF 70



LEGEND

- PROPOSED HANDHOLE
- PROPOSED SPLICE VAULT
- F/O — PROPOSED COMMUNICATION CONDUIT
- ST — EXISTING STORM DRAIN
- EXISTING UNDERDRAIN
- S — EXISTING SEWER LINE
- G — EXISTING GAS LINE
- W — EXISTING WATER LINE
- RD — EXISTING ROOF DRAIN

EXISTING UTILITY PLAN - HARTFORD REST AREAS

SCALE 1" = 50'-0"
50 0 50

GENERAL NOTES:

1. UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE RECORDS AND FIELD OBSERVATIONS BUT ARE NOT NECESSARILY EXACT. UTILITY LOCATIONS SHALL BE VERIFIED AT LEAST 100' IN ADVANCE OF TRENCHES, OR BORING, TO FACILITATE CABLE PLACEMENT IN THE EVENT OF CONFLICTS.

2. SEE ATTACHED HARTFORD REST AREA REFERENCE PLANS FOR EXISTING UTILITY LOCATIONS.

PROJECT NAME: HARTFORD SHARON
PROJECT NUMBER: FITS503

FILE NAME: z06e142UTL1.dgn
PROJECT LEADER: J. YOUNG
DESIGNED BY: J. DURANTE
CONSTRUCTION PLAN - HARTFORD RA

PLOT DATE: 9/15/2010
DRAWN BY: S. GUNN
CHECKED BY: J. YOUNG
SHEET 25 OF 70



LEGEND

- PROPOSED HANDHOLE
- PROPOSED SPLICE VAULT
- F/O — PROPOSED COMMUNICATION CONDUIT
- —ST— — EXISTING STORM DRAIN
- ====== EXISTING UNDERDRAIN
- - S — ·· EXISTING SEWER LINE
- - G — ·· EXISTING GAS LINE
- — W — ·· — EXISTING WATER LINE
- —— RD — EXISTING ROOF DRAIN

GENERAL NOTES:

1. UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE RECORDS AND FIELD OBSERVATIONS BUT ARE NOT NECESSARILY EXACT. UTILITY LOCATIONS SHALL BE VERIFIED AT LEAST 100' IN ADVANCE OF TRENCHES, OR BORING, TO FACILITATE CABLE PLACEMENT IN THE EVENT OF CONFLICTS.

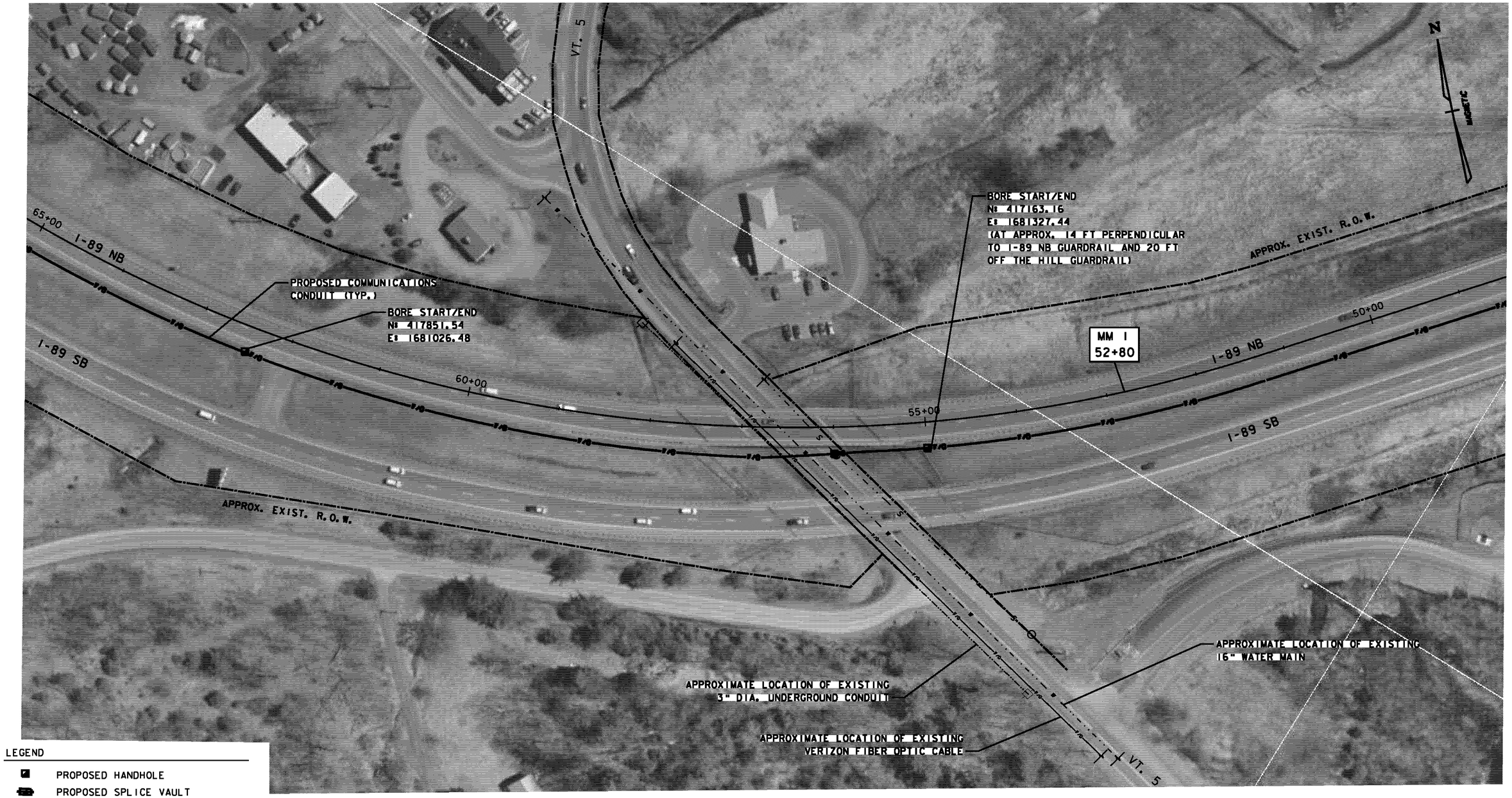
BORE PLAN - I-89/I-91 INTERCHANGE

SCALE 1" = 50'-0"
50 0 50

PROJECT NAME: HARTFORD SHARON
PROJECT NUMBER: FITS503

FILE NAME: z06e142UTL2.dgn
PROJECT LEADER: J. YOUNG
DESIGNED BY: J. DURANTE
BORE PLAN - I-89/I-91 INTERCHANGE

PLOT DATE: 9/15/2010
DRAWN BY: S. GUNN
CHECKED BY: J. YOUNG
SHEET 26 OF 70



LEGEND

- PROPOSED HANDHOLE
- PROPOSED SPLICE VAULT
- F/O — PROPOSED COMMUNICATION CONDUIT
- ST — EXISTING STORM DRAIN
- EXISTING UNDERDRAIN
- S — EXISTING SEWER LINE
- G — EXISTING GAS LINE
- W — EXISTING WATER LINE
- RD — EXISTING ROOF DRAIN

EXISTING UTILITY PLAN - I-89 OVER VT. 5

SCALE 1" = 50'-0"
50 0 50

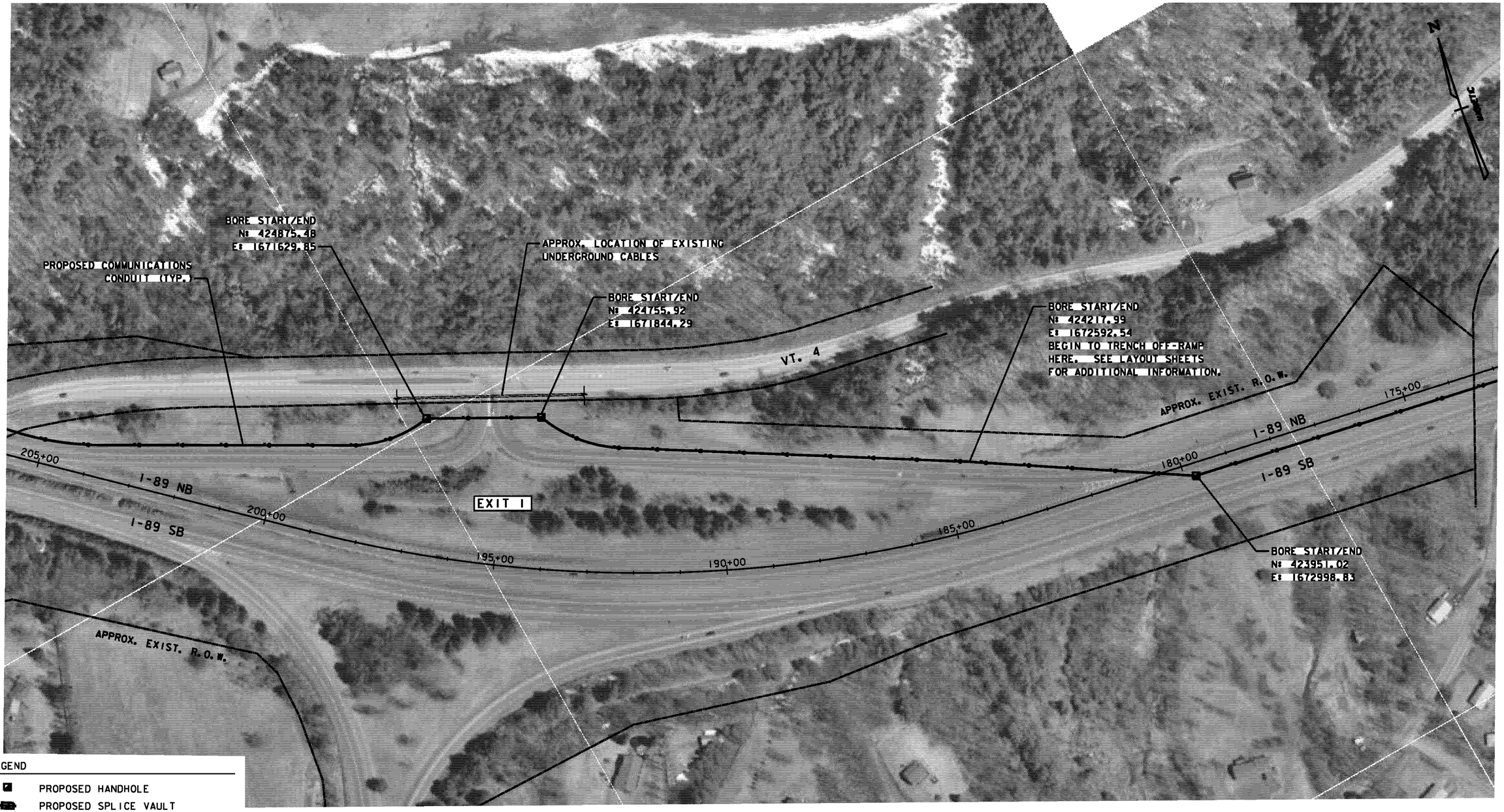
GENERAL NOTES:

1. UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE RECORDS AND FIELD OBSERVATIONS BUT ARE NOT NECESSARILY EXACT. UTILITY LOCATIONS SHALL BE VERIFIED AT LEAST 100' IN ADVANCE OF TRENCHES, OR BORING, TO FACILITATE CABLE PLACEMENT IN THE EVENT OF CONFLICTS.

PROJECT NAME: HARTFORD SHARON
PROJECT NUMBER: FITS503

FILE NAME: z06e142UTL3.dgn
PROJECT LEADER: J. YOUNG
DESIGNED BY: J. DURANTE
UTILITY & BORE PLAN-I-89 OVER VT 5

PLOT DATE: 9/15/2010
DRAWN BY: S. GUNN
CHECKED BY: J. YOUNG
SHEET 27 OF 70



LEGEND

- PROPOSED HANDHOLE
- PROPOSED SPLICE VAULT
- PROPOSED COMMUNICATION CONDUIT
- EXISTING STORM DRAIN
- EXISTING UNDERDRAIN
- EXISTING SEWER LINE
- EXISTING GAS LINE
- EXISTING WATER LINE
- EXISTING ROOF DRAIN

EXISTING UTILITY PLAN - EXIT 1 & OFF-RAMP BORE

SCALE 1" = 100'-0"

100 0 100

GENERAL NOTES:

1. UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE RECORDS AND FIELD OBSERVATIONS BUT ARE NOT NECESSARILY EXACT. UTILITY LOCATIONS SHALL BE VERIFIED AT LEAST 100' IN ADVANCE OF TRENCHES, OR BORING, TO FACILITATE CABLE PLACEMENT IN THE EVENT OF CONFLICTS.

PROJECT NAME: HARTFORD SHARON
PROJECT NUMBER: FITS503

FILE NAME: z06e142UTL4.dgn	PLOT DATE: 9/16/2010
PROJECT LEADER: J. YOUNG	DRAWN BY: S. GUNN
DESIGNED BY: J. DURANTE	CHECKED BY: J. YOUNG
UTILITY& BORE PLAN-EXIT 1 OFF-RAMP	SHEET 28 OF 70



LEGEND

- PROPOSED HANDHOLE
- PROPOSED SPLICE VAULT
- F/O — PROPOSED COMMUNICATION CONDUIT
- —ST— EXISTING STORM DRAIN
- ====== EXISTING UNDERDRAIN
- - S — ·· EXISTING SEWER LINE
- - G — ·· EXISTING GAS LINE
- — W — ·· — EXISTING WATER LINE
- ——RD— EXISTING ROOF DRAIN

GENERAL NOTES:

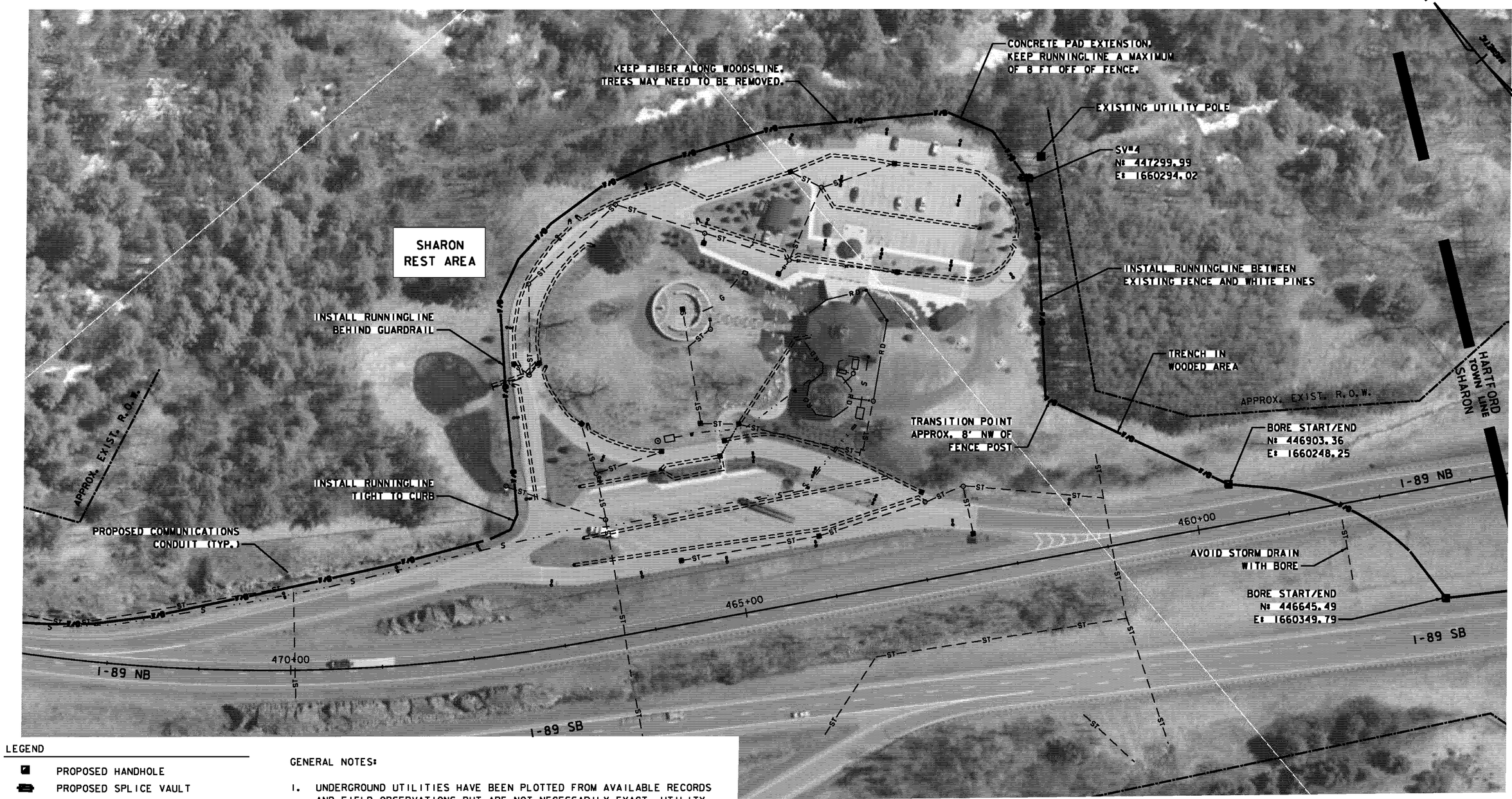
1. UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE RECORDS AND FIELD OBSERVATIONS BUT ARE NOT NECESSARILY EXACT. UTILITY LOCATIONS SHALL BE VERIFIED AT LEAST 100' IN ADVANCE OF TRENCHES, OR BORING, TO FACILITATE CABLE PLACEMENT IN THE EVENT OF CONFLICTS.

BORE PLAN - EXIT 1 TO I-89 ON-RAMP

SCALE 1" = 50'-0"

50 0 50

PROJECT NAME:	HARTFORD SHARON
PROJECT NUMBER:	FITS503
FILE NAME: z06e142UTL5.dgn	PLOT DATE: 9/15/2010
PROJECT LEADER: J. YOUNG	DRAWN BY: S. GUNN
DESIGNED BY: J. DURANTE	CHECKED BY: J. YOUNG
UTILITY & BORE PLAN-EXIT 1 ON-RAMP	SHEET 29 OF 70



LEGEND

- PROPOSED HANDHOLE
- PROPOSED SPLICE VAULT
- F/O — PROPOSED COMMUNICATION CONDUIT
- ST — EXISTING STORM DRAIN
- EXISTING UNDERDRAIN
- S — EXISTING SEWER LINE
- G — EXISTING GAS LINE
- W — EXISTING WATER LINE
- RD — EXISTING ROOF DRAIN
- EXISTING UTILITY POLE

GENERAL NOTES:

1. UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE RECORDS AND FIELD OBSERVATIONS BUT ARE NOT NECESSARILY EXACT. UTILITY LOCATIONS SHALL BE VERIFIED AT LEAST 100' IN ADVANCE OF TRENCHES, OR BORING, TO FACILITATE CABLE PLACEMENT IN THE EVENT OF CONFLICTS.
2. AVOID ALL ELECTRICAL CONDUITS AND PARKING LOT LIGHTS WHEN INSTALLING THE RUNNING LINE AROUND THE REST AREA PERIMETER.
3. SEE SHARON REST AREA REFERENCE PLAN FOR EXISTING UTILITY LOCATIONS.

EXISTING UTILITY PLAN - SHARON REST AREA

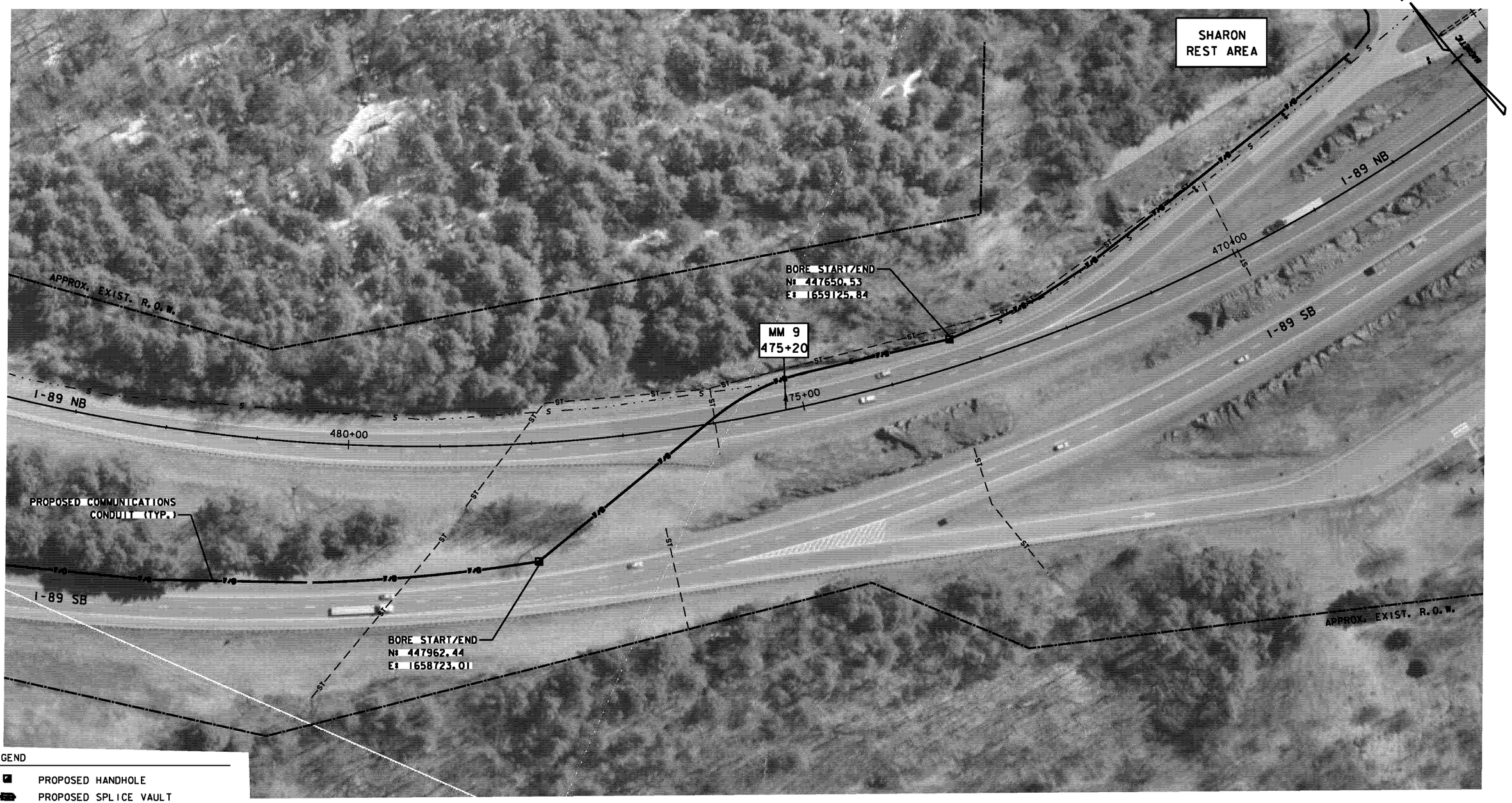
SCALE 1" = 50'-0"

50 0 50

PROJECT NAME: HARTFORD SHARON
PROJECT NUMBER: FITS503

FILE NAME: z06e142UTL6.dgn
PROJECT LEADER: J. YOUNG
DESIGNED BY: J. DURANTE
UTILITY & BORE PLAN - SHARON RA

PLOT DATE: 9/15/2010
DRAWN BY: S. GUNN
CHECKED BY: J. YOUNG
SHEET 30 OF 70



LEGEND

- PROPOSED HANDHOLE
- PROPOSED SPLICE VAULT
- F/O — PROPOSED COMMUNICATION CONDUIT
- ST — EXISTING STORM DRAIN
- EXISTING UNDERDRAIN
- S — EXISTING SEWER LINE
- G — EXISTING GAS LINE
- W — EXISTING WATER LINE
- RD — EXISTING ROOF DRAIN

GENERAL NOTES:

1. UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE RECORDS AND FIELD OBSERVATIONS BUT ARE NOT NECESSARILY EXACT. UTILITY LOCATIONS SHALL BE VERIFIED AT LEAST 100' IN ADVANCE OF TRENCHES, OR BORING, TO FACILITATE CABLE PLACEMENT IN THE EVENT OF CONFLICTS.

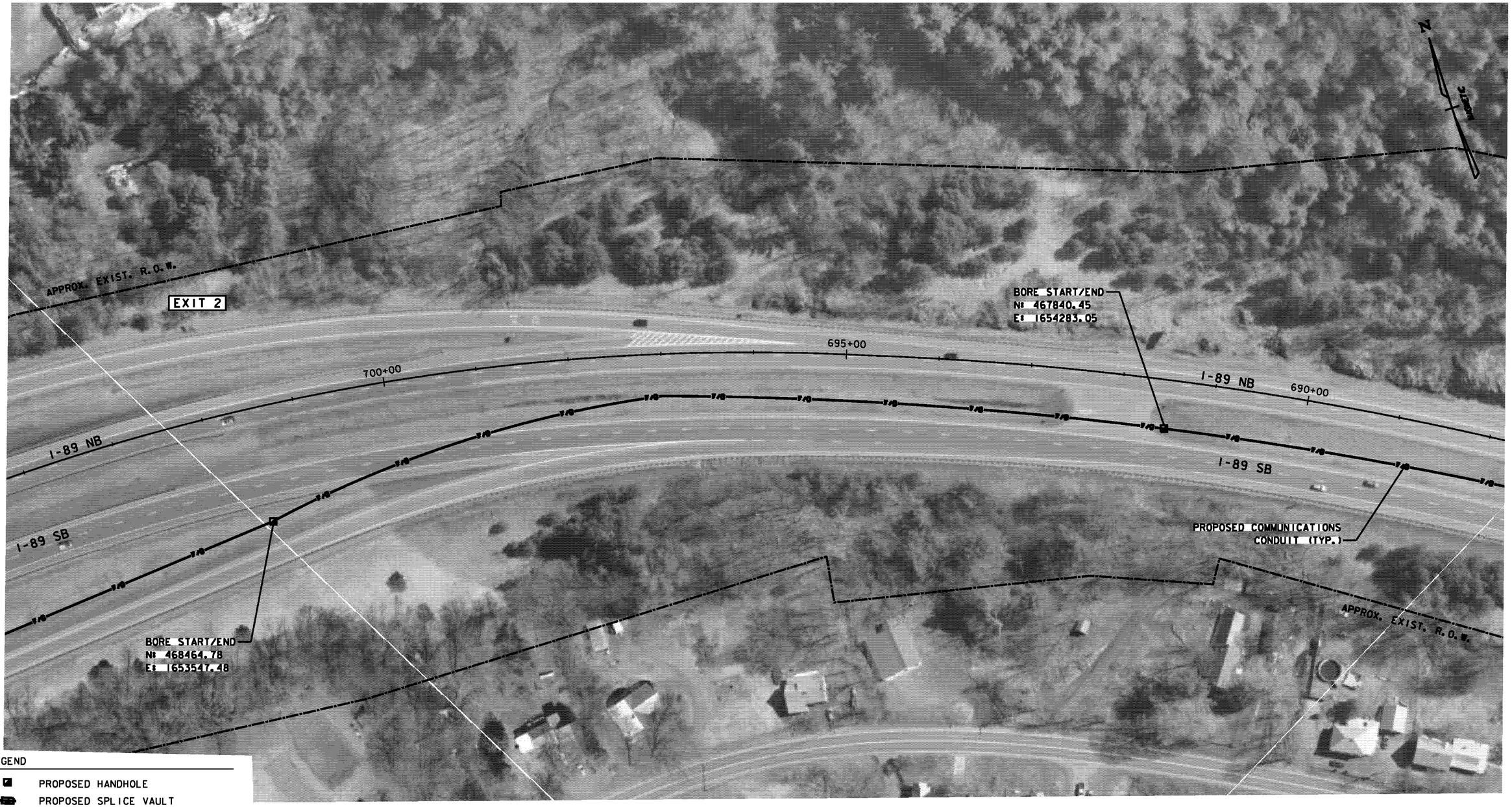
BORE PLAN - SHARON REST AREA EXIT

SCALE 1" = 50'-0"

50 0 50

PROJECT NAME: HARTFORD SHARON
PROJECT NUMBER: FITS503

FILE NAME: z06e142UTL7.dgn	PLOT DATE: 9/15/2010
PROJECT LEADER: J. YOUNG	DRAWN BY: S. GUNN
DESIGNED BY: J. DURANTE	CHECKED BY: J. YOUNG
BORE PLAN - SHARON RA EXIT RAMP	SHEET 31 OF 70



LEGEND

- PROPOSED HANDHOLE
- PROPOSED SPLICE VAULT
- —F/O— PROPOSED COMMUNICATION CONDUIT
- —ST— EXISTING STORM DRAIN
- ====== EXISTING UNDERDRAIN
- - S — ·· EXISTING SEWER LINE
- - G — ·· EXISTING GAS LINE
- — W —·· EXISTING WATER LINE
- ——RD— EXISTING ROOF DRAIN

GENERAL NOTES:

1. UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE RECORDS AND FIELD OBSERVATIONS BUT ARE NOT NECESSARILY EXACT. UTILITY LOCATIONS SHALL BE VERIFIED AT LEAST 100' IN ADVANCE OF TRENCHES, OR BORING, TO FACILITATE CABLE PLACEMENT IN THE EVENT OF CONFLICTS.

BORE PLAN - EXIT 2

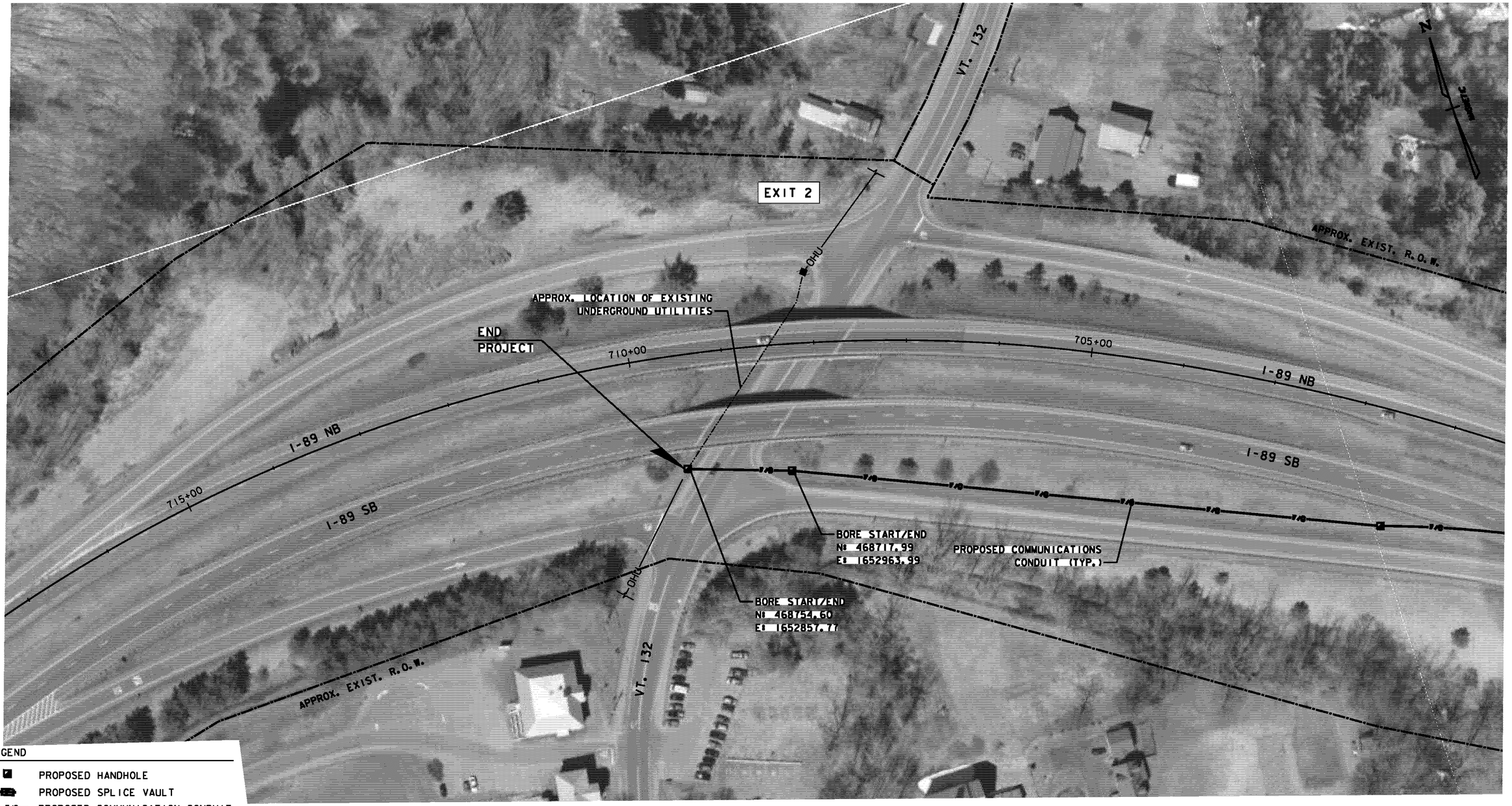
SCALE 1" = 50'-0"

50 0 50

PROJECT NAME: HARTFORD SHARON
PROJECT NUMBER: FITS503

FILE NAME: z06e142UTL8.dgn
PROJECT LEADER: J. YOUNG
DESIGNED BY: J. DURANTE
BORE PLAN - EXIT 2

PLOT DATE: 9/15/2010
DRAWN BY: S. GUNN
CHECKED BY: J. YOUNG
SHEET 32 OF 70



LEGEND

- PROPOSED HANDHOLE
- PROPOSED SPLICE VAULT
- F/O — PROPOSED COMMUNICATION CONDUIT
- ST — EXISTING STORM DRAIN
- EXISTING UNDERDRAIN
- S — EXISTING SEWER LINE
- G — EXISTING GAS LINE
- W — EXISTING WATER LINE
- RD — EXISTING ROOF DRAIN
- EXISTING UTILITY POLE

UTILITY & BORE PLAN - I-89 OVER VT. 132

SCALE 1" = 50'-0"

50 0 50

GENERAL NOTES:

1. UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE RECORDS AND FIELD OBSERVATIONS BUT ARE NOT NECESSARILY EXACT. UTILITY LOCATIONS SHALL BE VERIFIED AT LEAST 100' IN ADVANCE OF TRENCHES, OR BORING, TO FACILITATE CABLE PLACEMENT IN THE EVENT OF CONFLICTS.

PROJECT NAME: HARTFORD SHARON
PROJECT NUMBER: FITS503

FILE NAME: z06e142UTL9.dgn
PROJECT LEADER: J. YOUNG
DESIGNED BY: J. DURANTE
UTILITY& BORE PLAN-I-89 OVER VT132

PLOT DATE: 9/15/2010
DRAWN BY: S. GUNN
CHECKED BY: J. YOUNG
SHEET 33 OF 70

REEL #1 4.5 Click = 14,760'			
Sheet	Fiber (ft)	Description	Cum. Footage
1 of 14	500	NB I-91 Hartford Rest Area Coi	
	600	Bore across I-91	
	200	SV#1 FOC Coil	
	3058	Spider Plow	
	105	HH#1 and FOC Coil	
	1539.5	Spider Plow	
		Cum. Sheet Footage =	**6002.5**
		Remaining on reel (ft) =	**8609.9**
2 of 14	897.5	Spider Plow	
	105	HH#2 and FOC Coil	
	2060	Trench at Interchange	
	105	HH#4 and FOC Coil	
	245	Bore across I89 SB	
	155	SV#3 and FOC Coil	
	648	CAT Plow	
		Cum. Sheet Footage =	**4215.5**
		Remaining on reel (ft) =	**4394.4**
3 of 14	272.5	CAT Plow	
	105	HH#5 and FOC Coil	
	700	Bore through Vt.5 & HH#6	
	50	HH#6 FOC Coil	
	105	HH#7 and FOC Coil	
	2760	CAT Plow	
	77.5	HH#8S and 50' Splice Coil	
		Cum. Sheet Footage =	**4070**
		Extra FOC on reel (ft) =	**324.4**

REEL #2 3 Click = 9840'			
Sheet	Fiber (ft)	Description	Cum. Footage
3 of 14	77.5	HH#9S and 50' Splice Coil	
	727.5	CAT Plow	
	500	Trench	
	800	CAT Plow	
		Cum. Sheet Footage =	**2105**
		Remaining on reel (ft) =	**7636.6**
4 of 14	800	CAT Plow	
	105	HH#9 and FOC Coil	
	2800	CAT Plow	
	105	HH#10 and FOC Coil	
	1990.5	CAT Plow	
		Cum. Sheet Footage =	**5800.5**
		Remaining on reel (ft) =	**1836.1**
5 of 14	427.5	CAT Plow	
	105	HH#11 and FOC Coil	
	72.5	Trench BR-7	
	592.5	CAT Plow	
	77.5	HH#12S and FOC Coil	
		Cum. Sheet Footage =	**1275**
		Extra FOC on reel (ft) =	**561.1**

REEL #3 3 Click = 9840'			
Sheet	Fiber (ft)	Description	Cum. Footage
5 of 14	77.5	HH#12S and 50' Splice Coil	
	406	Bore across I89 NB	
	962.5	Trench	
	105	HH#13 and FOC Coil, Meet-Me	
	218	Bore Exit 1 at Vt. 4	
	105	HH#14 and FOC Coil	
	835	Trench	
	105	HH#15 and FOC Coil	
	450	Bore across I89 NB	
	105	HH#16 and FOC Coil	
	1077	CAT Plow	
	105	HH#17 and FOC Coil	
	547.5	Trench	
	100	CAT Plow	
		Cum. Sheet Footage =	**5198.5**
		Remaining on reel (ft) =	**4543.1**
6 of 14	1378.5	CAT Plow	
	105	HH#18 and FOC Coil	
	2745	CAT Plow	
	77.5	HH#19S and 50' Splice Coil	
		Cum. Sheet Footage =	**4306**
		Extra FOC on reel (ft) =	**237.1**

REEL #4 3 Click = 9840'			
Sheet	Fiber (ft)	Description	Cum. Footage
6 of 14	77.5	HH#19S and 50' Splice Coil	
	1466.5	CAT Plow	
	105	HH#20 and FOC Coil	
	245	Trench	
		Cum. Sheet Footage =	**1894**
		Remaining on reel (ft) =	**7847.6**
7 of 14	700.5	Trench	
	105	HH#21 and FOC Coil	
	2745	CAT Plow	
	105	HH#22 and FOC Coil	
	2444.5	CAT Plow	
		Cum. Sheet Footage =	**6100**
		Remaining on reel (ft) =	**1747.6**
8 of 14	0.5	CAT Plow	
	105	HH#23 and FOC Coil	
	312	Trench	
	105	HH#24 and FOC Coil	
	1102	Bridge Attachment	
	77.5	HH#25S and 50' Splice Coil	
		Cum. Sheet Footage =	**1702**
		Extra FOC on reel (ft) =	**45.6**

REEL #5 3 Click = 9840'			
Sheet	Fiber (ft)	Description	Cum. Footage
8 of 14	77.5	HH#25S and 50' for Splice	
	863	CAT Plow	
	105	HH#26 and FOC Coil	
	387.5	Trench	
	2212.5	CAT Plow	
	105	HH#27 and FOC Coil	
	1107.5	CAT Plow	
		Cum. Sheet Footage =	**4858**
		Remaining on reel (ft) =	**4883.6**
9 of 14	900	CAT Plow	
	222.5	Trench	
	105	HH#28 and FOC Coil	
	3345	Spider Plow	
	77.5	HH#29S and 50' Splice Coil	
		Cum. Sheet Footage =	**4650**
		Extra FOC on reel (ft) =	**233.6**

REEL #6 3 Click = 9840'			
Sheet	Fiber (ft)	Description	Cum. Footage
9 of 14	77.5	HH#29S and 50' Splice Coil	
	225	Bore I89 Median and Elevate	
	105	HH#30 and FOC Coil	
	600	Trench Sharon RA (Approx.)	
	500	SV#4 Coil	
	1400	Trench Sharon RA (Approx.)	
	105	HH#30 and FOC Coil	
	47.5	Bore across I89 NB	
		Cum. Sheet Footage =	**3060**
		Remaining on reel (ft) =	**6681.6**
10 of 14	372.5	Bore across I89 NB	
	105	HH#32 and FOC Coil	
	972.5	Trench	
	1972.5	Spider Plow	
	105	HH#33 and FOC Coil	
	197.5	Trench	
	105	HH#30 and FOC Coil	
	1797.5	CAT Plow	
	77.5	HH#34S and 50' Splice Coil	
		Cum. Sheet Footage =	**5705**
		Extra FOC on reel (ft) =	**976.6**

REEL #7 3 Click = 9840'			
Sheet	Fiber (ft)	Description	Cum. Footage
10 of 14	77.5	HH#34S and 50' Splice Coil	
	822.5	CAT Plow	
		Cum. Sheet Footage =	**900**
		Remaining on reel (ft) =	**8841.6**
11 of 14	97.5	CAT Plow	
	105	HH#35 and FOC Coil	
	2745	CAT Plow	
	105	HH#36 and FOC Coil	
	1772.5	CAT Plow	
	547.5	Trench	
	105	HH#37 and FOC Coil	
	172.5	CAT Plow	
		Cum. Sheet Footage =	**5650**
		Remaining on reel (ft) =	**3191.6**
12 of 14	2872.5	CAT Plow	
	77.5	HH#38S and 50' Splice Coil	
		Cum. Sheet Footage =	**2950**
		Extra FOC on reel (ft) =	**241.6**

REEL #8 3 Click = 9840'			
Sheet	Fiber (ft)	Description	Cum. Footage
12 of 14	77.5	HH#38S and 50' Splice Coil	
	1672.5	CAT Plow	
	522.5	Trench	
	105	HH#39 and FOC Coil	
	672.5	CAT Plow	
	100	Trench	
	250	CAT Plow	
		Cum. Sheet Footage =	**3400**
		Remaining on reel (ft) =	**6341.6**
13 of 14	1000	CAT Plow	
	572.5	Trench	
	105	HH#40 and FOC Coil	
	1472.5	CAT Plow	
	247.5	Trench	
	105	HH#41 and FOC Coil	
	320	CAT Plow	
	105	HH#41 and FOC Coil	
	945	Bore across I89 SB	
	105	HH#42 and FOC Coil	
	625	Trench	
	105	HH#43 and FOC Coil	
	75	Bore across Vt.132	
	177.5	HH#4S, Splice Coil, Meet-Me	
		Cum. Sheet Footage =	**5960**
		Extra FOC on reel (ft) =	**381.6**

NOTE: ALL REEL CALCULATION TOTALS INCORPORATE A NEGATIVE 1% WASTE FACTOR FROM THE TOTAL PURCHASED LENGTH.

PROJECT NAME: HARTFORD SHARON
PROJECT NUMBER: FITS503

FILE NAME: z02848471RQN.dgn
PROJECT LEADER: J. YOUNG
DESIGNED BY: J. DURANTE
FIBER OPTIC REEL CALCULATIONS

PLOT DATE: 9/16/2010
DRAWN BY: S. GUNN
CHECKED BY: J. YOUNG
SHEET 34 OF 70

VTRANS Sharon Hartford I-89 Fiber Oiptic Installation Tasks by Station

Sheet #	Start Sta.	End Sta.	Distance	Operational Notes
1 of 14		510+00	0	Start of Project @ I-91 NB Hartford Rest Area
1 of 14	--	--	600	I-91 NB RA to I-91 SB RA utilizing existing 6" HDPE duct
1 of 14	51092.5	51147.5	55	Trench area for Splice Vault #1 in I-91 SB Hartford RA
1 of 14	--	--	100	Additional Trench to Expose Existing 6" HDPE at I-91 SB Hartford RA
1 of 14	51147.5	54205.5	3058	Spider Plow
1 of 14	54205.5	54260.5	55	Handhole #1
1 of 14	54260.5	55800	1539.5	Spider Plow
Sheet #	**Start Sta.**	**End Sta.**	**Distance**	**Operational Notes**
2 of 14	55800	56697.5	897.5	Spider Plow
2 of 14	56697.5	56752.5	55	Handhole #2
2 of 14	56752.5	58812.5	2060	Trench & Place (2) 4" BSP at I-91 and I-89 Interchange
2 of 14	472.5	527.5	55	Splice Vault #2
2 of 14	527.5	2372.5	1845	Cat Plow
2 of 14	2372.5	2427.5	55	Handhole #3
2 of 14	2427.5	4177.5	1750	Cat Plow
2 of 14	4177.5	4232.5	55	Handhole #4
2 of 14	4232.5	4497.5	265	Directional Drill
2 of 14	4497.5	4552.5	55	Splice Vault #2
2 of 14	4552.5	5200	647.5	Cat Plow
Sheet #	**Start Sta.**	**End Sta.**	**Distance**	**Operational Notes**
3 of 14	5200	5472.5	272.5	Cat Plow
3 of 14	5472.5	5527.5	55	HandHole #5
3 of 14	5527.5	6202.5	675	Directional Bore Vt. 5 and Thru HH#6
3 of 14	5542.5	5597.5	55	Trench for HH #6
3 of 14	6202.5	6257.5	55	Trench for HH #7
3 of 14	6257.5	9017.5	2760	Cat Plow
3 of 14	9017.5	9072.5	55	Handhole #8S (Splice Point)
3 of 14	9072.5	9800	727.5	Cat Plow
3 of 14	9800	10300	500	Trench
3 of 14	10300	11100	800	Cat Plow
Sheet #	**Start Sta.**	**End Sta.**	**Distance**	**Operational Notes**
4 of 14	11100	11900.5	800.5	Cat Plow
4 of 14	11900.5	11955.5	55	Handhole #9
4 of 14	11955.5	14754.5	2799	Cat Plow
4 of 14	14754.5	14809.5	55	Handhole #10
4 of 14	14809.5	16800	1990.5	Cat Plow
Sheet #	**Start Sta.**	**End Sta.**	**Distance**	**Operational Notes**
5 of 14	16800	17227.5	427.5	Cat Plow
5 of 14	17227.5	17282.5	55	Handhole #11
5 of 14	17282.5	17355	72.5	Trench & Place (2) 4" BSP
5 of 14	17355	17947.5	592.5	Cat Plow
5 of 14	17947.5	18002.5	55	Handhole #12S
5 of 14	18002.5	18435	432.5	Directional Bore I-89 Median to Exit 1 NB Off Ramp
5 of 14	18435	19397.5	962.5	Trench and Place Hex-Pac I-89 Exit 1 Off ramp from I-89 NB
5 of 14	19397.5	19452.5	55	Handhole #13
5 of 14	19452.5	19670.5	218	Directional Drill at Exit 1 and VT. 4
5 of 14	19670.5	19725.5	55	Handhole #14
5 of 14	19725.5	20560.5	835	Trench and Place Hex-Pac I-89 Exit 1 On ramp to I-89 NB
5 of 14	20560.5	20615.5	55	Handhole #15
5 of 14	20615.5	21065.5	450	Directional Bore Exit 1 On ramp for I-89 NB to I-89 NB M edian
5 of 14	21065.5	21120.5	55	Handhole #16
5 of 14	21120.5	22197.5	1077	Cat Plow in median
5 of 14	22197.5	22252.5	55	Handhole #17
5 of 14	22552.5	22800	247.5	Trench & Place (2) 4" BSP - Remove and restore asphalt paving
5 of 14	22800	22900	100	Cat Plow
Sheet #	**Start Sta.**	**End Sta.**	**Distance**	**Operational Notes**
6 of 14	22900	24278.5	1378.5	Cat Plow
6 of 14	24278.5	24333.5	55	Handhole #18
6 of 14	24333.5	27078.5	2745	Cat Plow
6 of 14	27078.5	27133.5	55	Handhole #19S
6 of 14	27133.5	28600	1466.5	Cat Plow
6 of 14	28600	28655	55	Handhole #20
6 of 14	28655	28900	245	Trench & Place (2) 4" BSP
Sheet #	**Start Sta.**	**End Sta.**	**Distance**	**Operational Notes**
7 of 14	28900	29600.5	700.5	Trench & Place (2) 4" BSP
7 of 14	29600.5	29655.5	55	Handhole #21
7 of 14	29655.5	32400.5	2745	Cat Plow
7 of 14	32400.5	32455.5	55	Handhole #22
7 of 14	32455.5	34900	2444.5	Cat Plow

Sheet #	Start Sta.	End Sta.	Distance	Operational Notes
7 of 14	34900	34900.5	0.5	Cat Plow
8 of 14	34900.5	34955.5	55	Handhole #23
8 of 14	34955.5	35307.5	352	Trench & Place Hex Pac
8 of 14	35307.5	35362.5	55	Handhole #24
8 of 14	35362.5	36464.5	1102	Bridge #11 Attachment (see detail sheets)
8 of 14	36464.5	36519.5	55	Handhole #25S
8 of 14	36519.5	37382.5	863	Cat Plow
8 of 14	37382.5	37437.5	55	Handhole #26
8 of 14	37437.5	37825	387.5	Trench & Place (2) 4" BSP
8 of 14	37825	40037.5	2212.5	Cat Plow
8 of 14	40037.5	40092.5	55	Handhole #27
8 of 14	40092.5	41200	1107.5	Cat Plow
Sheet #	**Start Sta.**	**End Sta.**	**Distance**	**Operational Notes**
9 of 14	41200	42100	900	Cat Plow
9 of 14	42100	42322.5	222.5	Trench and Place (2) 4" Black Steel Pipes
9 of 14	42322.5	42377.5	55	Handhole #28
9 of 14	42377.5	45722.5	3345	Spider Plow
9 of 14	45722.5	45777.5	55	Handhole #29S - Splice Point
9 of 14	45777.5	45922.5	295	Directional Bore *includes 150' for elevation change*
9 of 14	45922.5	45977.5	55	Handhole #30
9 of 14	--	--	1600	Trench & Place Hex-Pac Around Sharon RA
10 of 14	--	--	400	Trench & Place (2) 4" BSP Around Sharon RA
9 of 14	--	--	55	Splice Vault #4 Trench area
9 of 14	47297.5	47352.5	55	Handhole #31
9 of 14	47352.5	47400	147.5	Directional Bore across I-89 NB *Includes 100' for horizontal tranisition*
Sheet #	**Start Sta.**	**End Sta.**	**Distance**	**Operational Notes**
10 of 14	47400	47772.5	372.5	Directional Bore across I-89 NB
10 of 14	47772.5	47827.5	55	Handhole #32
10 of 14	47827.5	48800	972.5	Trench & Place (2) 4" BSP
10 of 14	48800	50772.5	1972.5	Spider Plow
10 of 14	50772.5	50827.5	55	Handhole #32
10 of 14	50827.5	51025	197.5	Trench & Place Hex Pac (double x-over - open cut)
10 of 14	51025	52822.5	1797.5	Cat Plow
10 of 14	52822.5	52877.5	55	Handhole # 34S
10 of 14	52877.5	53700	822.5	Cat Plow
Sheet #	**Start Sta.**	**End Sta.**	**Distance**	**Operational Notes**
11 of 14	53700	53797.5	97.5	Cat Plow
11 of 14	53797.5	53852.5	55	Handhole #35
11 of 14	53852.5	56597.5	2745	Cat Plow
11 of 14	56597.5	56652.5	55	Handhole #36
11 of 14	56652.5	58425	1772.5	Cat Plow
11 of 14	58425	58972.5	547.5	Trench & Place (2) 4" BSP
11 of 14	58972.5	59027.5	55	Handhole #37
11 of 14	59027.5	59200	172.5	Cat Plow
Sheet #	**Start Sta.**	**End Sta.**	**Distance**	**Operational Notes**
12 of 14	59200	62072.5	2872.5	Cat Plow
12 of 14	62072.5	62127.5	55	Handhole #38S
12 of 14	62127.5	63800	1672.5	Cat Plow
12 of 14	63800	64322.5	522.5	Trench & Place (2) 4" BSP
12 of 14	64322.5	64377.5	55	Handhole #39
12 of 14	64377.5	65050	672.5	Cat Plow
12 of 14	65050	65150	100	Trench & Place (2) 4" BSP
12 of 14	65150	65400	250	Cat Plow
Sheet #	**Start Sta.**	**End Sta.**	**Distance**	**Operational Notes**
13 of 14	65400	66400	1000	Cat Plow
13 of 14	66400	66972.5	572.5	Trench & Place (2) 4" BSP
13 of 14	66972.5	67027.5	55	Handhole #40
13 of 14	67027.5	68500	1472.5	Cat Plow
13 of 14	68500	68775	275	Trench & Place (2) 4" BSP
13 of 14	68775	69122.5	347.5	Cat Plow
13 of 14	69122.5	69177.5	55	Handhole #41
13 of 14	69177.5	70122.5	945	Directional Bore to Exit 2 on ramp of I-89 SB
13 of 14	70122.5	70177.5	55	Handhole #42
13 of 14	70177.5	70802.5	625	Trench & Place Hex Pac
13 of 14	70802.5	70857.5	55	Handhole #43
13 of 14	70857.5	70932.5	75	Directional Bore VT. 132
13 of 14	70932.5	70987.5	55	Handhole #44S *includes150' of cable at final handhole*

FILE NAME	HANDHOLE LABEL	COORDINATES	
		NORTHING	EASTING
LA 1	Exisiting MH @ I91 NB RA	408859.27	1681271.62
	Exisiting MH @ I91 SB RA	409028.22	1680648.29
	SV #1	409013.20	1680741.00
	HH #1	411796.43	1682140.11
LA 2	SV#2	413920.85	1680732.00
	HH #2	414103.17	1683020.10
	HH #3	415110.44	1683655.04
	HH #4	416214.00	1682223.72
	SV #3	416493.86	1682042.04
LA 3	HH #5	417163.16	1681327.44
	HH #6	417191.65	1681350.25
	HH #7	417851.54	1681026.48
	HH #8S	420557.76	1680667.57
LA 4	HH #9	422663.39	1678906.34
	HH #10	423272.12	1676118.31
LA 5	HH #11	423786.21	1673756.11
	HH #12S	423951.02	1672998.83
	HH #13	424755.92	1671844.29
	HH #14	424875.48	1671629.85
	HH #15	425304.55	1670836.09
	HH #16	425599.46	1670417.09
	HH #17	426437.58	1669653.02
LA 6	HH #18	428009.63	1668289.49
	HH #19S	430401.41	1666857.37
	HH #20	431826.92	1666325.51
LA 7	HH #21	432763.84	1665975.95
	HH #22	435387.20	1664997.18
LA 8	HH #23	437667.46	1664101.95
	HH #24	437729.48	1664123.28
	HH #25S	439157.81	1663590.38
	HH #26	440036.65	1663239.96
	HH #27	442712.10	1663363.59
LA 9	HH #28	444740.95	1662988.75
	HH #29S	446656.49	1660349.79
	HH #30	446903.36	1660248.25
	SV #4	447299.99	1660294.02
	HH #31	447650.53	1659125.84
LA 10	HH #32	447962.44	1658723.01
	HH #33	450869.98	1658003.67
	HH #34S	452595.49	1657050.87
LA 11	HH #35	453318.13	1656410.05
	HH #36	455782.88	1655043.46
	HH #37	458008.14	1654214.37
LA 12	HH #38S	461014.92	1654690.05
	HH #39	463272.52	1654840.59
LA 13	HH #40	465869.96	1655003.92
	HH #41	467840.45	1654283.05
	HH #42	468464.78	1653547.48
	HH #43	466947.23	1654363.81
	HH #44S	468754.61	1652857.77

SEE ATTACHED SHEETS FOR N & E

PROJECT NAME: HARTFORD SHARON
PROJECT NUMBER: FITS503

FILE NAME: z06e142RUP.dgn
PROJECT LEADER: J. YOUNG
DESIGNED BY: J. DURANTE
RUNNING LINE ROLL-UP

PLOT DATE: 9/16/2010
DRAWN BY: S. GUNN
CHECKED BY: J. YOUNG
SHEET 35 OF 70

Hartford- Sharon FITS (503)

Hand Hole	Mile Marker	Northing	Easting
Existing MH @ I91 NB RA	N/A	408858	1681272
Existing MH @ I91 SB RA	N/A	409027	1680648
SV #1	SB Hartford Rest Area	409013	1680741
1	MM 69.11 I91 SB	411795	1682140
SV #2	MM .05 NB Median	413904	1685124
2	MM 69.53 I91 SB	413933	1683032
3	MM .45 I89 NB	415091	1683660
4	MM .79 I89/I91 Ramp	416251	1682218
SV #3	MM .84 NB Median	416494	1682041
5	MM 1.04 I89 NB	417149	1681343
6	MM 1.05 I89 NB Median	417176	1681294
7	MM 1.19 I89 NB	417890	1681028
8S	MM 1.71 I 89 NB	420557	1680668
9	MM 2.26 I89 NB	422671	1678943
10	MM 2.80 I89 NB	423271	1676118
11	MM 3.27 I89 NB	423786	1673756
12S	MM 3.41 I89 NB	423950	1672999
13	I89 Exit 1 Off Ramp NB	424756	1671843
14	I89 Exit 1 Off Ramp NB	424875	1671629
15	I89 Exit 1 Off Ramp NB	425305	1670836
16	MM 4.0 I89 NB	425599	1670417
17	MM 4.29 I89 NB	426437	1669653
18	MM 4.60 I89 NB	428010	1668288
19S	MM 5.13 I89 NB	430400	1666856
20	MM 5.43 I89 NB	431826	1666326
21	MM 5.61 I89 NB	432764	1665976
22	MM 6.14 I89 NB	435387	1664997
23	MM 6.62 I89 NB	437667	1664102
24	MM 6.68 I89 NB	438097	1663963
25S	MM 6.96 I89 NB	439158	1663590
26	MM 7.08 I89 SB	440036	1663240
27	MM 7.58 I89 SB	444741	1663363
28	MM 8.02 I89 SB	444741	1662989
29S	MM 8.66 I89 SB	446655	1660350
30	MM 8.71 I89 NB	446902	1660248
SV #4	NB Sharon Rest Area	447321	1660324
31	MM 9.0 I89 NB	444723	1662995
32	MM 9.05 I89 SB	447961	1658722
33	MM 9.65 I89 SB	450870	1658004
34S	MM 9.99 I89 SB	452594	1657050
35	MM 10.19 I89 SB	453318	1656409
36	MM 10.72 I89 SB	455783	1655043
37	MM 11.24 I89 SB	458007	1654214
38S	MM 11.75 I89 SB	461014	1654690
39	MM 12.20 I89 SB	463272	1654840
40	MM 12.70 I89 SB	465899	1655007
41	MM 13.10 I89 SB	467810	1654313

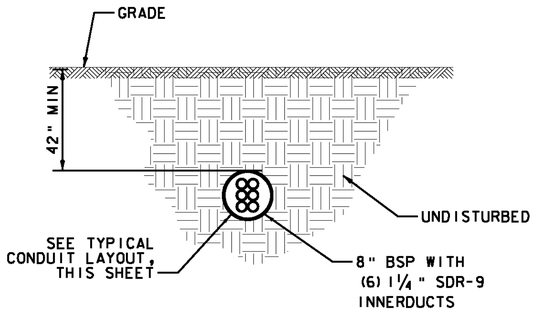
Hartford- Sharon FITS (503)

42	I89 Exit 2 On Ramp SB	468464	1653547
43	I89 Exit 2 On Ramp SB	466946	1654363
44S	I89 Exit 2 Off Ramp SB	468755	1652858

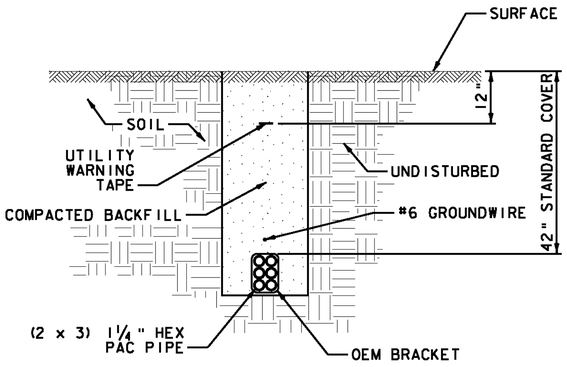
Hand Hole locations. | Hartford - Sharon FITS (503)

Hand Hole	Mile Marker
H H # 1	69.11 I-91 S.B.
H H # 2	69.53 I-91 S.B.
H H # 3	.45 I-89 N.B.
H H # 4	.79 I-89 / I-91 Ramp
H H # 5	1.04 I-89 N.B.
H H # 6	1.05 I-89 N.B. Median
H H # 7	1.19 I-89 N.B.
H H # 8S	1.71 I-89 N.B.
H H # 9	2.26 I-89 N.B.
H H # 10	2.80 I-89 N.B.
H H # 11	3.27 I-89 N.B.
H H # 12S	3.41 I-89 N.B.
H H # 13	I-89 Exit 1 off Ramp N.B.
H H # 14	I-89 Exit 1 on Ramp N.B.
H H # 15	"
H H # 16	4.0 I-89 N.B.
H H # 17	4.29 I-89 N.B.
H H # 18	4.60 I-89 N.B.
H H # 19S	5.13 I-89 N.B.
H H # 20	5.43 I-89 N.B.
H H # 21	5.61 I-89 N.B.
H H # 22	6.14 I-89 N.B.
H H # 23	6.62 I-89 N.B.
H H # 24	6.68 I-89 N.B.
H H # 25S	6.96 I-89 N.B.
H H # 26	7.08 I-89 ~~N.B.~~ S.B.
H H # 27	7.58 I-89 ~~N.B.~~ S.B.
H H # 28	8.02 I-89 ~~N.B.~~ S.B.
H H # 29S	8.66 I-89 ~~N.B.~~ S.B.
H H # 30	8.71 I-89 N.B.
H H # 31	9.0 I-89 N.B.
H H # 32	9.05 I-89 S.B.
H H # 33	9.65 I-89 S.B.
H H # 34S	9.99 I-89 S.B.
H H # 35	10.19 I-89 S.B.
H H # 36	10.72 I-89 S.B.
H H # 37	11.24 I-89 S.B.
H H # 38S	11.75 I-89 S.B.
H H # 39	12.20 I-89 S.B.
H H # 40	12.70 I-89 S.B.
H H # 41	13.10 I-89 S.B.
H H # 42	I-89 Exit 2 on Ramp S.B.
H H # 43	"
H H # 44S	I-89 Exit 2 off Ramp S.B.

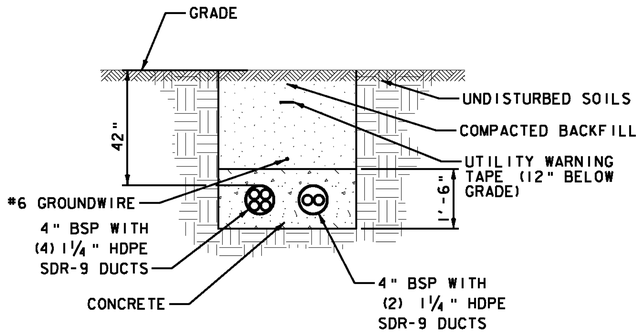
TOPS. DECCO



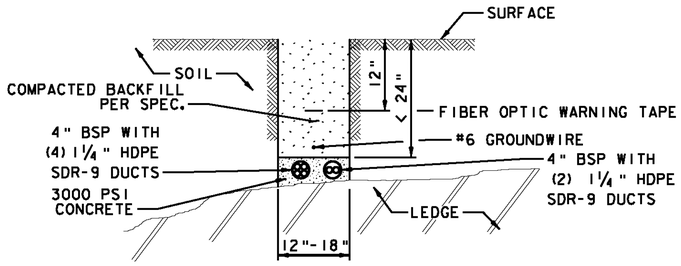
TYPICAL 8" STEEL ENCASED BORE
NOT TO SCALE



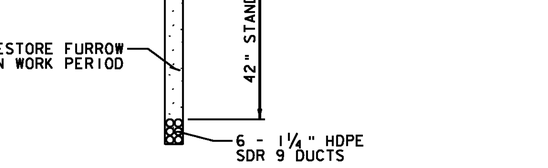
TYPICAL TRENCH & PLACE HEX PAC DUCT
NOT TO SCALE



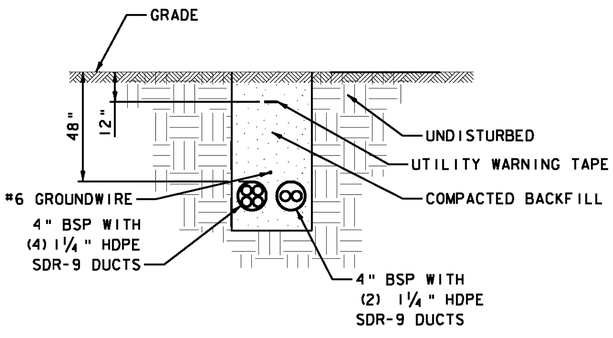
TYPICAL CONCRETE ENCASED STEEL IN TRENCH
NOT TO SCALE



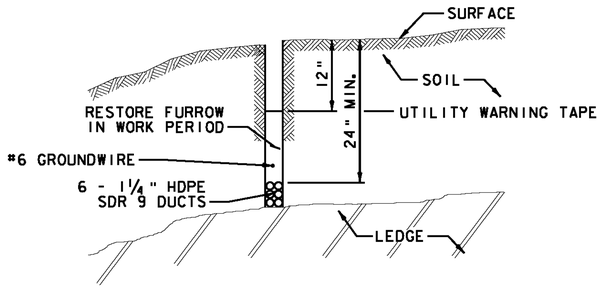
LESS THAN 24" COVER
BSP & CONCRETE
NOT TO SCALE



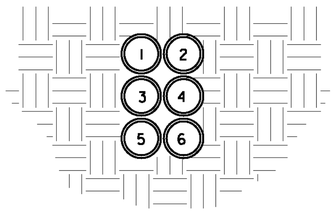
PLOW FURROW CROSS SECTION
NOT TO SCALE



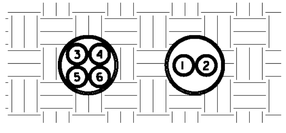
TYPICAL STEEL IN TRENCH
NOT TO SCALE



MINIMUM PLOW DEPTH IN LEDGE
NOT TO SCALE

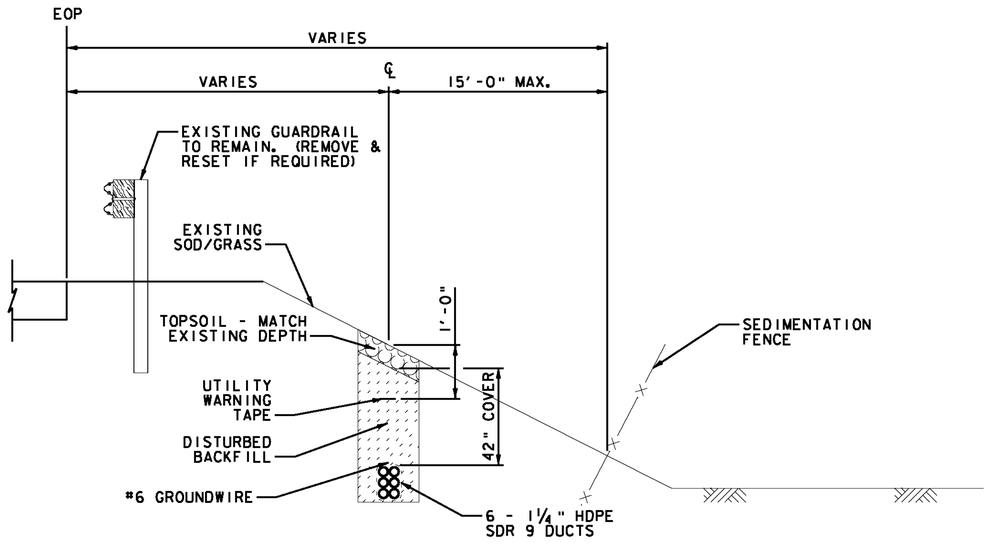


TYPICAL CONDUIT LAYOUT
NOT TO SCALE

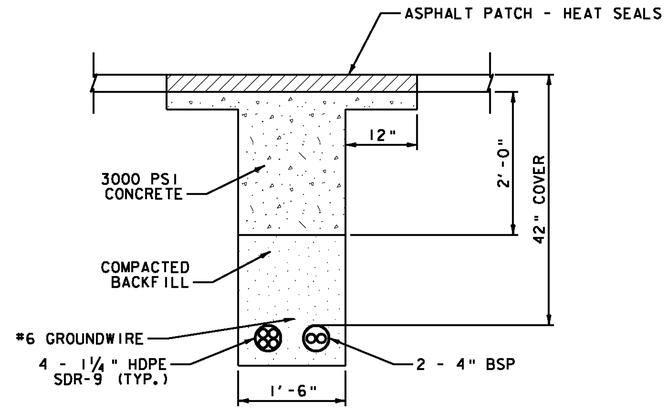


TYPICAL CONDUIT LAYOUT IN BSP
NOT TO SCALE

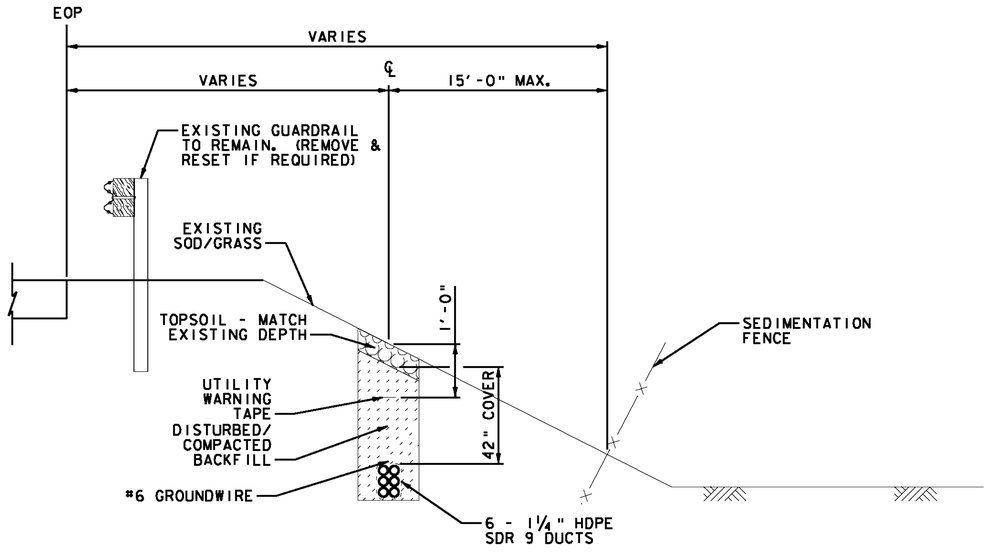
PROJECT NAME:	HARTFORD SHARON
PROJECT NUMBER:	FITS503
FILE NAME: z06e142CDT1.dgn	PLOT DATE: 10/1/2010
PROJECT LEADER: J. YOUNG	DRAWN BY: S. GUNN
DESIGNED BY: J. DURANTE	CHECKED BY: J. YOUNG
CONSTRUCTION DETAILS 1	SHEET 36 OF 70



TYPICAL SECTION - PLOW IN GRASS/SOD
NOT TO SCALE

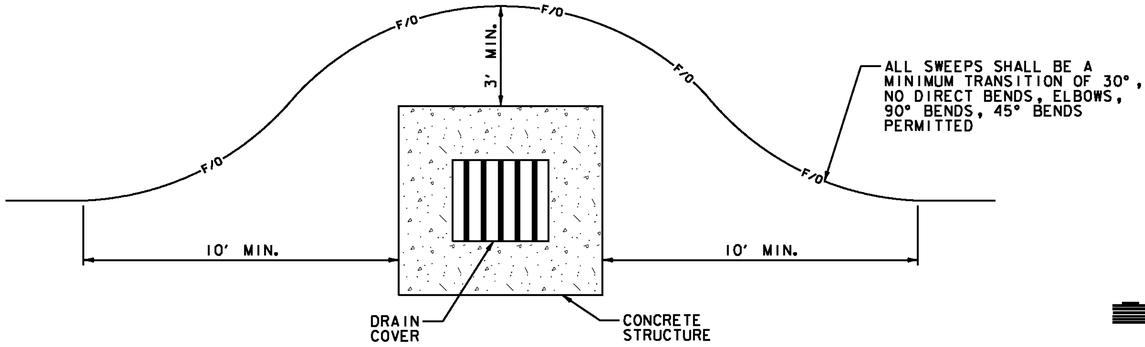


R & R ASPHALT TRENCH
NOT TO SCALE

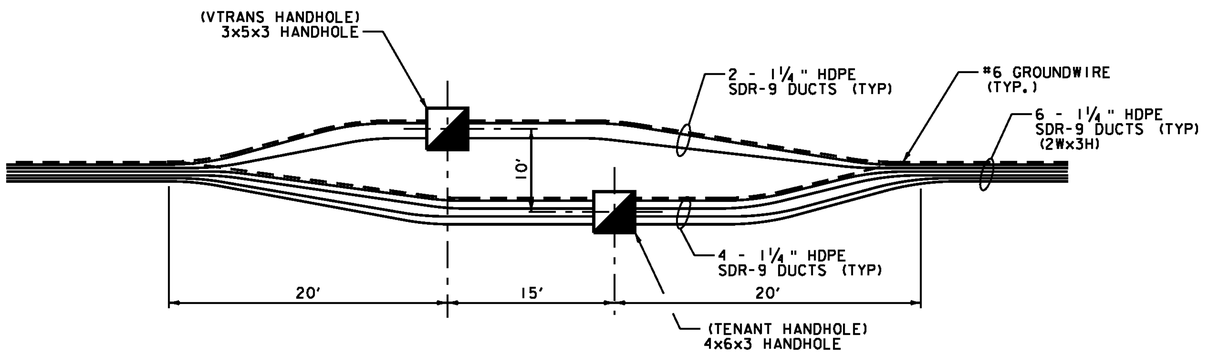


TYPICAL SECTION - PLOW INSTALLATION
NOT TO SCALE

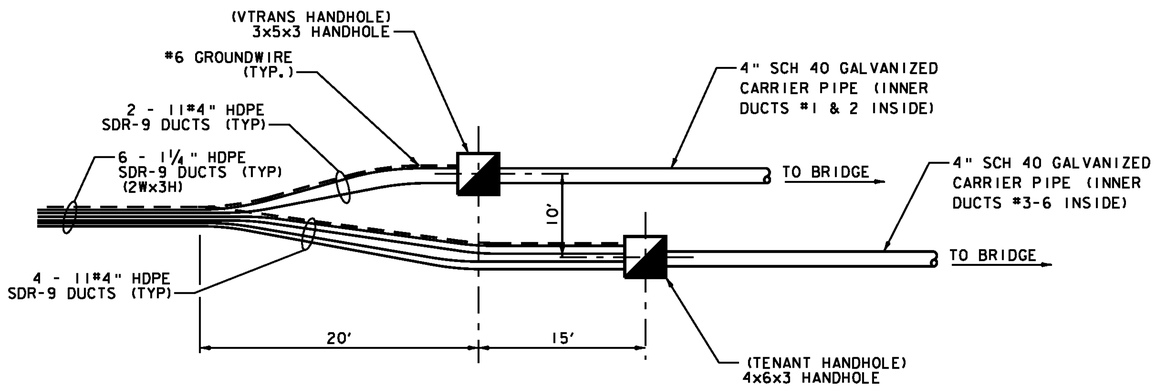
PROJECT NAME:	HARTFORD SHARON
PROJECT NUMBER:	FITS503
FILE NAME: z06e142CDTL2.dgn	PLOT DATE: 9/15/2010
PROJECT LEADER: J. YOUNG	DRAWN BY: S. GUNN
DESIGNED BY: J. DURANTE	CHECKED BY: J. YOUNG
CONSTRUCTION DETAILS 2	SHEET 37 OF 70



TYPICAL STRUCTURE DIVERSION DETAIL
NOT TO SCALE

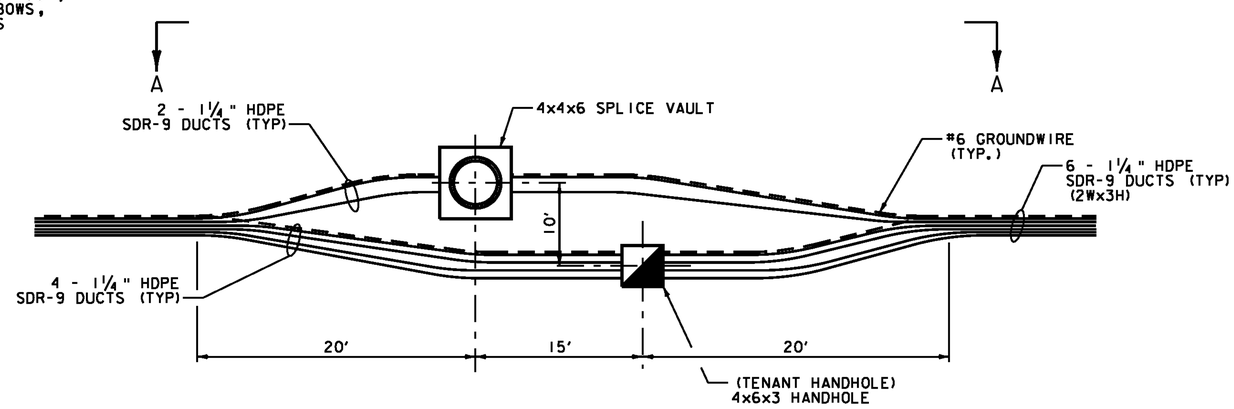


TYPICAL HANDHOLE LAYOUT
NOT TO SCALE

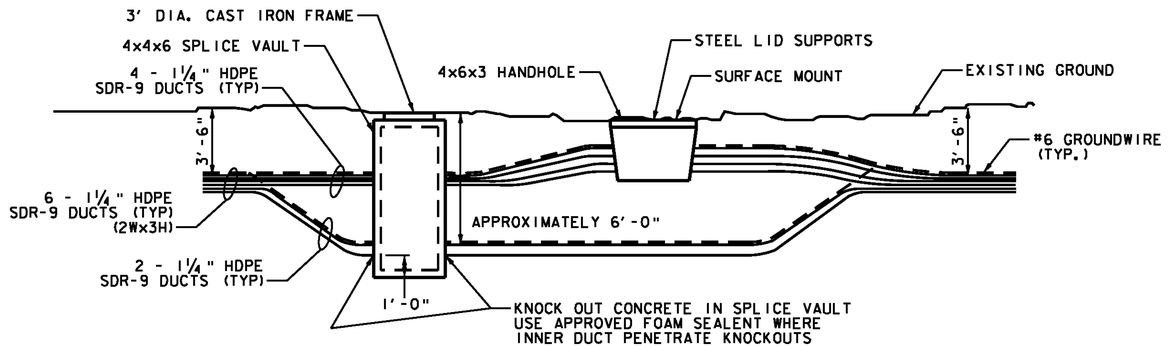


TYPICAL HANDHOLE LAYOUT @ BRIDGE 11N

PROJECT STATION: 353+35 (BRIDGE STATION: 363+05) SHOWN;
PROJECT STATION: 364+92 (BRIDGE STATION: 374+62) OPP. HAND
NOT TO SCALE

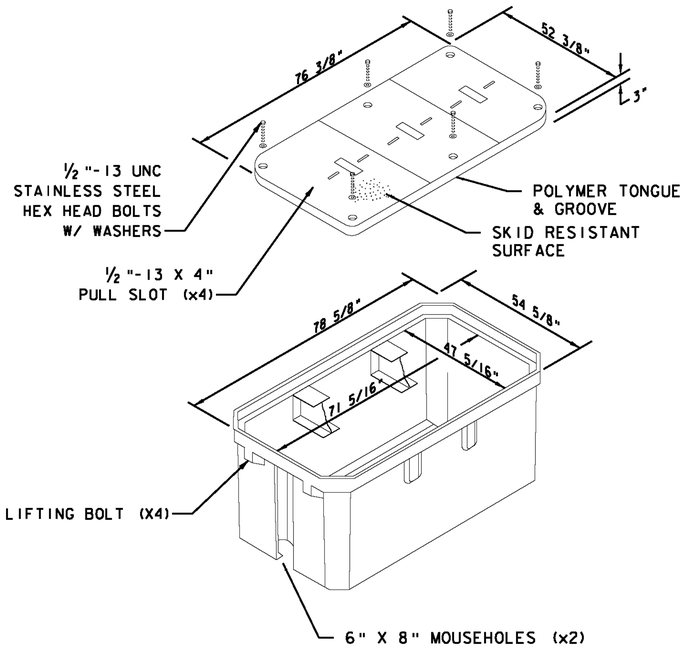


SPLICE VAULT LOCATION DETAIL
NOT TO SCALE

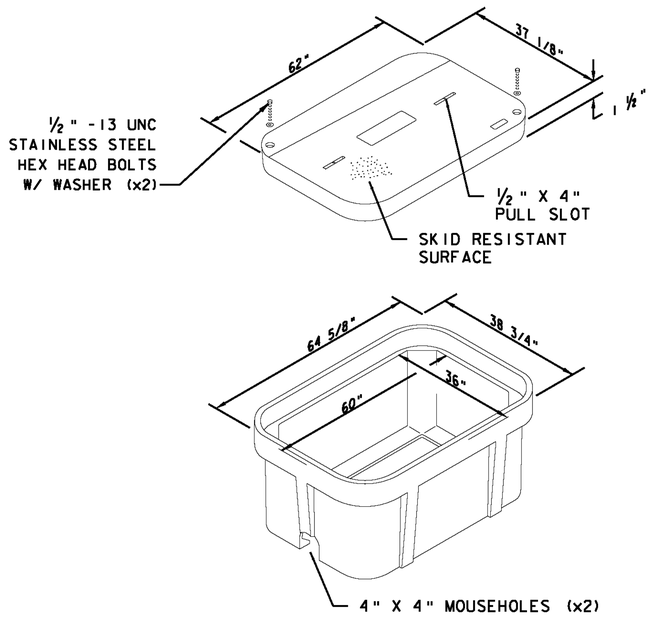


SECTION A-A
NOT TO SCALE

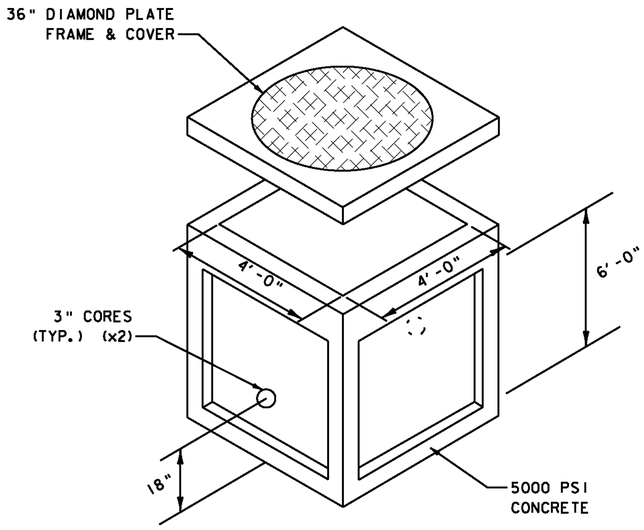
PROJECT NAME: HARTFORD SHARON	
PROJECT NUMBER: FITS503	
FILE NAME: z06e142CDTL3.dgn	PLOT DATE: 10/1/2010
PROJECT LEADER: J. YOUNG	DRAWN BY: S. GUNN
DESIGNED BY: J. DURANTE	CHECKED BY: J. YOUNG
CONSTRUCTION DETAILS 3	SHEET 38 OF 70



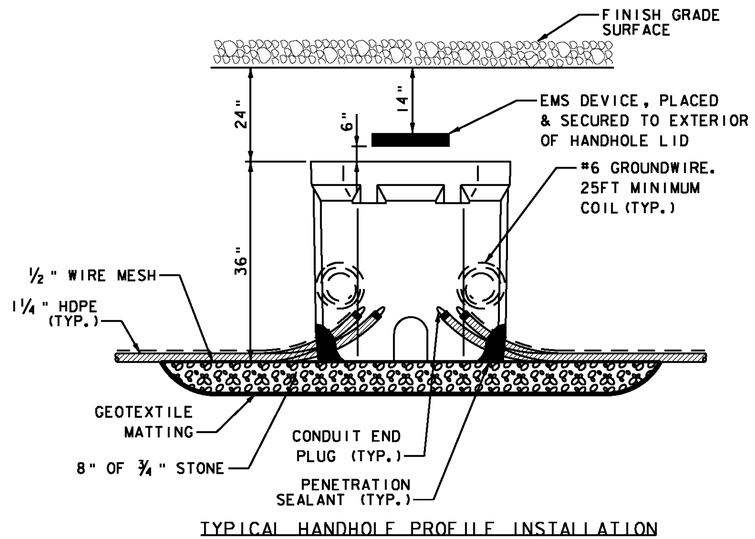
4FT x 6FT STACKABLE HANDHOLE
NOT TO SCALE



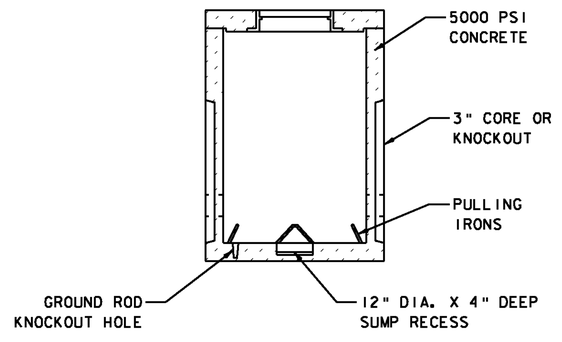
3FT x 5FT STACKABLE HANDHOLE
NOT TO SCALE



CONCRETE MANHOLE
4FT x 4FT x 6FT - ONE PIECE MANHOLE
NOT TO SCALE

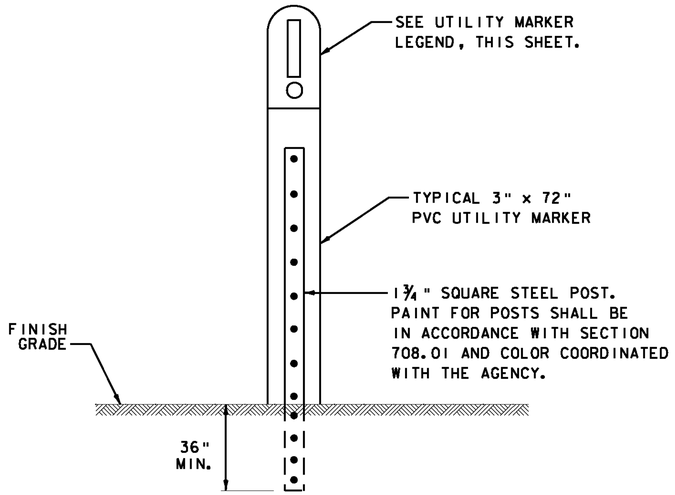


TYPICAL HANDHOLE PROFILE INSTALLATION
NOT TO SCALE

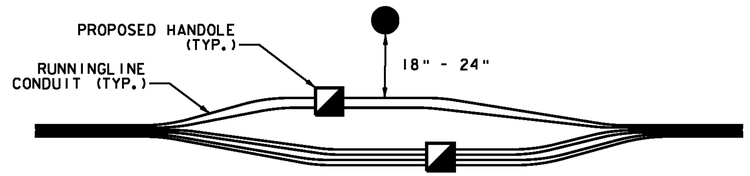


CONCRETE MANHOLE - PROFILE VIEW
4FT x 4FT x 6FT - ONE PIECE MANHOLE
NOT TO SCALE

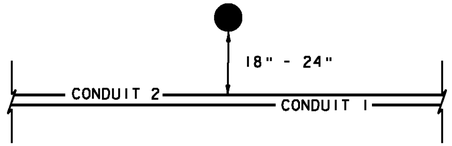
PROJECT NAME:	HARTFORD SHARON
PROJECT NUMBER:	FITS503
FILE NAME: z06e142CDTL4.dgn	PLOT DATE: 9/16/2010
PROJECT LEADER: J. YOUNG	DRAWN BY: S. GUNN
DESIGNED BY: J. DURANTE	CHECKED BY: J. YOUNG
CONSTRUCTION DETAILS 4	SHEET 39 OF 70



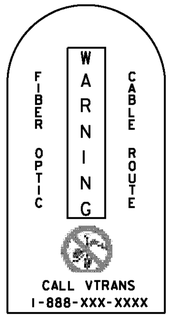
COTT MARKER DETAIL
NOT TO SCALE



UTILITY MARKER AT HANDHOLE
NOT TO SCALE



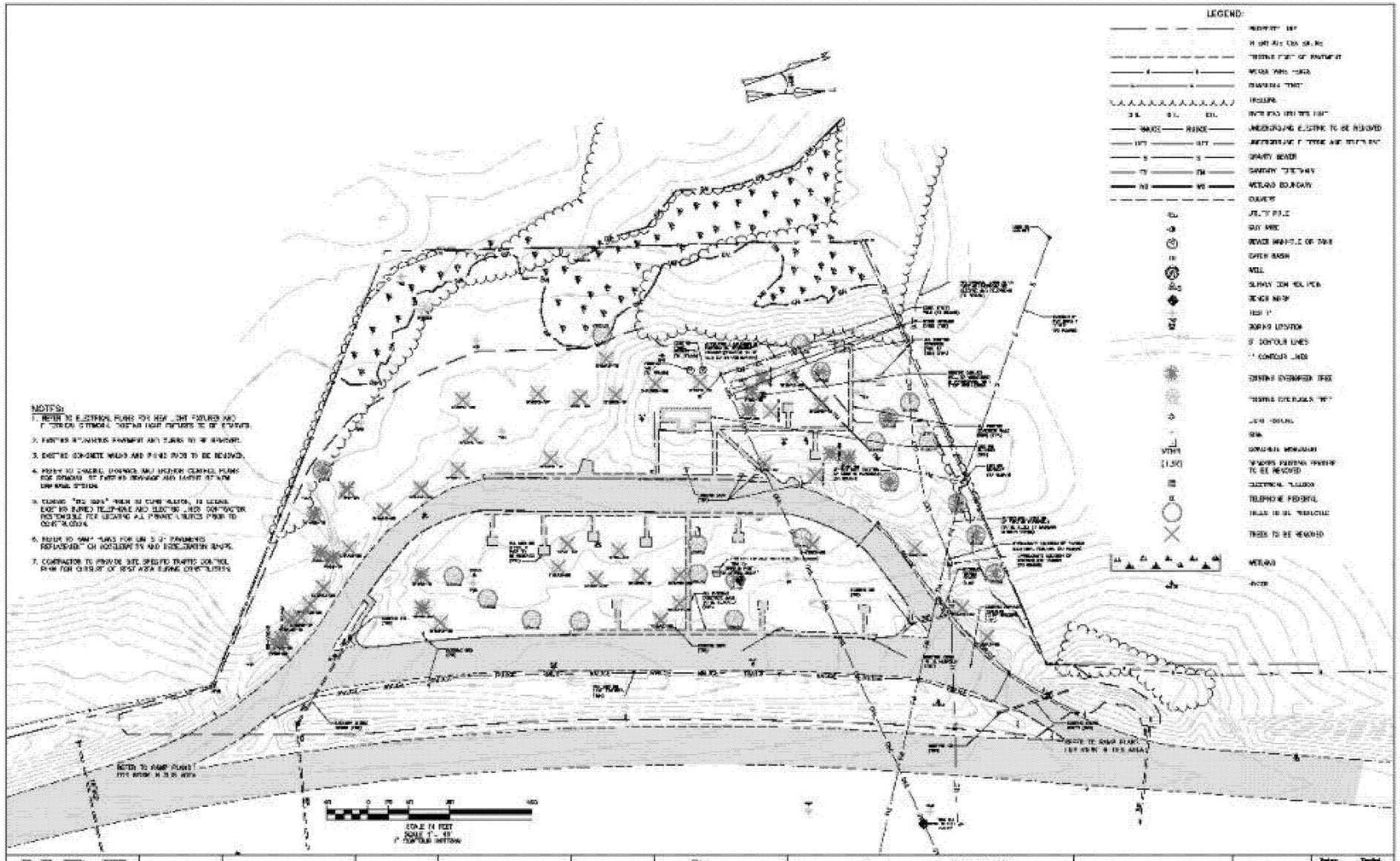
UTILITY MARKER AT RUNNING LINE
NOT TO SCALE



NOTE: CONTRACTOR TO VERIFY PHONE NUMBER

UTILITY MARKER LEGEND
NOT TO SCALE

PROJECT NAME: HARTFORD SHARON	
PROJECT NUMBER: FITS503	
FILE NAME: z06e142CDTL5.dgn	PLOT DATE: 10/1/2010
PROJECT LEADER: J. YOUNG	DRAWN BY: S. GUNN
DESIGNED BY: J. DURANTE	CHECKED BY: J. YOUNG
CONSTRUCTION DETAILS 5	SHEET 40 OF 70



N·B·F
Nimz • Bevzhill • Flikl
ARCHITECTS P.C.
24½ Center Street
Rutland, Vermont
0 5 7 0 1

Steven J. Banik, P.E.
STRUCTURAL ENGINEER
Collingsville, Vermont
0 5 7 3 8

LANE ASSOCIATES
Rutland, Vermont
0 5 7 0 1

Planning • Planning
• Development • Management
Williston, Vermont
0 5 4 9 5

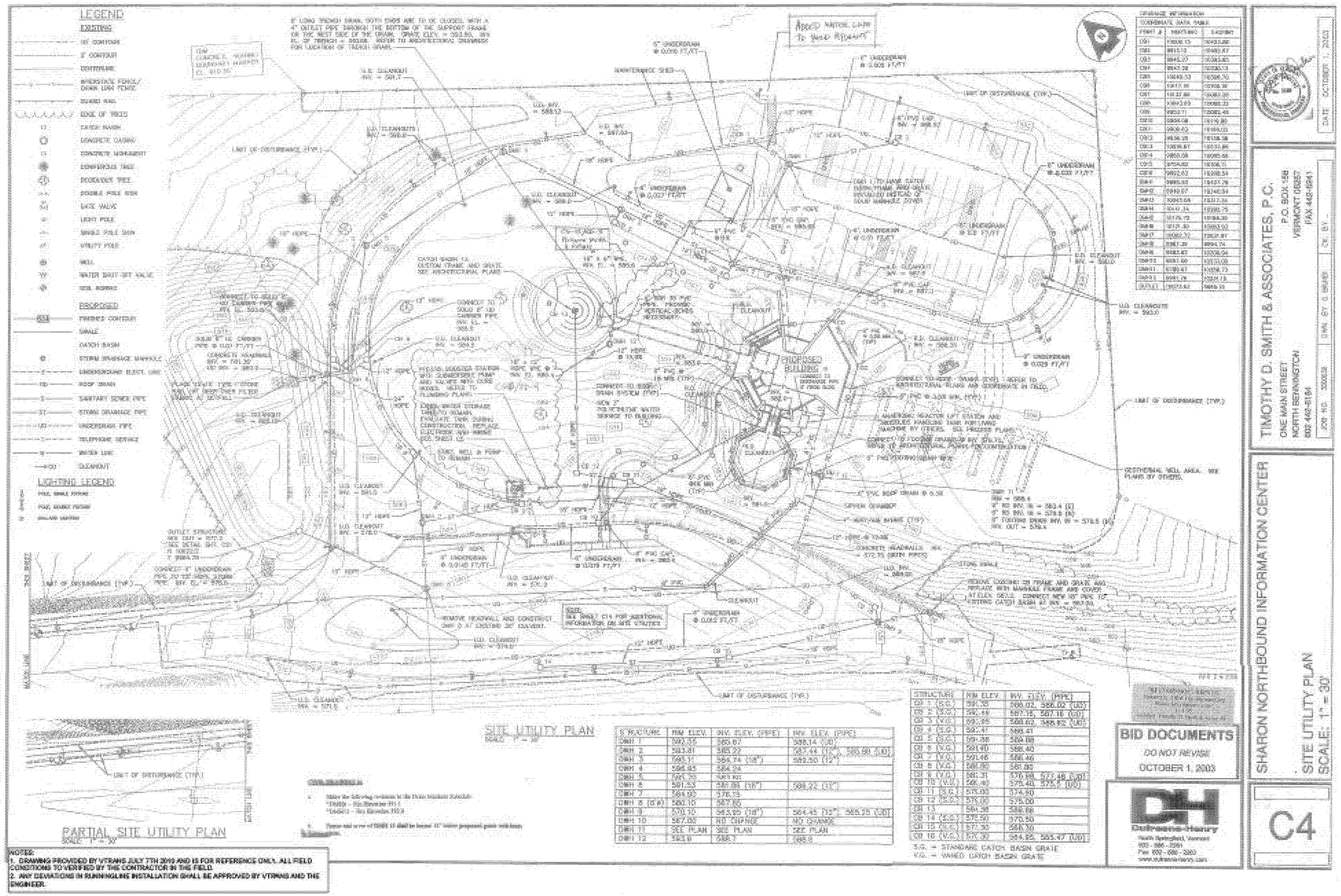
Southbound I-91
Hartford
Information Center
Hartford, Vermont

EXISTING CONDITIONS AND DEMOLITION PLAN

C2

PROVIDED BY VTRANS - FOR REFERENCE ONLY

PROJECT NAME:	HARTFORD SHARON
PROJECT NUMBER:	FITS503
FILE NAME: z06e142HRA.dgn	PLOT DATE: 9/16/2010
PROJECT LEADER: J. YOUNG	DRAWN BY: S. GUNN
DESIGNED BY: J. DURANTE	CHECKED BY: J. YOUNG
HARTFORD RA REFERENCE PLAN	SHEET 41 OF 70



NOTES:
1. DRAWING PROVIDED BY VTRANS JULY 7TH 2010 AND IS FOR REFERENCE ONLY. ALL FIELD CONDITIONS TO VERIFIED BY THE CONTRACTOR IN THE FIELD.
2. ANY DEVIATIONS IN RUNNINGLINE INSTALLATION SHALL BE APPROVED BY VTRANS AND THE ENGINEER.

PROVIDED BY VTRANS - FOR REFERENCE ONLY

PROJECT NAME:	HARTFORD SHARON
PROJECT NUMBER:	FITS503
FILE NAME: z06e142HRA.dgn	PLOT DATE: 9/16/2010
PROJECT LEADER: J. YOUNG	DRAWN BY: S. GUNN
DESIGNED BY: J. DURANTE	CHECKED BY: J. YOUNG
HARTFORD RA REFERENCE PLAN	SHEET 42 OF 70

BRIDGE INSTALLATION NOTES

GENERAL NOTES:

1. ALL STATIONING, ELEVATIONS AND DIMENSIONS OF THE EXISTING STRUCTURE (VERMONT BRIDGE NO. 11N CARRYING I-89 NORTHBOUND OVER THE WHITE RIVER, VT 14 AND NECR) ARE TAKEN FROM THE EXISTING PLANS.

2. TWO (2) 4" SCH 40 STEEL CARRIER PIPES WILL BE MOUNTED ON NEW HANGERS BETWEEN GIRDERS 2 AND 3.

3. THE FIBER OPTIC CABLES WILL RUN INSIDE CARRIER PIPES IN AN EXCAVATED TRENCH FROM THE HANDHOLES IN THE MEDIAN OF I-89 ADJACENT TO BOTH ENDS OF THE BRIDGE AS SHOWN ON THE PLANS.

4. THE CONTRACTOR SHALL INSTALL THE INNER DUCTS AND CABLES ACROSS THE BRIDGE THROUGH THE CARRIER PIPES. SEE FIBER OPTIC PLANS FOR ADDITIONAL INFORMATION.

MATERIAL NOTES:

1. CARRIER PIPE SHALL BE 4" DIA. SCH. 40 STEEL PIPE IN ACCORDANCE WITH ASTM A53 GRADE B, AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A 153.

2. EXPANSION JOINT SLEEVES SHALL BE STRUCTURAL TUBE 5 X 5 X 3/16 ASTM A500 GRADE B, AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A 153.

3. HANGER ASSEMBLY ANGLES AND TAPERED WASHER PLATES SHALL BE ASTM A36 STEEL, AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A 153.

4. ADJUSTABLE DOUBLE ROLLER GUIDES AT EACH HANGER ASSEMBLY SHALL BE COOPER B-LINE FIGURE B3122A-4 WITH NON-METALIC ROLLERS, HOT-DIP GALVANIZED SOCKETS, STAINLESS STEEL RODS (5/8" BY 30" LONG) AND STAINLESS STEEL HARDWARE, OR EQUAL.

5. THE CARRIER PIPES SHALL BE SUPPORTED ADJACENT TO ABUTMENT 2 AND ABUTMENT 4 AS SHOWN ON THE PLANS. SUPPORTS SHALL BE COOPER B-LINE PIPE SUPPORT FIGURE B3090-4 PIPE SUPPORT WITH U-BOLT AND COOPER B-LINE FIGURE B 3088-2½" BASE STAND (6" HEIGHT), OR EQUAL. SUPPORT MATERIAL SHALL BE GALVANIZED OR ELECTROPLATED. ASTM A 36 STEEL WT4X24 BRACKETS AND CONNECTION ANGLES WILL BE INSTALLED TO ATTACH THE PIPE SUPPORT TO THE OUTSIDE VERTICAL FACE OF ABUTMENTS 2 AND 4, AS SHOWN ON THE PLANS. BRACKETS AND CONNECTION ANGLES SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A 153. WT BRACKETS SHALL BE ATTACHED TO THE ABUTMENTS USING 5/8" X 5" STAINLESS STEEL RAWL POWER-BOLTS OR EQUAL.

6. 4" CARRIER PIPE SHALL BE INSTALLED AS LAID OUT ON THE CONTRACT PLANS. MINIMUM BEND RADIUS IS 42". PIPE ENDS AND COUPLINGS SHALL BE THREADED.

7. ALL BOLTS, NUTS AND WASHERS USED TO ATTACH THE HANGER ANGLES TO BRIDGE 11N SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 164 (ASTM A 325) TYPE 1, GALVANIZED.

INSTALLATION NOTES:

1. HOLES FOR THE HANGER ASSEMBLIES SHALL BE DRILLED IN EXISTING STIFFENERS AT GIRDERS 2 AND 3 AT THE LOCATIONS SHOWN. FLAME CUTTING OF THE EXISTING BRIDGE STRUCTURE IS NOT ALLOWED. HANGER ASSEMBLY SHALL BE LEVEL AT INSTALLATION.

2. DUE TO BRIDGE SKEW, THE EXISTING WEB STIFFENERS AT GIRDERS 2 AND 3 ARE LOCATED SUCH THAT THEY ARE NOT PERPENDICULAR TO EACH OTHER. HANGER ASSEMBLIES WILL BE LOCATED AT FOUR DIFFERENT STIFFENERS SPACING ACROSS THE BRIDGE (STIFFENERS AT GIRDER 3 ARE EITHER 6", 12", 24" OR 30" SOUTH OF THE CORRESPONDING STIFFENER AT GIRDER 2). AS A RESULT, THERE ARE FOUR DIFFERENT LENGTHS OF THE HANGER ASSEMBLY ANGLES AND FOUR DIFFERENT TAPERS IN HANGER ASSEMBLY WASHER PLATES. THE DIFFERENT ASSEMBLIES ARE DESIGNATED TYPE A THROUGH TYPE D. SEE THE PLANS FOR THE NUMBER AND LOCATION OF EACH HANGER TYPE.

3. IT IS ANTICIPATED THAT ACCESS TO THE BAY BETWEEN GIRDERS 2 AND 3 WILL BE FROM ABOVE USING A SNOOPER TRUCK OR SIMILAR. IT IS ANTICIPATED THAT DRILLING HOLES IN THE EXISTING STIFFENERS AND INSTALLATION OF THE HANGER ASSEMBLIES AND CARRIER PIPES WILL BE FROM PLANKING INSTALLED BETWEEN THE BOTTOM FLANGES OF GIRDERS 2 AND 3.

4. WELDING TO THE EXISTING STRUCTURE IS NOT PERMITTED. ANY DAMAGE TO THE EXISTING BRIDGE PAINTING SYSTEM SHALL BE REPAIRED AT CONTRACTOR EXPENSE TO THE SATISFACTION OF THE VERMONT AGENCY OR TRANSPORTATION.

5. THE CONTRACTOR SHALL MAKE EVERY EFFORT TO PREVENT MATERIAL AND DEBRIS FROM FALLING INTO THE WHITE RIVER DURING CONSTRUCTION.

6. INSTALLATION OF THE HANGERS AND CARRIER PIPES WILL REQUIRE WORKING OVER VT 14 AND NECR WHILE THEY REMAIN OPEN TO NORMAL TRAFFIC. WORK OVER AND ADJACENT TO VT 14 WILL BE IN ACCORDANCE WITH AN APPROVED TRAFFIC MAINTENANCE PLAN SUBMITTED BY THE CONTRACTOR. WORK OVER OR WITHIN THE FENCED NECR CORRIDOR SHALL BE IN ACCORDANCE WITH ITEM 900.650 (MAINTENANCE OF RAILROAD TRAFFIC) (N.A.B.I.).

PAYMENT NOTES:

1. REMOVAL AND REINSTALLATION OF EXISTING GUARDRAIL (APPROXIMATELY 25 LINEAR FEET EACH AT ABUTMENT 2 AND ABUTMENT 4) IS REQUIRED FOR THE INSTALLATION OF THE CONDUITS INTO THE CARRIER PIPE. THIS WORK IS TO BE PAID IN ACCORDANCE WITH ITEM 621.75, REMOVE AND RESET GUARDRAIL.

2. REMOVAL AND REINSTALLATION OF CHAINLINK SECURITY FENCE (APPROXIMATELY 25 LINEAR FEET AT ABUTMENT 4) IS REQUIRED FOR THE INSTALLATION OF THE CARRIER PIPE. THIS WORK IS TO BE PAID IN ACCORDANCE WITH ITEM 620.50, REMOVING AND RESETTING FENCE.

3. FABRICATION AND INSTALLATION OF THE HANGER ASSEMBLY ANGLES AND TAPERED PLATES AT BRIDGE 11N WILL BE PAID IN ACCORDANCE WITH ITEM 506.75, STRUCTURAL STEEL.

4. FIELD DRILLING OF HOLES IN THE EXISTING WEB STIFFENERS OF GIRDERS 2 AND 3 WILL BE PERFORMED IN ACCORDANCE WITH ITEM 900.620, SPECIAL PROVISION (FIELD DRILLING HOLES IN STRUCTURAL STEEL). FIELD DRILLED HOLES SHALL BE SPRAY GALVANIZED ON ALL NEWLY EXPOSED STEEL; INCIDENTAL TO ITEM 900.620, SPECIAL PROVISION (FIELD DRILLING HOLES IN STRUCTURAL STEEL).

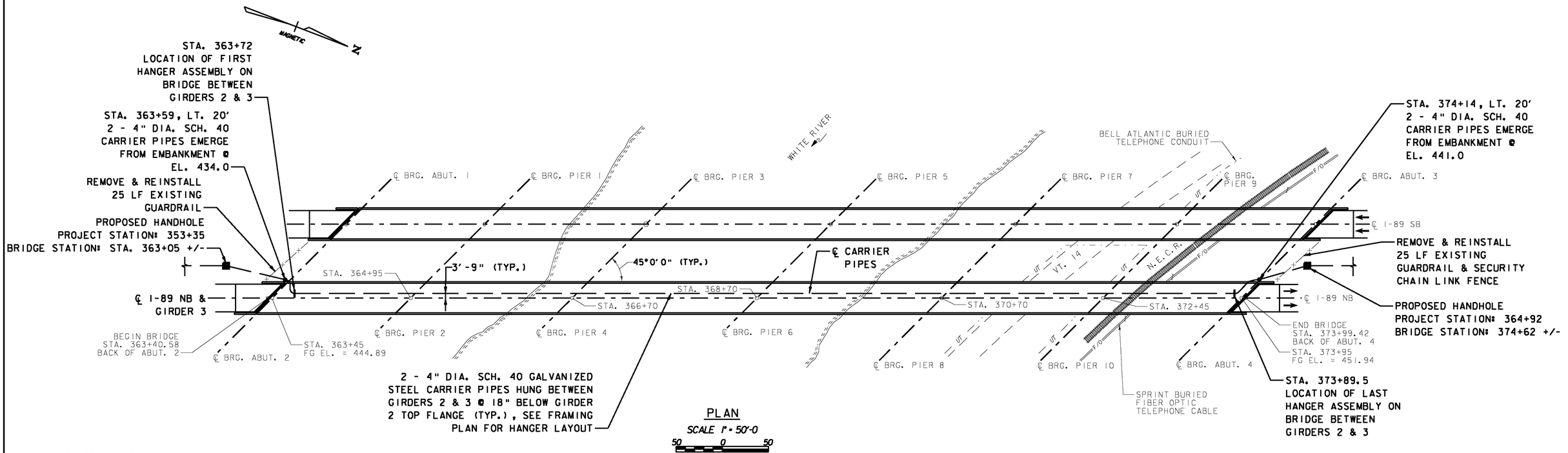
5. FABRICATION AND INSTALLATION OF THE WT4X24 CARRIER PIPE SUPPORT BRACKETS AND L4X4X3/8 ANGLES AT ABUTMENT 2 AND ABUTMENT 4 WILL BE IN ACCORDANCE WITH ITEM 506.75, STRUCTURAL STEEL.

6. FABRICATION AND INSTALLATION OF THE 4" DIA. SCHEDULE 40 CARRIER PIPES, THE PIPE SUPPORTS OUTSIDE ABUTMENT 2 AND ABUTMENT 4, AND THE DOUBLE ROLLER GUIDES AT EACH HANGER ASSEMBLY ON THE BRIDGE SHALL BE PAID IN ACCORDANCE WITH ITEM 625.10, SLEEVES FOR UTILITIES. EXCAVATION REQUIRED TO INSTALL CARRIER PIPES FROM BRIDGE TO THE HANDHOLES SHALL BE INCIDENTAL TO ITEM 625.10.

7. EXCAVATION, CONCRETE, INCIDENTALS AND OTHER ITEMS WITHIN THE LIMITS OF ITEM 625.10 NOT SPECIFICALLY QUANTIFIED ABOVE ARE CONSIDERED INCIDENTAL TO THE PROJECT AND WILL NOT BE PAID SEPARATELY UNDER ANOTHER ITEM.

8. EQUIPMENT, MATERIALS, PLATFORMS, ETC. REQUIRED TO ACCESS THE WORK FOR INSTALLATION SHALL BE CONSIDERED INCIDENTAL TO THAT ITEM AND WILL NOT BE PAID FOR SEPARATELY UNDER ANOTHER ITEM.

PROJECT NAME: HARTFORD SHARON	
PROJECT NUMBER: FITS503	
FILE NAME: z06e142BNT.dgn	PLOT DATE: 10/1/2010
PROJECT LEADER: J. YOUNG	DRAWN BY: S. GUNN
DESIGNED BY: S. BOYINGTON	CHECKED BY: J. WILSON
BRIDGE 11N HANGER SYSTEM NOTES	SHEET 43 OF 70



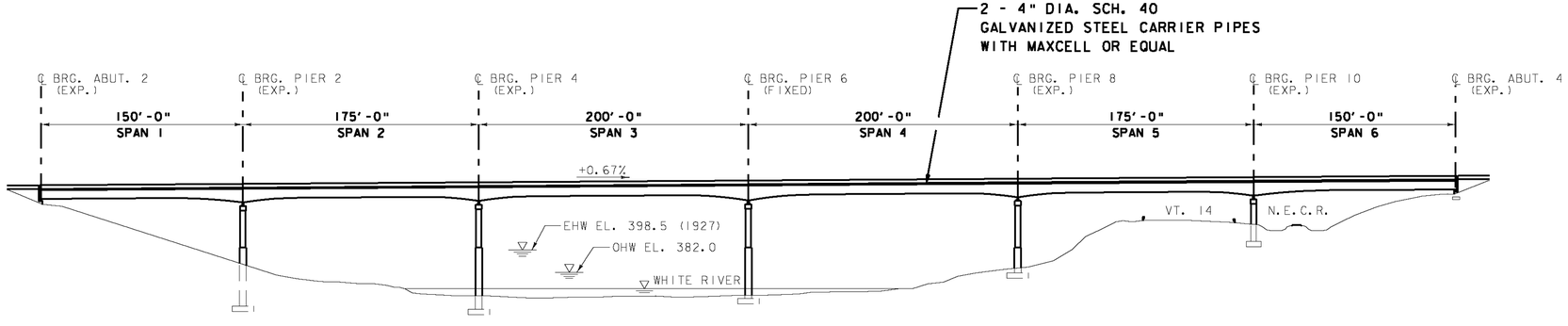
PLAN

SCALE 1" = 50'-0

50 0 50

GENERAL NOTES:

1. ALL STATIONING, ELEVATIONS AND DIMENSIONS OF THE EXISTING STRUCTURE (VERMONT BRIDGE NO. 11N CARRYING I-89 NORTHBOUND OVER THE WHITE RIVER, VT. 14 AND NECR) ARE TAKEN FROM THE EXISTING PLANS. A PROJECT STATION HAS BEEN LISTED AT EACH HANDHOLE TO EQUATE PROJECT STATIONING WITH EXISTING BRIDGE STATIONING.

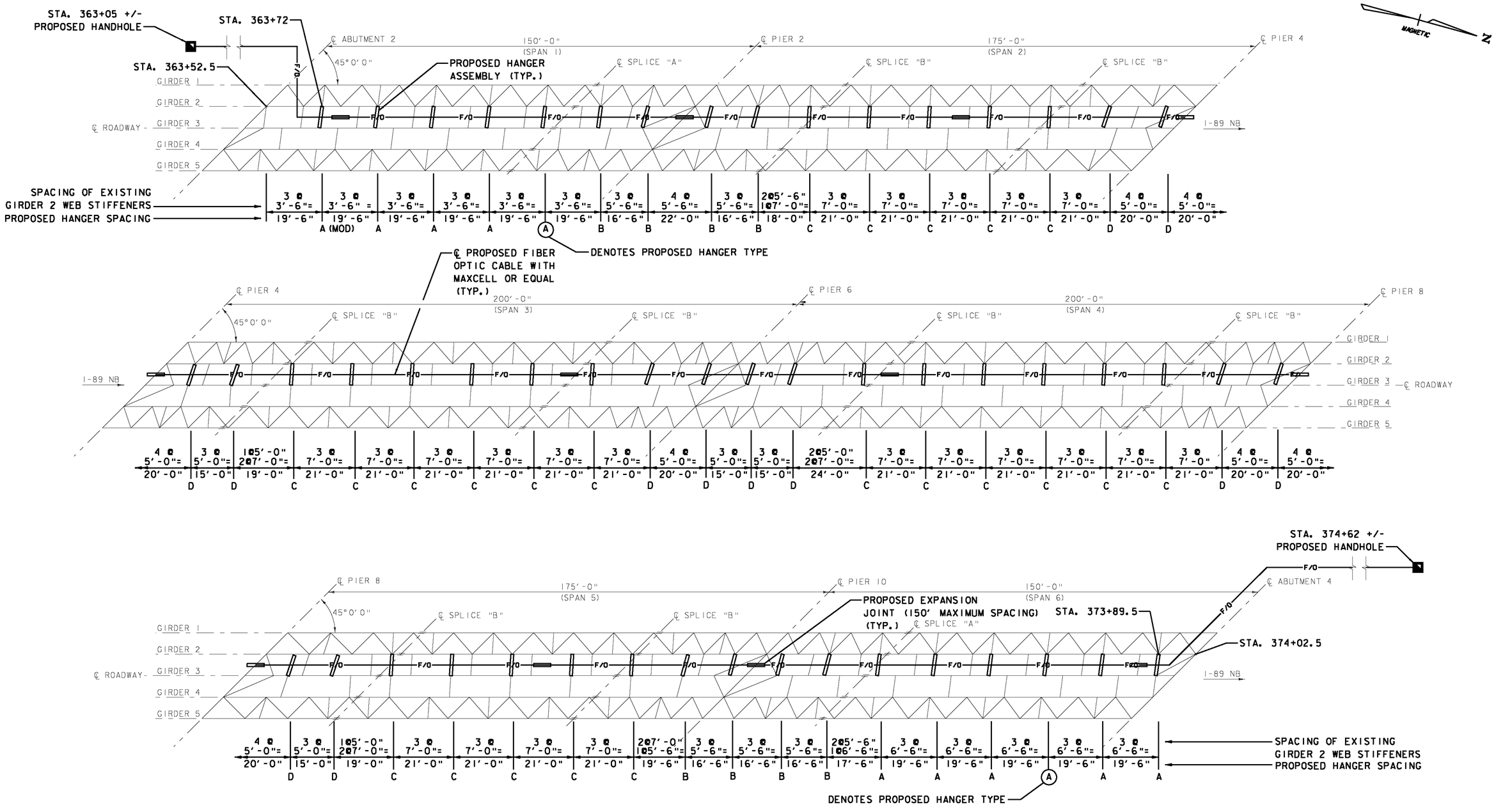


NORTHBOUND ELEVATION

SCALE 1" = 50'-0

50 0 50

PROJECT NAME:	HARTFORD SHARON
PROJECT NUMBER:	FITS503
FILE NAME: z06e142PE.dgn	PLOT DATE: 9/15/2010
PROJECT LEADER: J. YOUNG	DRAWN BY: S. GUNN
DESIGNED BY: S. BOYINGTON	CHECKED BY: J. WILSON
BRIDGE 11N GEN. PLAN & ELEVATION	SHEET 44 OF 70



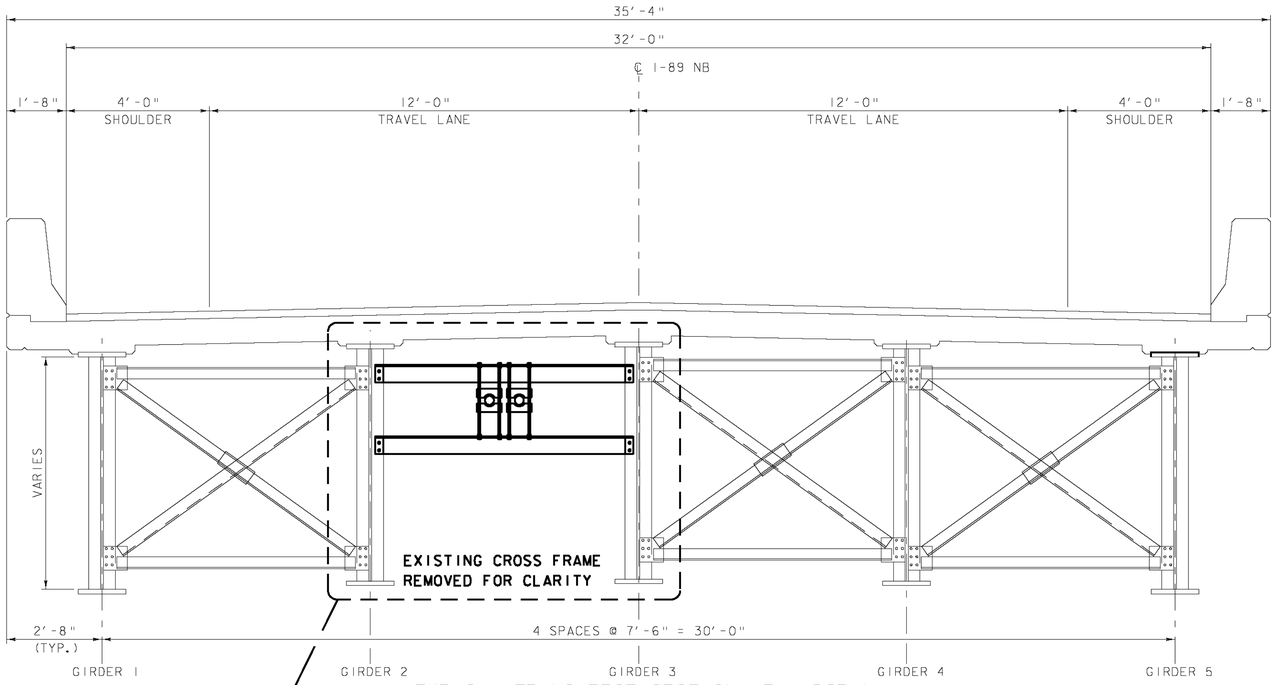
FRAMING PLAN

SCALE: 1/16" = 1'-0"

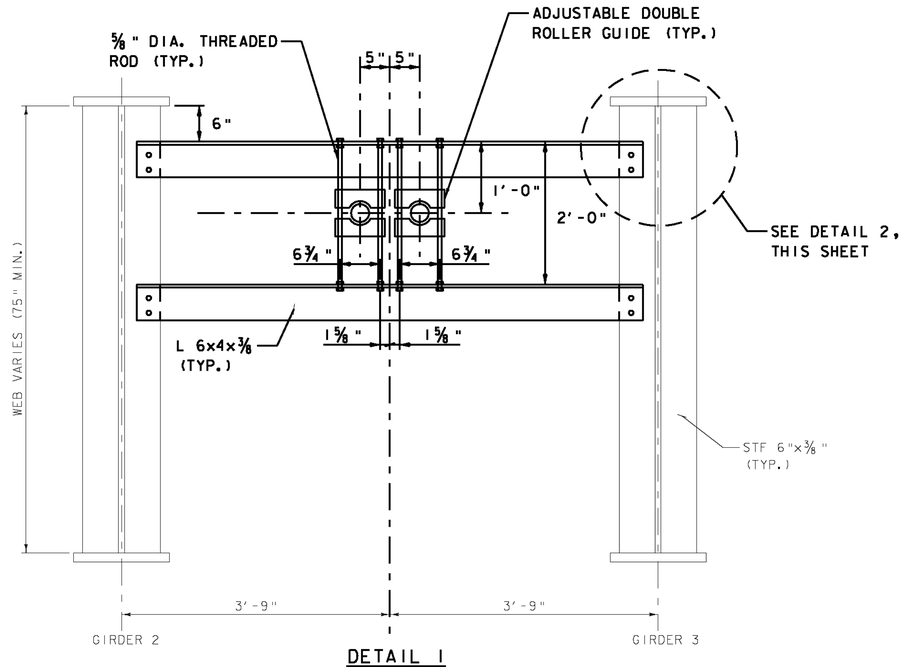
NOTES:

1. ALL STATIONING, DIMENSIONS, AND ELEVATIONS SHOWN ARE FROM THE ORIGINAL 1963 DESIGN PLANS UNLESS OTHERWISE NOTED.

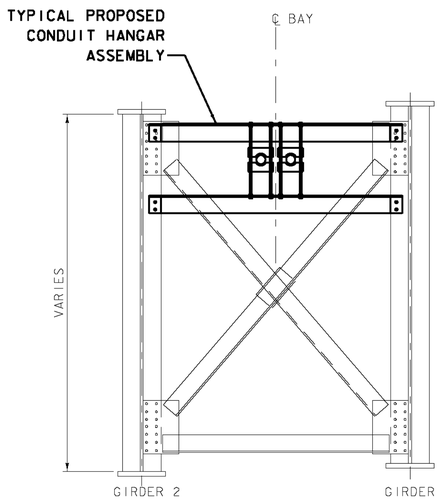
PROJECT NAME: HARTFORD SHARON	
PROJECT NUMBER: FITS503	
FILE NAME: z06e142FRM.dgn	PLOT DATE: 9/15/2010
PROJECT LEADER: J. YOUNG	DRAWN BY: S. GUNN
DESIGNED BY: S. BOYINGTON	CHECKED BY: J. WILSON
BRIDGE 11N FRAMING PLAN	SHEET 45 OF 70



TYPICAL TRANSVERSE SECTION AT MIDSPAN
LOOKING NORTH
SCALE ½"= 1'-0
1 0 1 2

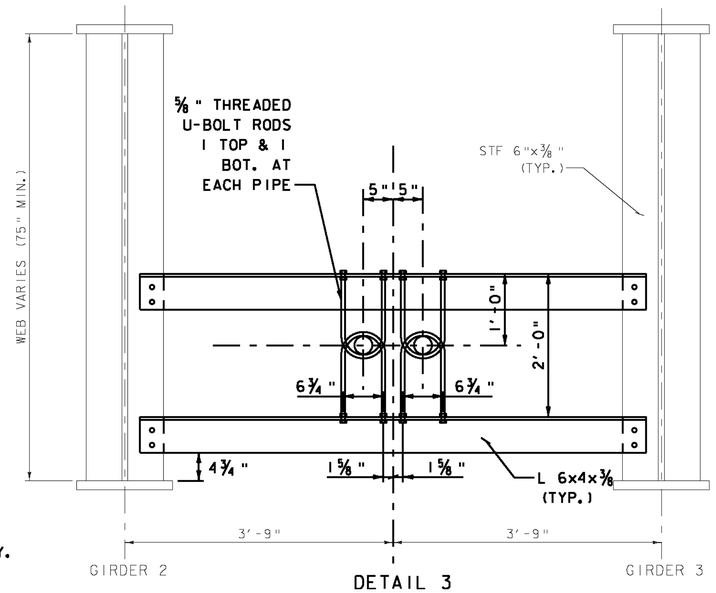


DETAIL 1
TYPICAL ITS CONDUIT HANGER ASSEMBLY
TYPE A SHOWN; TYPES B, C, D SIMILAR
SCALE 1"= 1'-0
1 9 6 3 0 1 2

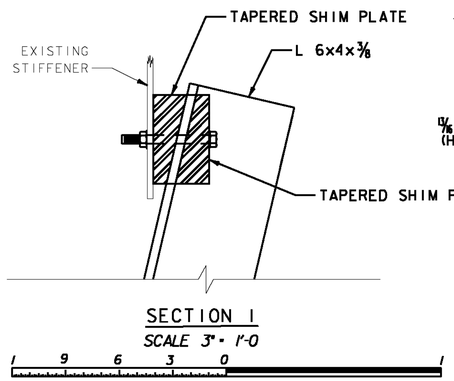


NOTE: PROPOSED HANGER ASSEMBLY AND EXISTING CROSS-FRAME SHOWN TOGETHER FOR CLARITY. SEE HANGER LAYOUT ON FRAMING PLAN.

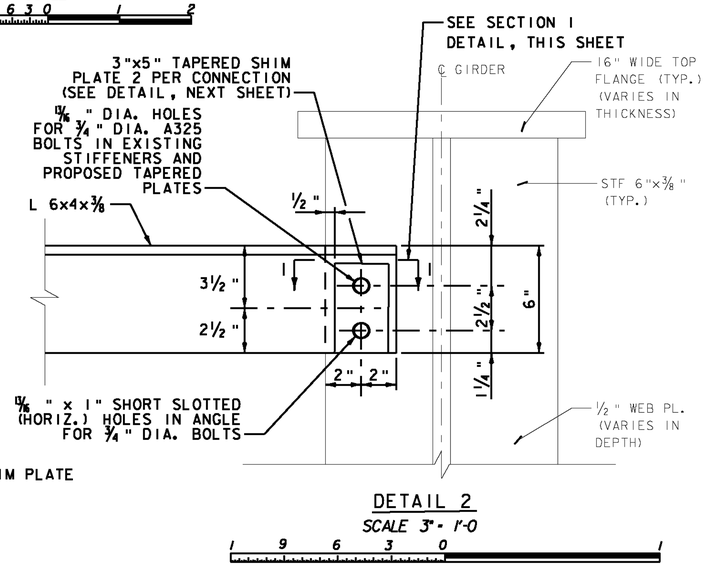
TYPICAL CROSS-FRAME AT PIER
SCALE ½"= 1'-0
1 0 1 2



DETAIL 3
TYPE A (MODIFIED) CONDUIT HANGER ASSEMBLY
STA. 363+72 +/-
SCALE 1"= 1'-0
1 9 6 3 0 1 2

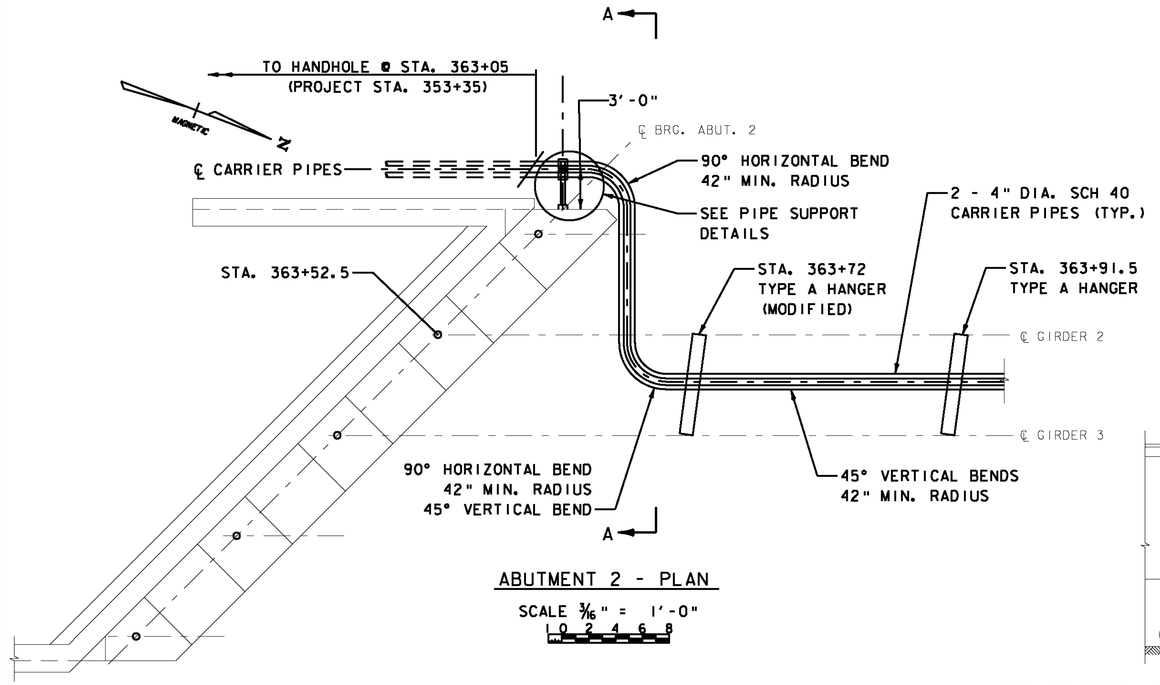


SECTION 1
SCALE 3"= 1'-0
1 9 6 3 0 1



DETAIL 2
SCALE 3"= 1'-0
1 9 6 3 0 1

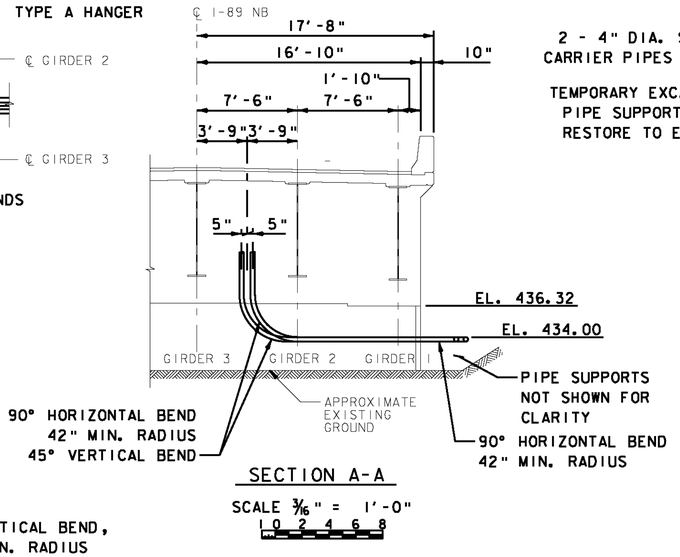
PROJECT NAME:	HARTFORD SHARON
PROJECT NUMBER:	FITS503
FILE NAME: z06e142SECT.dgn	PLOT DATE: 9/15/2010
PROJECT LEADER: J. YOUNG	DRAWN BY: S. GUNN
DESIGNED BY: S. BOYINGTON	CHECKED BY: J. WILSON
BRIDGE 11N HANGER SYSTEM SECTIONS	SHEET 46 OF 70



ABUTMENT 2 - PLAN

SCALE 3/16" = 1'-0"

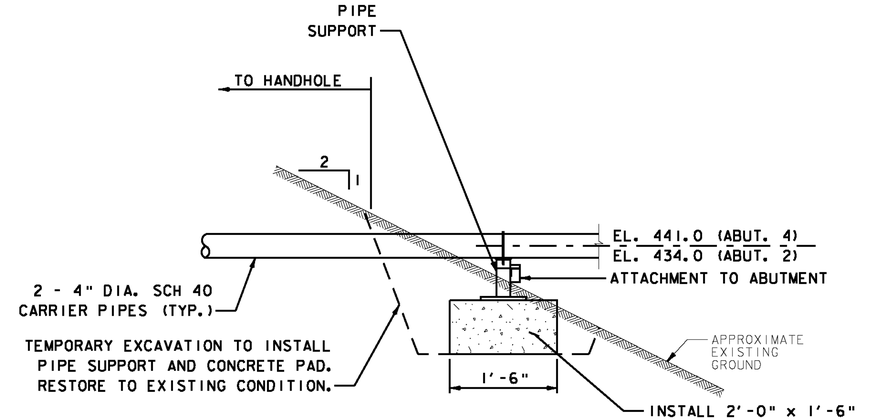
0 2 4 6 8



SECTION A-A

SCALE 3/16" = 1'-0"

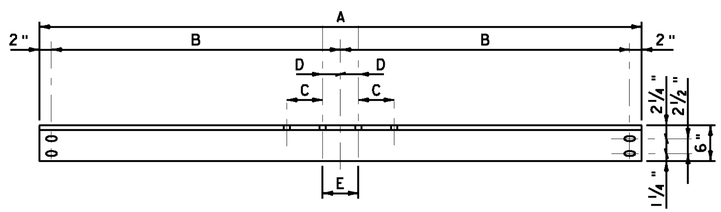
0 2 4 6 8

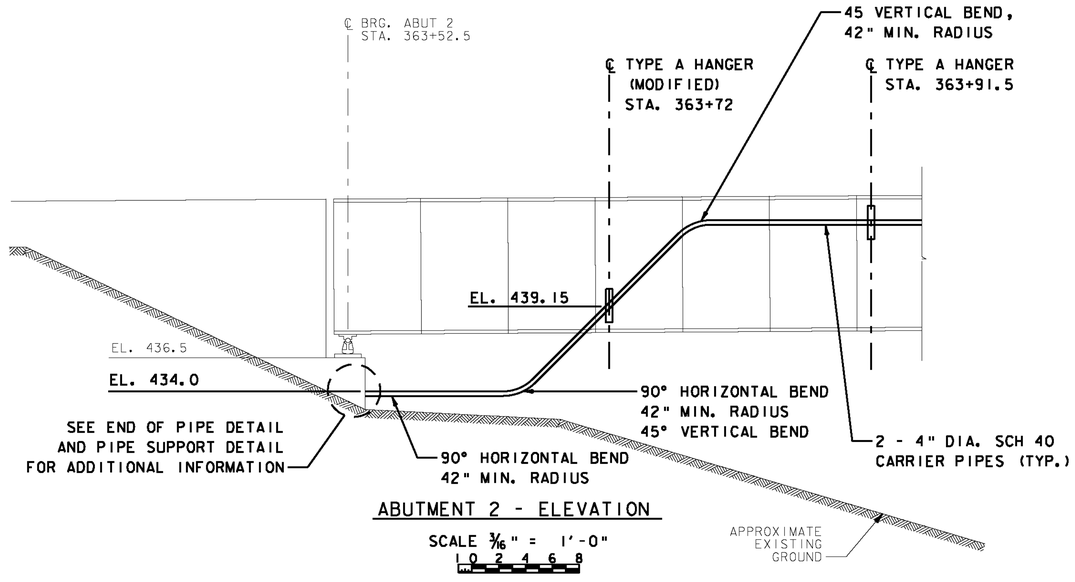


END OF PIPE DETAIL

SCALE 1" = 1'-0"

1 9 6 3 0 2





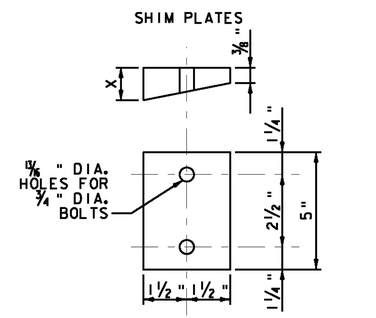
ABUTMENT 2 - ELEVATION

SCALE 3/16" = 1'-0"

0 2 4 6 8

	HANGER TYPE			
TYPE	A	B	C	D
DIM A	86⅜	89	85¾	90⅞
DIM B	41³⁄₁₆	42½	40⅞	43⁷⁄₁₆
DIM C	6¾	6¾	6¾	6¾
DIM D	1⅝	1¾	1⅝	1¹⁵⁄₁₆
DIM E	3¼	3½	3¼	3⅝
SHIM THK X	3⁄16	1¼	⅝	1½

DIMENSIONS IN INCHES UNLESS OTHERWISE NOTED.



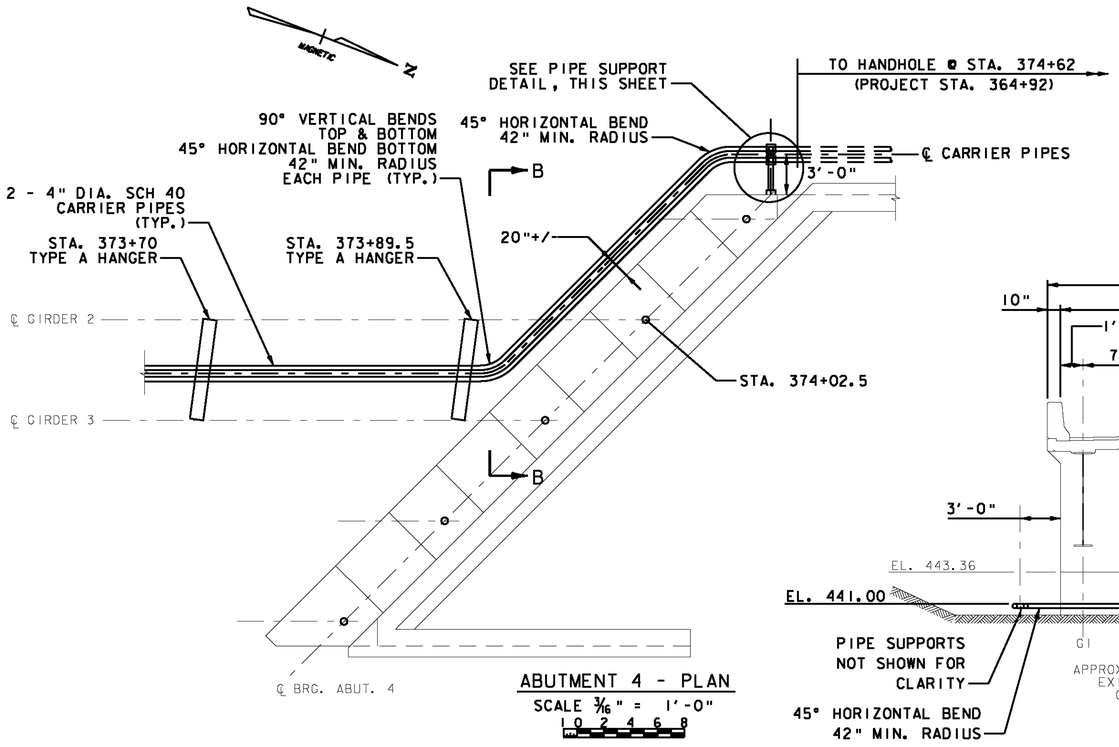
FABRICATION DETAILS - HANGER ANGLES AND TAPERED SHIM PLATES

NOT TO SCALE

PROJECT NAME: HARTFORD SHARON
PROJECT NUMBER: FITS503

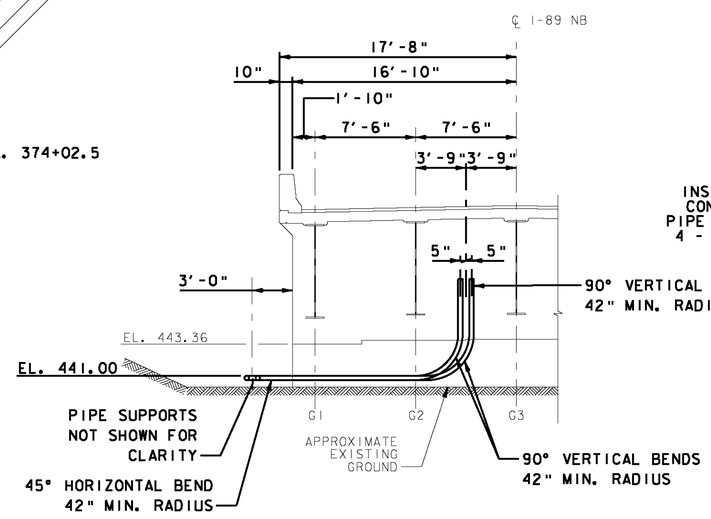
FILE NAME: z06e142ABUT2.dgn
PROJECT LEADER: J. YOUNG
DESIGNED BY: S. BOYINGTON
BRIDGE 11N ABUTMENT 2 DETAILS

PLOT DATE: 9/15/2010
DRAWN BY: S. GUNN
CHECKED BY: J. WILSON
SHEET 47 OF 70



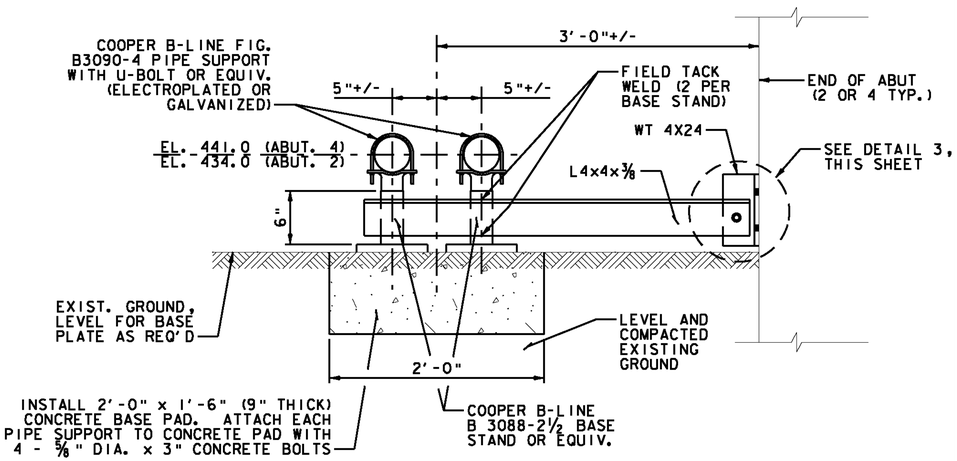
ABUTMENT 4 - PLAN

SCALE 3/16" = 1'-0"



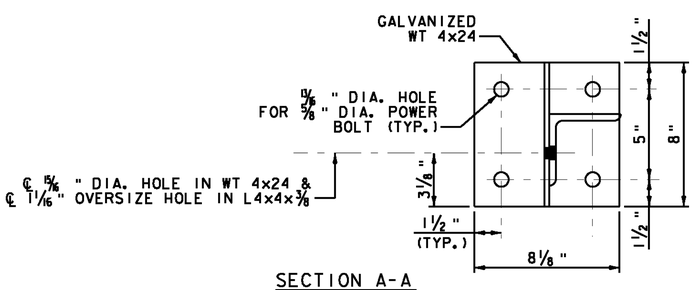
SECTION B-B

SCALE 3/16" = 1'-0"



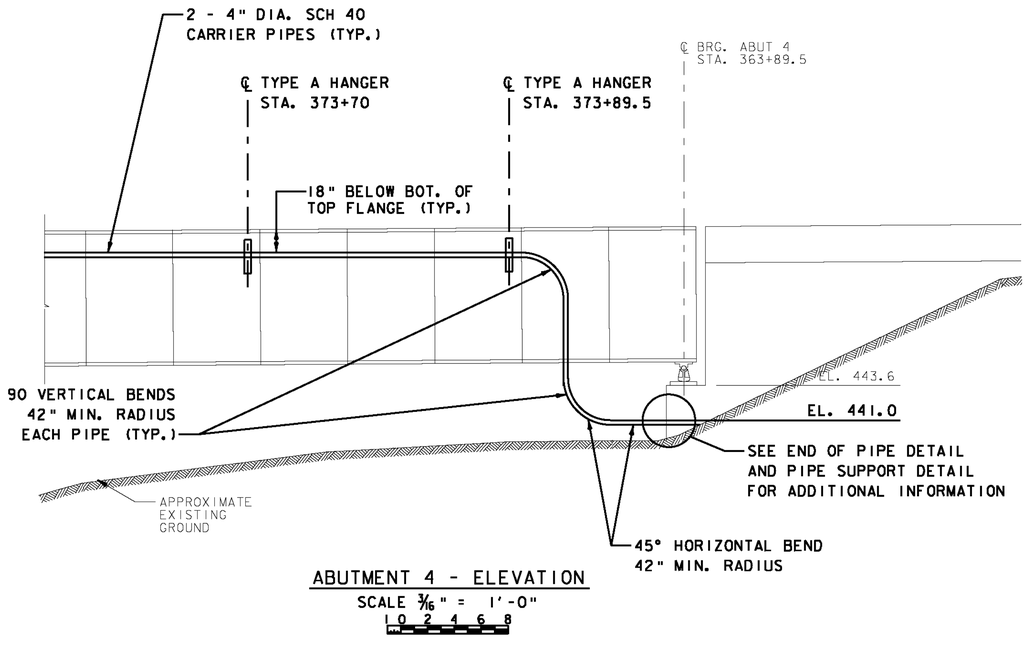
PIPE SUPPORT DETAIL
SECTION VIEW

SCALE 1½"=1'-0"



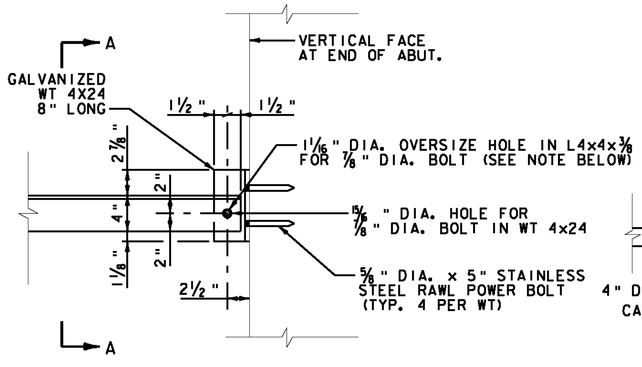
SECTION A-A

SCALE 3"=1'-0"



ABUTMENT 4 - ELEVATION

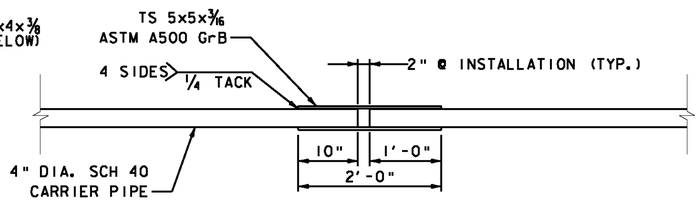
SCALE 3/16" = 1'-0"



NOTE: INSTALL 7/8" DIA. A325 BOLT HANDTIGHT AND DOUBLE NUT TO ALLOW ROTATION.

DETAIL 3
PIPE SUPPORT BRACKET
(TYPICAL AT ABUTMENTS 2 & 4)

SCALE 1½"=1'-0"



NOTE: SEE FRAMING PLAN FOR LOCATIONS (8 REQUIRED)

CARRIER PIPE EXPANSION JOINT DETAIL

SCALE 1"=1'-0"

PROJECT NAME: HARTFORD SHARON	
PROJECT NUMBER: FITS503	
FILE NAME: z06e142ABUT4.dgn	PLOT DATE: 9/15/2010
PROJECT LEADER: J. YOUNG	DRAWN BY: S. GUNN
DESIGNED BY: S. BOYINGTON	CHECKED BY: J. WILSON
BRIDGE 11N ABUTMENT 4 DETAILS	SHEET 48 OF 70

EPSC PLAN NARRATIVE

1.1 PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE CONSTRUCTION OF FIBER OPTIC CONDUITS ALONG A PORTION OF I-91 AND I-89 IN THE TOWNS OF HARTFORD AND SHARON, VERMONT. METHODS FOR INSTALLATION OF THE FIBER OPTIC CONDUITS INCLUDE PLOWING, TRENCHING AND HAND EXCAVATION OF SOIL. HAND EXCAVATION WILL BE REQUIRED IN SENSITIVE AREAS WITH UNDERGROUND UTILITIES AND DRAINAGE PIPES. THE EXCAVATION RESULTING FROM INSTALLATION WILL BE BACKFILLED WITH MATERIAL REMOVED DURING THE INSTALLATION PROCESS AND EROSION CONTROL MEASURES WILL BE INSTALLED FOR THE DISTURBED EARTH.

THE DISTURBED AREAS FOR THIS PROJECT WILL PRIMARILY CONSIST OF THE EXCAVATED TRENCH FOR THE FIBER OPTIC INSTALLATION. OTHER POSSIBLE AREAS OF DISTURBANCE INCLUDE TEMPORARY STAGING AREAS FOR EQUIPMENT AND DIRECTIONAL DRILLING LOCATIONS.

NOTE: AREA OF DISTURBANCE INCLUDES LIMITS OF EARTH DISTURBANCE WITHIN THE PROJECT AREA, AS WELL AS WASTE, BORROW AND STAGING AREAS, AND OTHER EARTH DISTURBING ACTIVITIES WITHIN OR DIRECTLY ADJACENT TO THE PROJECT LIMITS AS SHOWN ON THE ATTACHED EPSC PLAN.

TOTAL AREA OF DISTURBANCE AS SHOWN ON THE ATTACHED EPSC PLAN IS APPROXIMATELY 0.74 ACRES.

IT IS ANTICIPATED THAT THIS PROJECT WILL LAST TWO MONTHS.

1.2 SITE INVENTORY

1.2.1 TOPOGRAPHY

THE TOPOGRAPHY OF THIS AREA VARIES ALONG THE 15 MILE PROJECT AREA FROM HARTFORD AND SHARON, VERMONT. THIS SITE CONSISTS OF THE I-89 HIGHWAY WITH GRASSED SIDE SLOPES. I-89 GENERALLY FOLLOWS THE WHITE RIVER AND TRAVERSES TERRAIN THAT IS HILLY AND MOUNTAINOUS.

1.2.2 DRAINAGE, WATERWAYS, BODIES OF WATER, AND PROXIMITY TO NATURAL OR MAN-MADE WATER FEATURES

THE MOST PROMINENT BODY OF WATER IN THIS AREA IS THE WHITE RIVER, WHICH FLOWS IN A SOUTHEASTERLY DIRECTION. NUMEROUS CULVERTS ARE LOCATED ALONG THIS PORTION OF I-91 AND I-89 TO ALLOW STREAMS ORIGINATING IN THE MOUNTAINS AND RUNOFF FROM THE HIGHWAY TO REACH THE WHITE RIVER.

1.2.3 VEGETATION

THE VEGETATION IN THE PROJECT AREA CONSISTS MOSTLY OF GRASSED SLOPES ADJACENT TO I-91 AND I-89. WOODED AREAS, GENERALLY CONSISTING OF HARDWOOD AND SOME SOFTWOOD TREES WITH UNDERGROWTH, ARE LOCATED WHERE THE HIGHWAY MEDIAN WIDENS AND BEYOND THE HIGHWAY RIGHT-OF-WAY. THE IMPACT TO VEGETATION WILL BE LIMITED TO THAT WHICH IS DIRECTLY AFFECTED BY THE INSTALLATION OF THE FIBER OPTIC CONDUITS. UPON COMPLETION OF THE FIBER OPTIC INSTALLATION, DISTURBED VEGETATION WILL BE RE-ESTABLISHED WITH SEED AND MATTING WITHIN THE SAME WORKING DAY.

1.2.4 SOILS

ALL SOIL DATA CAME FROM THE U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE FOR THE COUNTY OF WINDSOR, VERMONT. SOILS ON THE PROJECT SITE CONSIST MOSTLY OF HITCHCOCK SILTY LOAM, BELGRADE SILTY LOAM, WINDSOR LOAMY FIND SAND, BUCKLAND LOAM, BUCKLAND LOAM VERY STONEY, SHELBURNE FINE SANDY LOAM, DUMMERSTON FINE SANDY LOAM, UNORTHENTS AND UDIPSAMMENTS, AND HINCKLEY SANDY LOAM; SLOPES VARY FROM 0% TO 60%. THE "K FACTOR" RANGES FROM 0.17 TO 0.49 AND IS CONSIDERED MODERATE TO HIGHLY ERODIBLE DUE TO SOIL TYPE AND SLOPES.

SOILS UNDER AND ADJACENT TO THE HIGHWAY MAY CONSIST OF A DIFFERENT SOIL TYPE IF FILL WAS REQUIRED DURING CONSTRUCTION OF I-91 AND I-89.

NOTE: K-VALUES GENERALLY INDICATE THE FOLLOWING:
0.0-0.23 = LOW EROSION POTENTIAL
0.24-0.36 = MODERATE EROSION POTENTIAL
0.37 AND HIGHER = HIGH EROSION POTENTIAL

1.2.5 SENSITIVE RESOURCE AREAS

CRITICAL HABITATS: NO
HISTORICAL OR ARCHEOLOGICAL AREAS: NO
PRIME AGRICULTURAL LAND: NO
THREATENED AND ENDANGERED SPECIES: NO
WATER RESOURCE: WHITE RIVER
WETLANDS: NO

1.3 RISK EVALUATION

THIS PROJECT DOES NOT FALL UNDER THE JURISDICTION OF GENERAL PERMIT 3-9020 FOR STORMWATER RUNOFF FROM CONSTRUCTION SITES. SHOULD CHANGES PRIOR TO OR DURING CONSTRUCTION RESULT IN ONE OR MORE ACRES OF EARTH DISTURBANCE OR SHOULD THE PROJECT BECOME PART OF A LARGER PLAN OF DEVELOPMENT, THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY ADDITIONAL PERMITTING.

THE DETAILED RISK EVALUATION FOR THIS PROJECT IS CATEGORIZED AS LOW RISK, AND EPSC PLANS ARE NOT REQUIRED FOR LOW RISK PROJECTS. THESE EPSC PLANS ARE INTENDED TO PROVIDE THE NECESSARY INFORMATION FOR EROSION CONTROL ON THIS PROJECT.

1.4 EROSION PREVENTION AND SEDIMENT CONTROL

THE EROSION CONTROL PLANS ARE MEANT AS A GUIDELINE FOR PREVENTING EROSION AND CONTROLLING SEDIMENT TRANSPORT. THE PRINCIPLES OUTLINED IN THIS NARRATIVE CONSIST OF APPLYING MEASURES THROUGHOUT CONSTRUCTION OF THE PROJECT IN ORDER TO MINIMIZE SEDIMENT TRANSPORT TO THE RECEIVING WATERS. THE MEASURES INCLUDE STABILIZATION AND STRUCTURAL PRACTICES, STORM WATER CONTROLS AND OTHER POLLUTION PREVENTION PRACTICES. THEY HAVE BEEN PROPOSED BY THE DESIGNER AS A BASIS FOR PROTECTING RESOURCES AND WILL NEED TO BE BUILT UPON BASED ON THE SPECIFC MEANS AND METHODS OF THE CONTRACTOR. REFER TO THE LOW RISK SITE HANDBOOK AND APPROPRIATE DETAIL SHEETS FOR SPECIFIC GUIDANCE AND CONSTRUCTION DETAILING.

ALL MEASURES SHALL BE REGULARLY MAINTAINED AND SHALL BE CHECKED FOR SEDIMENT BUILD-UP. SEDIMENT SHALL BE DISPOSED OF AT AN APPPROVED SITE WHERE IT WILL NOT BE SUBJECT TO EROSION.

1.4.1 MARK SITE BOUNDARIES

SITE BOUNDARIES AND AREAS CONSTRUCTION EQUIPMENT CAN ACCESS WILL NOT BE DELINEATED FOR THIS PROJECT DUE TO THE LENGTH OF THIS PROJECT AND NATURE OF WORK. CONSTRUCTION FOR THIS PROJECT IS WITHIN THE HIGHWAY RIGHT-OF-WAY AND OUTSIDE THE LIMITS OF WATER RESOURCES (STREAM, BROOK, LAKE, POND, WETLAND, ETC).

1.4.2 LIMIT DISTURBANCE AREA

THE DISTURBANCE AREA FOR THIS PROJECT WILL BE LIMITED TO TRENCH EXCAVATION FOR INSTALLATION OF FIBER OPTIC AND ASSOCIATED EQUIPMENT AS SHOWN ON THE PLANS. THE METHOD OF INSTALLATION FOR THE FIBER OPTIC CONDUITS WILL INCLUDE EXCAVATING THE TRENCH, INSTALLING THE FIBER OPTIC, BACKFILLING THE EXCAVATION, SEEDING THE DISTURBED AREA AND INSTALLATION OF EROSION MATTING TO COVER THE EXPOSED SOIL. THIS INSTALLATION PROCESS WILL PREVENT INITIAL SOIL EROSION BY MINIMIZING THE EXPOSED AREA WHICH IS MORE EFFECTIVE THAN TREATING ERODED SEDIMENT.

MAINTAINING VEGETATED BUFFERS ALONG STREAM BANKS, WETLANDS OR OTHER SENSITIVE AREAS IS A CRUCIAL EROSION AND SEDIMENT CONTROL MEASURE THAT SHOULD BE ESTABLISHED WHEREVER POSSIBLE.

1.4.3 SITE ENTRANCE/EXIT STABILIZATION

IT IS NOT ANTICIPATED THAT A SPECIFIC STABILIZED CONSTRUCTION ENTRANCE/EXIT WILL BE USED ON THIS PROJECT AS ACCESS FOR THIS PROJECT WILL BE ALONG THE I-91 AND I-89 HIGHWAYS. HOWEVER, IT IS EXPECTED THAT STABILIZED CONSTRUCTION ENTRANCES/EXITS WILL BE USED ON THIS PROJECT TO ACCESS DIRECTIONAL DRILLING LOCATIONS ALONG I-89.

1.4.4 INSTALL SEDIMENT BARRIERS

SEDIMENT BARRIERS SHALL BE UTILIZED TO INTERCEPT RUNOFF AND ALLOW SUSPENDED SEDIMENT TO SETTLE OUT. THEY SHALL BE INSTALLED PRIOR TO ANY UP SLOPE WORK WHEN RAIN IS FORECASTED WITHIN A 24 HOUR PERIOD.

SILT FENCE, EROSION SOCK, AND STONE CHECK DAMS WILL BE INSTALLED AS PROPOSED ON THE EPSC PLAN. SILT FENCE IS PRIMARILY BEING USED AT THE LOCATIONS OF DIRECTIONAL DRILLING. THE EROSION SOCK IS BEING USED ALONG THE CONSTRUCTION AREA BECAUSE AS THE CONSTRUCTION PROGRESSES SEGMENTS OF THE EROSION SOCK CAN BE EASILY REMOVED AND INSTALLED AHEAD OF THE CONSTRUCTION EFFORTS.

1.4.5 DIVERT UPLAND RUNOFF

DIVERSIONARY MEASURES SHALL BE USED WHERE FEASIBLE TO PREVENT RUNOFF FROM ABOVE THE CONSTRUCTION AND DIRECT IT AROUND THE DISTURBED AREA SO THAT CLEAN WATER DOES NOT BECOME MUDDIED WHILE TRAVELING OVER EXPOSED SOILS ON THE CONSTRUCTION SITE.

UPLAND RUNOFF ON THIS PROJECT, IN MOST CASES, WILL CONSIST ONLY OF RUNOFF FROM THE HIGHWAY. DUE TO THE FIBER OPTIC BEING INSTALLED PARALLEL TO THE HIGHWAY FOR LONG DISTANCES, DIVERTING WATER MIGHT NOT BE PRACTICABLE.

1.4.6 SLOW DOWN CHANNELIZED RUNOFF

STONE CHECK DAMS SHALL BE UTILIZED TO REDUCE THE VELOCITY, AND THUS THE EROSIVE POTENTIAL, OF CONCENTRATED FLOW IN CHANNELS.

STONE CHECK DAMS WILL BE INSTALLED AS PROPOSED ON THE EPSC PLAN, AT A MINIMUM. INSTALLATION OF THE FIBER OPTIC CABLE IS PRIMARILY ON A SIDE SLOPE AWAY FROM THE DITCHLINE.

1.4.7 CONSTRUCT PERMANENT CONTROLS

PERMANENT STORMWATER TREATMENT DEVICES SHALL BE INSTALLED AS SHOWN ON THE PLANS AND IN ACCORDANCE WITH PERMIT CONDITIONS.

1.4.8 STABILIZE EXPOSED SOILS DURING CONSTRUCTION

ALL AREAS OF DISTURBANCE MUST HAVE TEMPORARY STABILIZATION IN PLACE WITHIN BY THE END OF EACH WORK DAY.

THE FORECAST OF RAINFALL EVENTS SHALL TRIGGER IMMEDIATE PROTECTION OF EXPOSED SOILS.

1.4.9 WINTER STABILIZATION

VARIOUS MEASURES SPECIFIC TO WINTER MAY BE NECESSARY SHOULD THE PROJECT EXTEND INTO WINTER (OCTOBER 15 THROUGH APRIL 15). REFER TO THE LOW RISK SITE HANDBOOK FOR GUIDANCE. THIS PROJECT IS EXPECTED TO BE ENTIRELY CONSTRUCTED DURING THE WINTER MONTHS.

1.4.10 STABILIZE SOIL AT FINAL GRADE

ALL OPEN EXCAVATIONS MUST BE FILLED IN AFTER WORK IS COMPLETED EACH DAY AND EXPOSED SOIL MUST BE STABILIZED BY THE END OF EACH WORK DAY.

SEED AND BIODEGRADABLE EROSION CONTROL MATTING WITH A LONGEVITY OF AT LEAST 12 MONTHS OR AN EQUIVALENT SHALL BE USED TO ESTABLISH PERMANENT VEGETATION. SEED APPLIED FROM SEPTEMBER 15TH TO MAY 1ST SHALL CONSIST OF WINTER RYE (ITEM 651.17) FOR EARLY GERMINATION IN THE SPRING. PREPARATION OF THE TOPSOIL SHALL CONFORM TO SECTION 651 OF THE 2006 STANDARD SPECIFICATIONS FOR CONSTRUCTION BOOK AND THE APPLICATION RATE FOR SEED SHALL BE 2.0 POUNDS OF WINTER RYE PER 1,000 SQUARE FEET.

1.4.11 DE-WATERING ACTIVITIES

DISCHARGE FROM DEWATERING ACTIVITIES THAT FLOWS OFF OF THE CONSTRUCTION SITE MUST NOT CAUSE OR CONTRIBUTE TO A VIOLATION OF THE VERMONT WATER QUALITY STANDARDS.

DEWATERING IS NOT ANTICIPATED FOR THIS PROJECT AS WASTEWATER/MUD WILL BE COLLECTED AND SELF-CONTAINED IN WATER TRUCKS. HOWEVER, DRILLING MUDD WITH ENVIRONMENTALLY FRIENDLY REAGENTS WILL BE USED FOR DIRECTIONAL DRILLING ACTIVITIES ON THIS PROJECT. DRILLING MUDD MUST BE TAKEN OFF SITE AND DISPOSED AT AN APPROVED PROCESSING PLANT. SILT FENCE WILL BE INSTALLED DOWN GRADIENT OF DRILLING LOCATIONS AND THE DIRECTIONAL DRILLING CONTRACTOR SHALL HAVE AN ENVIRONMENTAL CLEAN UP KIT SHOULD "FRACKING" OCCUR DURING THE DRILLING PROCESS.

1.4.12 INSPECT YOUR SITE

INSPECT THE PROJECT SITE BASED ON SPECIAL PROVISION REQUIREMENTS OR CONSTRUCTION GENERAL PERMIT AUTHORIZATION STIPULATIONS.

1.5 SEQUENCE AND STAGING

THIS SECTION WILL BE DEVELOPED BY THE CONTRACTOR USING THE GUIDANCE OUTLINED IN THE VTRANS EPSC PLAN CONTRACTOR CHECKLIST.

1.5.1 CONSTRUCTION SEQUENCE

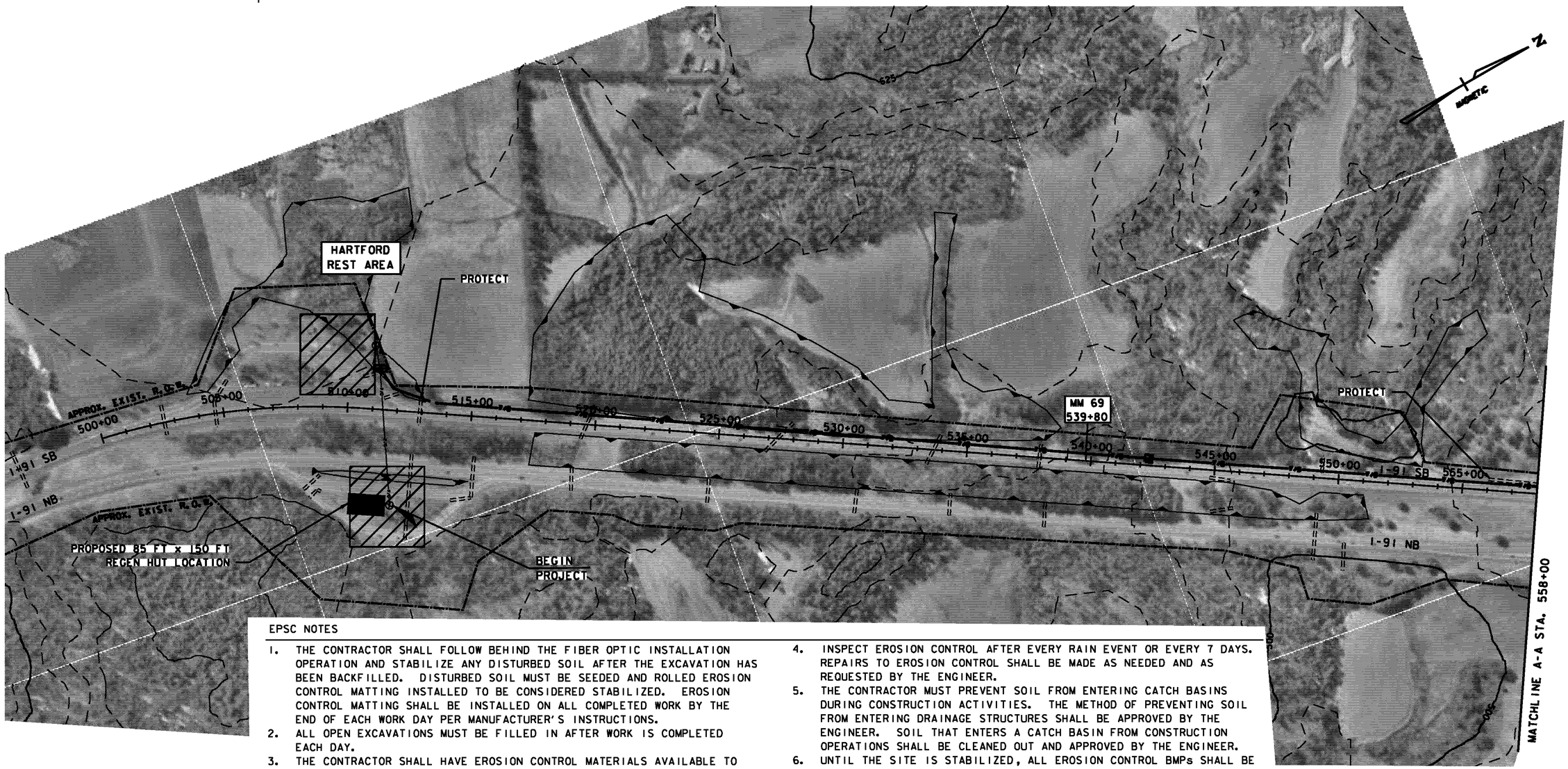
1.5.2 OFF-SITE ACTIVITIES

IN ADDITION TO THE CONTRACTOR CHECKLIST ANY ACTIVITIES OUTSIDE THE CONSTRUCTION LIMITS SHALL FOLLOW SUBSECTIONS 105.25- 105.29 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION.

1.5.3 UPDATES

PROJECT NAME: HARTFORD SHARON	
PROJECT NUMBER: FITS503	
FILE NAME: z06e142ERO-NARR.dgn	PLOT DATE: 10/1/2010
PROJECT LEADER: J. YOUNG	DRAWN BY: S. GUNN
DESIGNED BY: A. SEAMAN	CHECKED BY: J. WILSON
EPSC PLAN NARRATIVE	SHEET 49 OF 70

STEEP SLOPES
PLACE EROSION MATTING ON DISTURBED AREAS & PROTECT ADJACENT CATCH BASINS/CULVERTS



EPSC NOTES

1. THE CONTRACTOR SHALL FOLLOW BEHIND THE FIBER OPTIC INSTALLATION OPERATION AND STABILIZE ANY DISTURBED SOIL AFTER THE EXCAVATION HAS BEEN BACKFILLED. DISTURBED SOIL MUST BE SEEDED AND ROLLED EROSION CONTROL MATTING INSTALLED TO BE CONSIDERED STABILIZED. EROSION CONTROL MATTING SHALL BE INSTALLED ON ALL COMPLETED WORK BY THE END OF EACH WORK DAY PER MANUFACTURER'S INSTRUCTIONS.
2. ALL OPEN EXCAVATIONS MUST BE FILLED IN AFTER WORK IS COMPLETED EACH DAY.
3. THE CONTRACTOR SHALL HAVE EROSION CONTROL MATERIALS AVAILABLE TO BE USED IN THE EVENT EROSION CONTROL IS NEEDED. IF RAIN IS FORECASTED WITHIN A 24 HOUR PERIOD THE CONTRACTOR MUST INSTALL EROSION CONTROL MEASURES TO PREVENT THE TRANSPORT OF SEDIMENT. THE FOLLOWING SHALL BE COMPLETED IF RAIN IS FORECASTED:
   A. EROSION SOCK OR APPROVED ALTERNATIVE SHALL BE INSTALLED ADJACENT TO UNSTABILIZED DISTURBED AREAS DURING INSTALLATION OF THE FIBER OPTIC.
   B. CATCH BASIN AND CULVERT INLETS ALONG THE FIBER OPTIC CONDUIT INSTALLATION LINE SHALL BE PROTECTED WITH EROSION SOCK. KNOWN CATCH BASIN AND CULVET INLETS TO BE PROTECTED ARE IDENTIFIED ON THE EROSION PREVENTION AND SEDIMENT CONTROL (EPSC) PLANS. ANY INLET ENCOUNTERED DURING THE INSTALLATION THAT IS NOT IDENTIFIED ON THE EPSC PLANS MUST BE PROTECTED.
   C. STONE CHECK DAMS SHALL BE INSTALLED AS INDICATED ON THE EPSC PLANS.
   D. SILT FENCE SHALL BE INSTALLED DOWN GRADIENT OF DIRECTIONAL DRILLING LOCATIONS AS INDICATED ON THE EPSC PLANS.
4. INSPECT EROSION CONTROL AFTER EVERY RAIN EVENT OR EVERY 7 DAYS. REPAIRS TO EROSION CONTROL SHALL BE MADE AS NEEDED AND AS REQUESTED BY THE ENGINEER.
5. THE CONTRACTOR MUST PREVENT SOIL FROM ENTERING CATCH BASINS DURING CONSTRUCTION ACTIVITIES. THE METHOD OF PREVENTING SOIL FROM ENTERING DRAINAGE STRUCTURES SHALL BE APPROVED BY THE ENGINEER. SOIL THAT ENTERS A CATCH BASIN FROM CONSTRUCTION OPERATIONS SHALL BE CLEANED OUT AND APPROVED BY THE ENGINEER.
6. UNTIL THE SITE IS STABILIZED, ALL EROSION CONTROL BMPs SHALL BE PROPERLY MAINTAINED.
7. THE DIRECTIONAL DRILLING CONTRACTOR SHALL HAVE AN ENVIRONMENTAL CLEAN UP KIT SHOULD "FRACKING" OCCUR DURING THE DRILLING PROCESS.
8. STABILIZED CONSTRUCTION ENTRANCES SHALL BE CONSTRUCTED TO PREVENT THE TRACKING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY WHERE DIRECTIONAL DRILLING AND OTHER CONSTRUCTION OPERATIONS TAKE PLACE OFF PAVED SURFACES. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY SHALL BE REMOVED IMMEDIATELY.
9. ALL REFERENCES TO STEEP AND SHALLOW SLOPES ON THE EPSC PLANS ARE BASED ON GENERAL OBSERVATIONS DURING THE SITE VISIT AND ARE INTENDED FOR INFORMATIONAL PURPOSES ONLY.

LEGEND

- EXISTING LIMIT OF WETLAND
- EXISTING CULVERT OR DRAINAGE
- PROPOSED HANDHOLE
- PROPOSED SPLICE VAULT
- PROPOSED COMMUNICATION CONDUIT
- STABILIZED CONSTRUCTION ENTRANCE
- PROPOSED SILT FENCE

EPSC PLAN

SCALE 1" = 200'-0

200 0 200

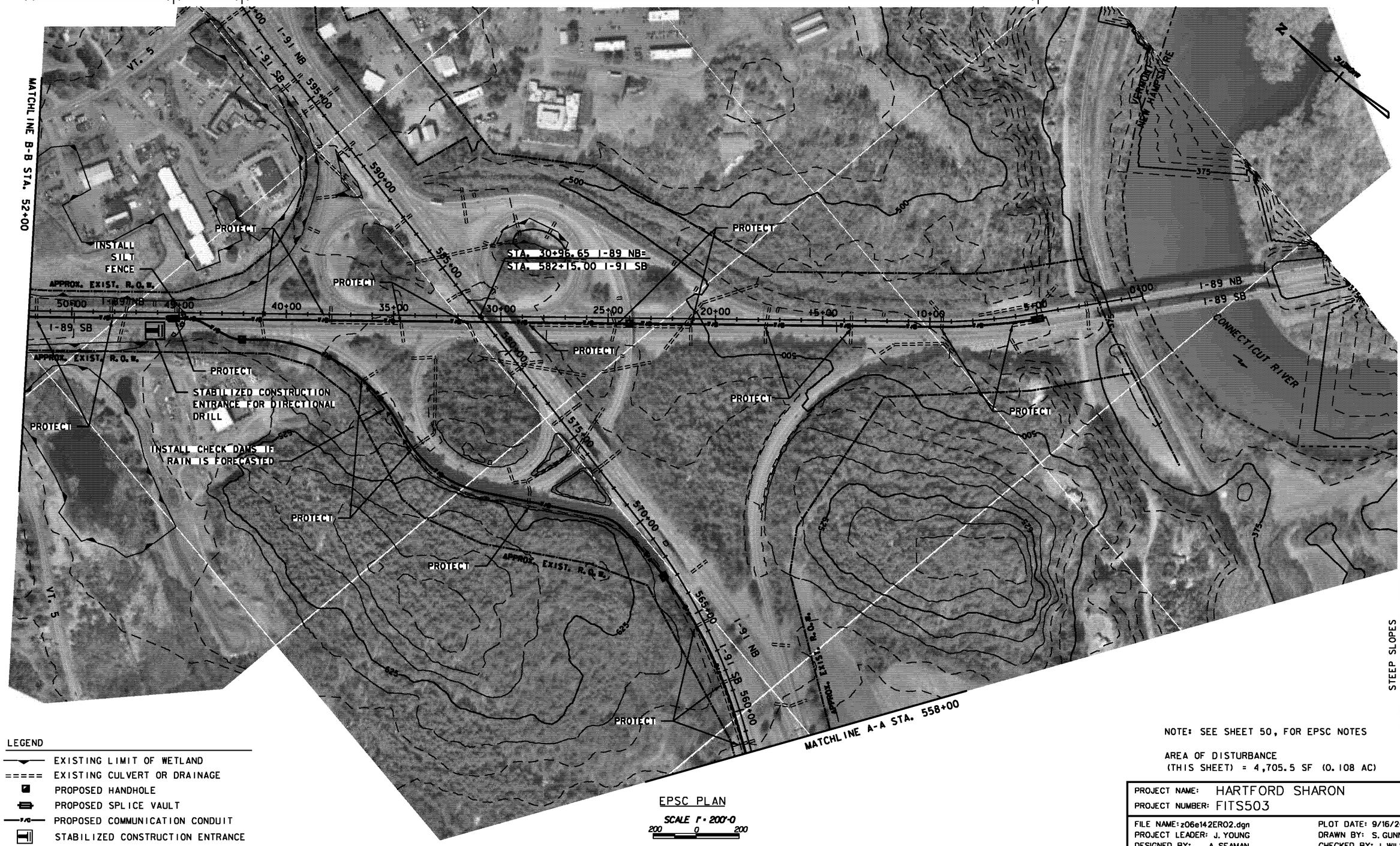
AREA OF DISTURBANCE
(THIS SHEET) = 2,034.5 SF (0.047 AC)

PROJECT NAME: HARTFORD SHARON
PROJECT NUMBER: FITS503

FILE NAME: z06e142ER01.dgn
PROJECT LEADER: J. YOUNG
DESIGNED BY: A. SEAMAN
EPSC PLAN (SHEET 1 OF 14)

PLOT DATE: 9/15/2010
DRAWN BY: S. GUNN
CHECKED BY: J. WILSON
SHEET 50 OF 70

SHALLOW SLOPES | DIRECTIONAL DRILL/BORE | SHALLOW SLOPES
PLACE MATTING ON DISTURBED AREAS & PROTECT ADJACENT CATCH BASINS/CULVERTS



STEEP SLOPES
PLACE MATTING ON DISTURBED AREAS & PROTECT ADJACENT CATCH BASINS/CULVERTS

LEGEND

- EXISTING LIMIT OF WETLAND
- EXISTING CULVERT OR DRAINAGE
- PROPOSED HANDHOLE
- PROPOSED SPLICE VAULT
- PROPOSED COMMUNICATION CONDUIT
- STABILIZED CONSTRUCTION ENTRANCE
- PROPOSED SILT FENCE

EPSC PLAN
SCALE 1" = 200'-0
200 0 200

NOTE: SEE SHEET 50, FOR EPSC NOTES

AREA OF DISTURBANCE
(THIS SHEET) = 4,705.5 SF (0.108 AC)

PROJECT NAME: HARTFORD SHARON
PROJECT NUMBER: FITS503

FILE NAME: z06e142ER02.dgn
PROJECT LEADER: J. YOUNG
DESIGNED BY: A. SEAMAN
EPSC PLAN (SHEET 2 OF 14)
PLOT DATE: 9/16/2010
DRAWN BY: S. GUNN
CHECKED BY: J. WILSON
SHEET 51 OF 70

SHALLOW SLOPES
PLACE MATTING ON DISTURBED AREAS & PROTECT ADJACENT CATCH BASINS/CULVERTS

DIRECTIONAL DRILL/BORE

SHALLOW SLOPES

N

MATCHLINE C-C STA. 111+00

MATCHLINE B-B STA. 52+00

MM 2
105+60

MM 1
52+80

APPROX. EXIST. R.O.W.

INSTALL SILT FENCE

PROTECT

STABILIZED CONSTRUCTION ENTRANCE FOR DIRECTIONAL DRILL

WRIGHT RESERVOIR

VT. 4

VT. 5

I-89 NB

I-89 SB

110+00

105+00

100+00

95+00

90+00

85+00

80+00

75+00

70+00

65+00

60+00

55+00

625

750

875

1000

LEGEND

- EXISTING LIMIT OF WETLAND
- EXISTING CULVERT OR DRAINAGE
- PROPOSED HANDHOLE
- PROPOSED SPLICE VAULT
- PROPOSED COMMUNICATION CONDUIT
- STABILIZED CONSTRUCTION ENTRANCE
- PROPOSED SILT FENCE

EPSC PLAN

SCALE 1" = 200'-0

200 0 200

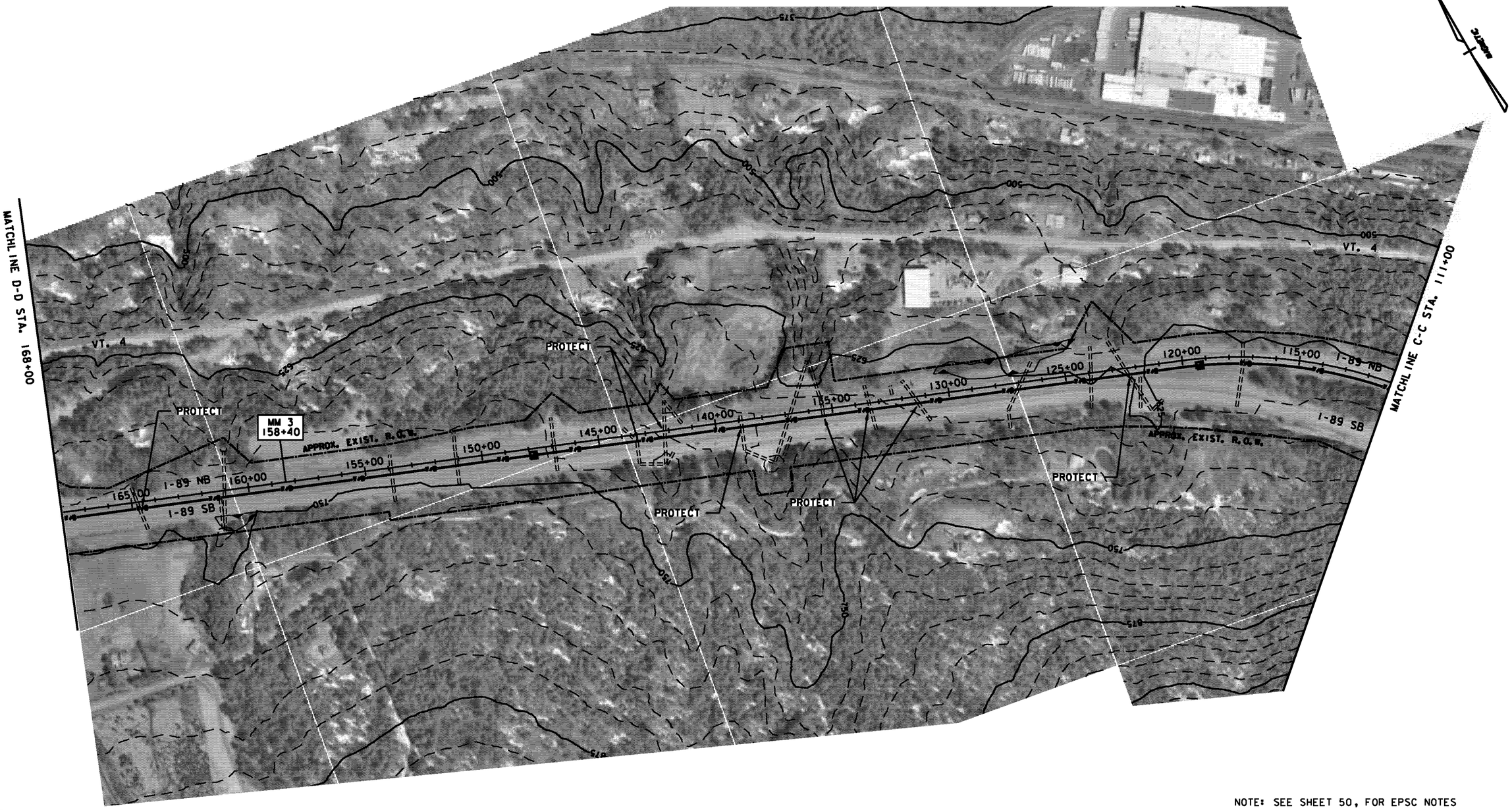
NOTE: SEE SHEET 50, FOR EPSC NOTES

AREA OF DISTURBANCE
(THIS SHEET) = 1,810.0 SF (0.042 AC)

PROJECT NAME:	HARTFORD SHARON
PROJECT NUMBER:	FITS503

FILE NAME: z06e142ER03.dgn	PLOT DATE: 9/15/2010
PROJECT LEADER: J. YOUNG	DRAWN BY: S. GUNN
DESIGNED BY: A. SEAMAN	CHECKED BY: J. WILSON
EPSC PLAN (SHEET 3 OF 14)	SHEET 52 OF 70

SHALLOW SLOPES
PLACE MATTING ON DISTURBED AREAS & PROTECT ADJACENT CATCH BASINS/CULVERTS



LEGEND

- EXISTING LIMIT OF WETLAND
- EXISTING CULVERT OR DRAINAGE
- PROPOSED HANDHOLE
- PROPOSED SPLICE VAULT
- PROPOSED COMMUNICATION CONDUIT
- STABILIZED CONSTRUCTION ENTRANCE
- PROPOSED SILT FENCE

EPSC PLAN

SCALE 1" = 200'-0

200 0 200

NOTE: SEE SHEET 50, FOR EPSC NOTES

AREA OF DISTURBANCE
(THIS SHEET) = 360.0 SF (0.008 AC)

PROJECT NAME:	HARTFORD SHARON
PROJECT NUMBER:	FITS503
FILE NAME: z06e142ER04.dgn	PLOT DATE: 9/15/2010
PROJECT LEADER: J. YOUNG	DRAWN BY: S. GUNN
DESIGNED BY: A. SEAMAN	CHECKED BY: J. WILSON
EPSC PLAN (SHEET 4 OF 14)	SHEET 53 OF 70

SHALLOW SLOPES
PLACE MATTING ON DISTURBED AREAS & PROTECT ADJACENT CATCH BASINS/CULVERTS

DIRECTIONAL DRILL/BORE

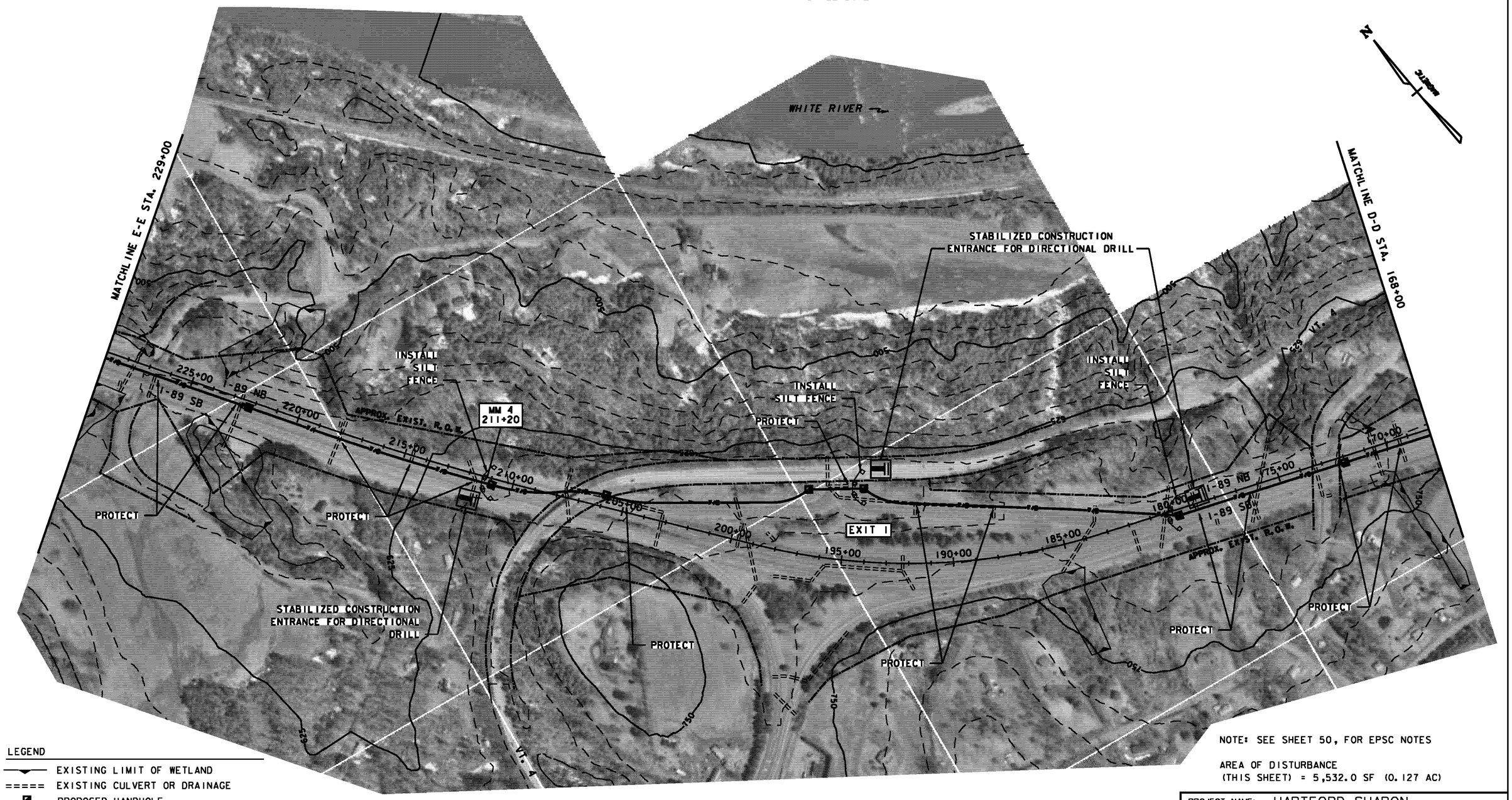
SHALLOW SLOPES
PLACE MATTING ON DISTURBED AREAS & PROTECT ADJACENT CATCH BASINS/CULVERTS

DIRECTIONAL DRILL/BORE

SHALLOW SLOPES
PLACE MATTING ON DISTURBED AREAS & PROTECT ADJACENT CATCH BASINS/CULVERTS

DIRECTIONAL DRILL/BORE

SHALLOW SLOPES
PLACE MATTING ON DISTURBED AREAS & PROTECT ADJACENT CATCH BASINS/CULVERTS



LEGEND

- EXISTING LIMIT OF WETLAND
- EXISTING CULVERT OR DRAINAGE
- PROPOSED HANDHOLE
- PROPOSED SPLICE VAULT
- PROPOSED COMMUNICATION CONDUIT
- STABILIZED CONSTRUCTION ENTRANCE
- PROPOSED SILT FENCE

EPSC PLAN

SCALE 1" = 200'-0

200 0 200

NOTE: SEE SHEET 50, FOR EPSC NOTES

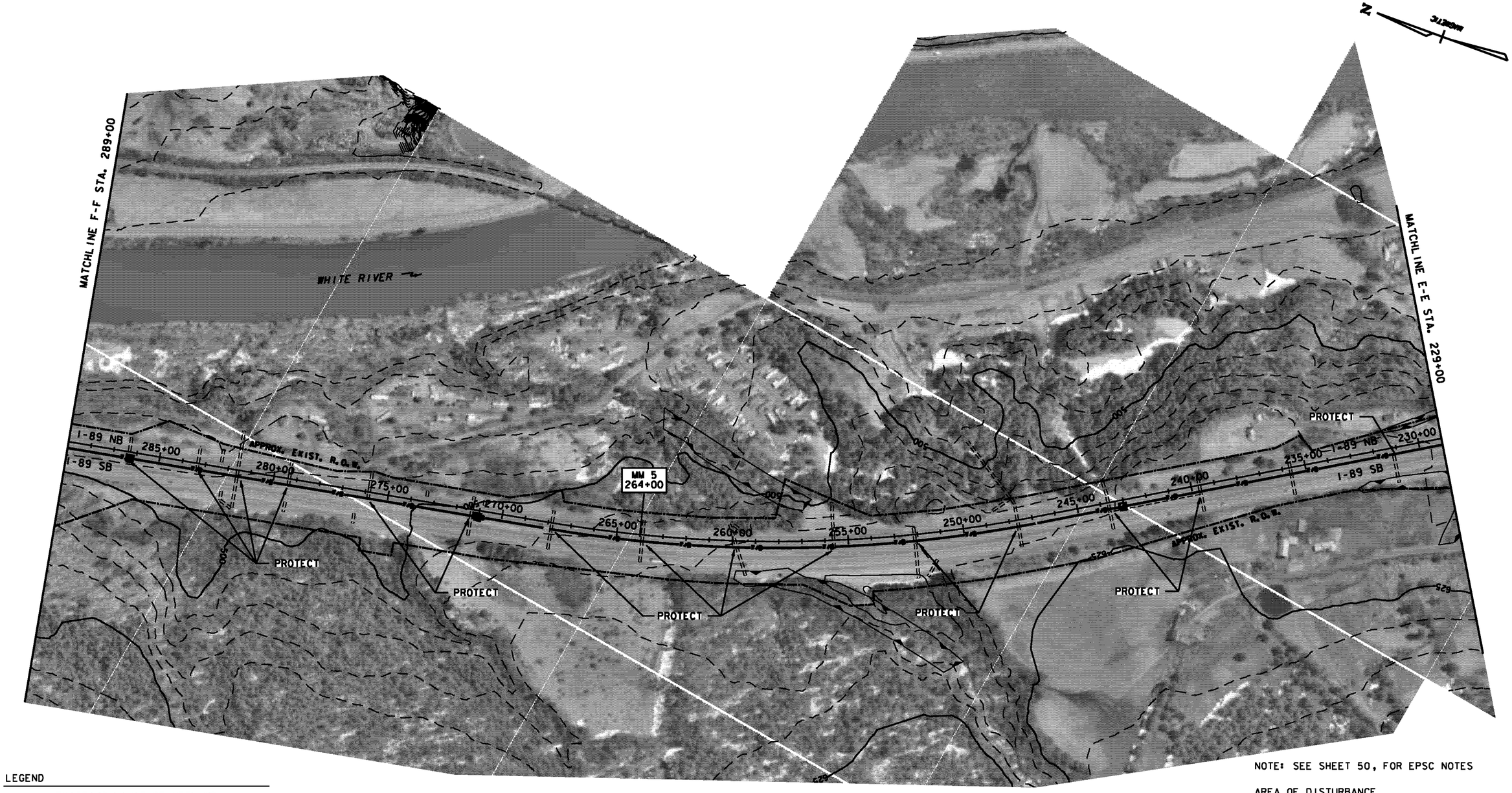
AREA OF DISTURBANCE
(THIS SHEET) = 5,532.0 SF (0.127 AC)

PROJECT NAME: HARTFORD SHARON
PROJECT NUMBER: FITS503

FILE NAME: z06e142ER05.dgn
PROJECT LEADER: J. YOUNG
DESIGNED BY: A. SEAMAN
EPSC PLAN (SHEET 5 OF 14)

PLOT DATE: 9/15/2010
DRAWN BY: S. GUNN
CHECKED BY: J. WILSON
SHEET 54 OF 70

SHALLOW SLOPES
PLACE MATTING ON DISTURBED AREAS & PROTECT ADJACENT CATCH BASINS/CULVERTS



LEGEND

- EXISTING LIMIT OF WETLAND
- EXISTING CULVERT OR DRAINAGE
- PROPOSED HANDHOLE
- PROPOSED SPLICE VAULT
- PROPOSED COMMUNICATION CONDUIT
- STABILIZED CONSTRUCTION ENTRANCE
- PROPOSED SILT FENCE

EPSC PLAN

SCALE 1" = 200'-0

200 0 200

NOTE: SEE SHEET 50, FOR EPSC NOTES

AREA OF DISTURBANCE
(THIS SHEET) = 862.5 SF (0.020 AC)

PROJECT NAME: HARTFORD SHARON
PROJECT NUMBER: FITS503

FILE NAME: z06e142ER06.dgn
PROJECT LEADER: J. YOUNG
DESIGNED BY: A. SEAMAN
EPSC PLAN (SHEET 6 OF 14)

PLOT DATE: 9/15/2010
DRAWN BY: S. GUNN
CHECKED BY: J. WILSON
SHEET 55 OF 70

SHALLOW SLOPES
PLACE MATTING ON DISTURBED AREAS & PROTECT ADJACENT CATCH BASINS/CULVERTS



LEGEND

- EXISTING LIMIT OF WETLAND
- EXISTING CULVERT OR DRAINAGE
- PROPOSED HANDHOLE
- PROPOSED SPLICE VAULT
- PROPOSED COMMUNICATION CONDUIT
- STABILIZED CONSTRUCTION ENTRANCE
- PROPOSED SILT FENCE

EPSC PLAN

SCALE 1" = 200'-0

200 0 200

NOTE: SEE SHEET 50, FOR EPSC NOTES

AREA OF DISTURBANCE
(THIS SHEET) = 1,410.0 SF (0.032 AC)

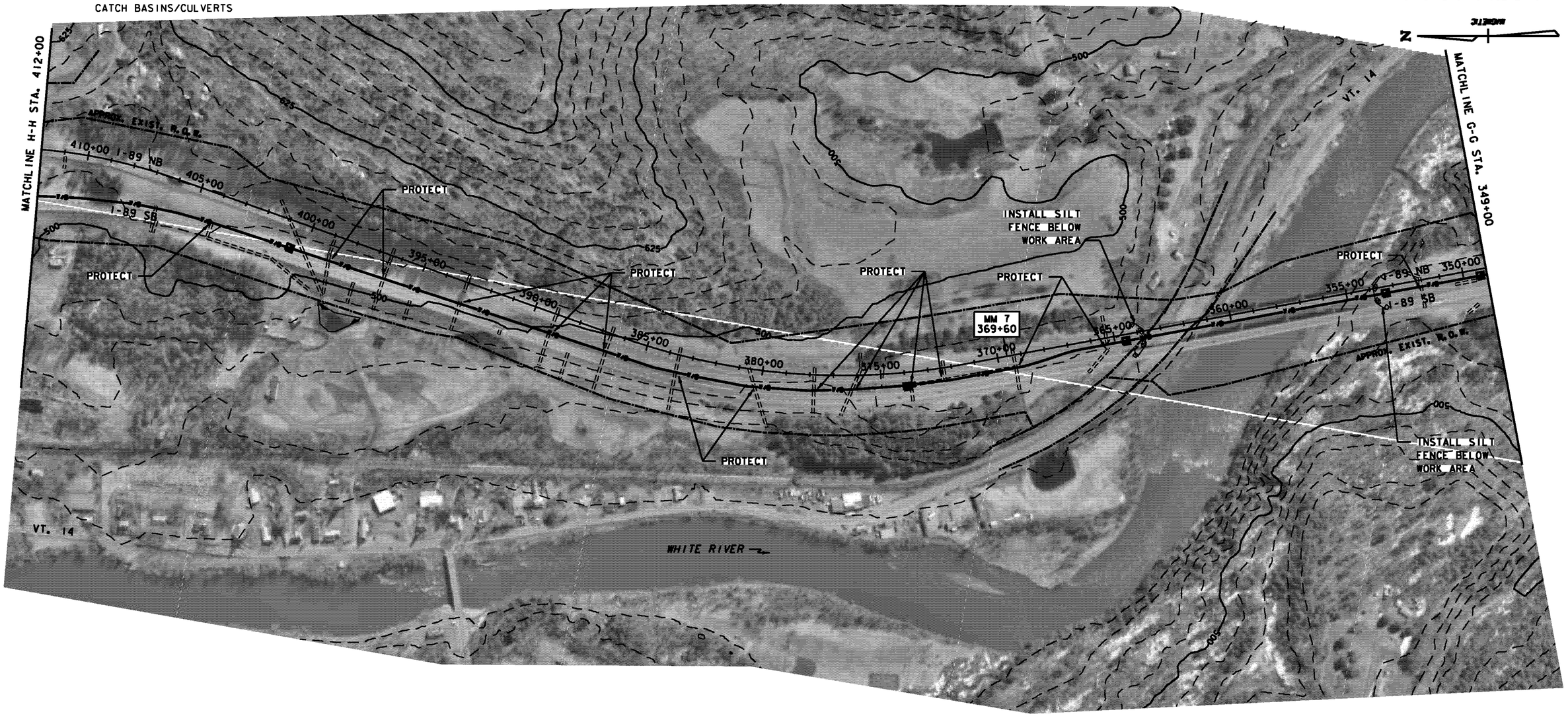
PROJECT NAME: HARTFORD SHARON	
PROJECT NUMBER: FITS503	
FILE NAME: z06e142ER07.dgn	PLOT DATE: 9/15/2010
PROJECT LEADER: J. YOUNG	DRAWN BY: S. GUNN
DESIGNED BY: A. SEAMAN	CHECKED BY: J. WILSON
EPSC PLAN (SHEET 7 OF 14)	SHEET 56 OF 70

STEEP SLOPES
PLACE MATTING ON DISTURBED
AREAS & PROTECT ADJACENT
CATCH BASINS/CULVERTS

SHALLOW SLOPES
PLACE MATTING ON DISTURBED AREAS & PROTECT ADJACENT CATCH BASINS/CULVERTS

BRIDGE ATTACHMENT

SHALLOW SLOPES
PLACE MATTING ON DISTURBED
AREAS & PROTECT ADJACENT
CATCH BASINS/CULVERTS



LEGEND

- EXISTING LIMIT OF WETLAND
- EXISTING CULVERT OR DRAINAGE
- PROPOSED HANDHOLE
- PROPOSED SPLICE VAULT
- PROPOSED COMMUNICATION CONDUIT
- STABILIZED CONSTRUCTION ENTRANCE
- PROPOSED SILT FENCE

EPSC PLAN

SCALE 1" = 200'-0

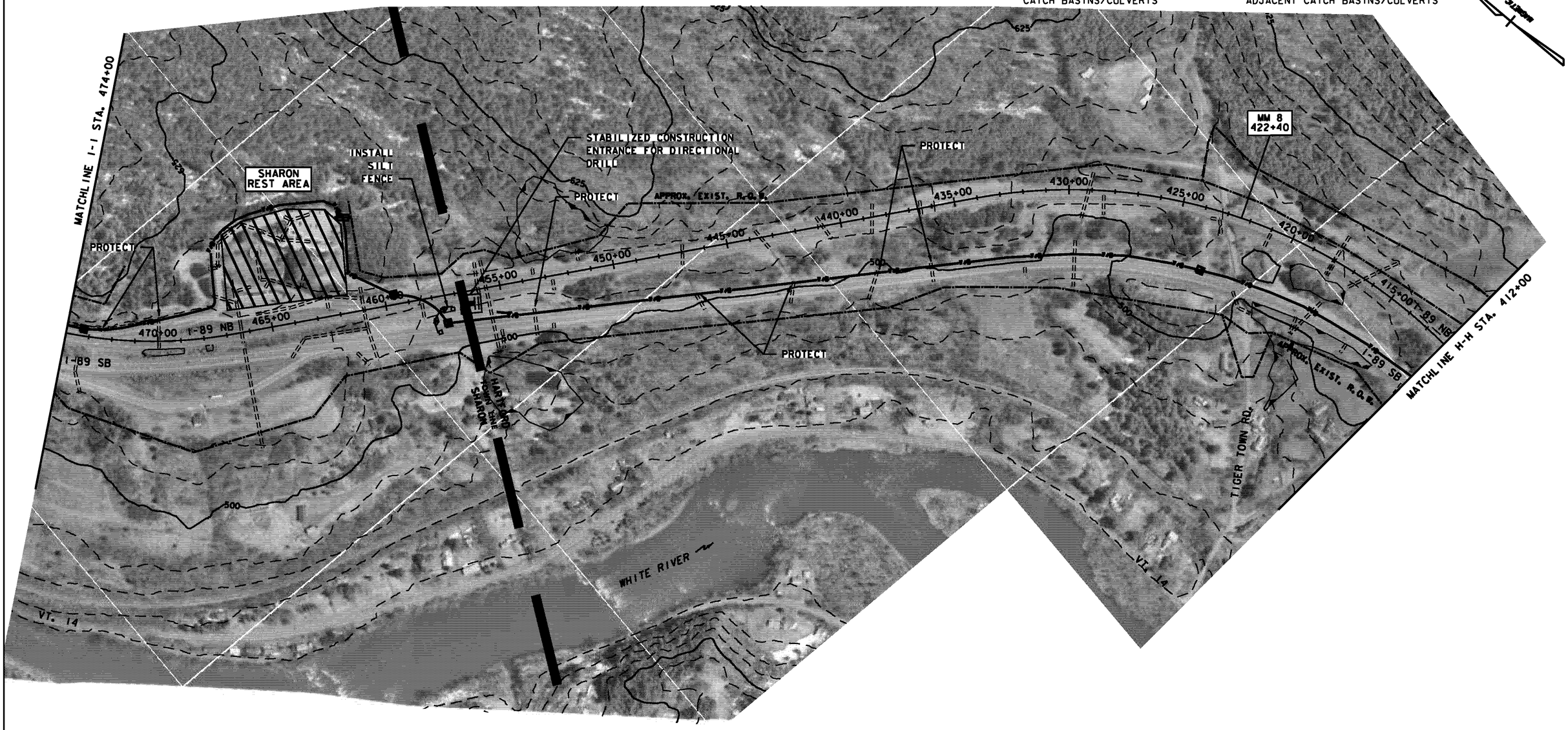
200 0 200

NOTE: SEE SHEET 50, FOR EPSC NOTES

AREA OF DISTURBANCE
(THIS SHEET) = 1,935.0 SF (0.044 AC)

PROJECT NAME: HARTFORD SHARON	
PROJECT NUMBER: FITS503	
FILE NAME: z06e142ER08.dgn	PLOT DATE: 9/15/2010
PROJECT LEADER: J. YOUNG	DRAWN BY: S. GUNN
DESIGNED BY: A. SEAMAN	CHECKED BY: J. WILSON
EPSC PLAN (SHEET 8 OF 14)	SHEET 57 OF 70

DIRECTIONAL DRILL/BORE | SHALLOW SLOPES PLACE MATTING ON DISTURBED AREAS & PROTECT ADJACENT CATCH BASINS/CULVERTS | DIRECTIONAL DRILL/BORE | SHALLOW SLOPES PLACE MATTING ON DISTURBED AREAS & PROTECT ADJACENT CATCH BASINS/CULVERTS | STEEP SLOPES PLACE MATTING ON DISTURBED AREAS & PROTECT ADJACENT CATCH BASINS/CULVERTS | SHALLOW SLOPES | STEEP SLOPES PLACE MATTING ON DISTURBED AREAS & PROTECT ADJACENT CATCH BASINS/CULVERTS



LEGEND

- EXISTING LIMIT OF WETLAND
- EXISTING CULVERT OR DRAINAGE
- PROPOSED HANDHOLE
- PROPOSED SPLICE VAULT
- PROPOSED COMMUNICATION CONDUIT
- STABILIZED CONSTRUCTION ENTRANCE
- PROPOSED SILT FENCE

EPSC PLAN

SCALE 1" = 200'-0

200 0 200

NOTE: SEE SHEET 50, FOR EPSC NOTES

AREA OF DISTURBANCE
(THIS SHEET) = 4,422.0 SF (0.102 AC)

PROJECT NAME:	HARTFORD SHARON
PROJECT NUMBER:	FITS503
FILE NAME: z06e142ER09.dgn	PLOT DATE: 9/15/2010
PROJECT LEADER: J. YOUNG	DRAWN BY: S. GUNN
DESIGNED BY: A. SEAMAN	CHECKED BY: J. WILSON
EPSC PLAN (SHEET 9 OF 14)	SHEET 58 OF 70

SHALLOW SLOPES
PLACE MATTING ON DISTURBED AREAS &
PROTECT ADJACENT CATCH BASINS/CULVERTS

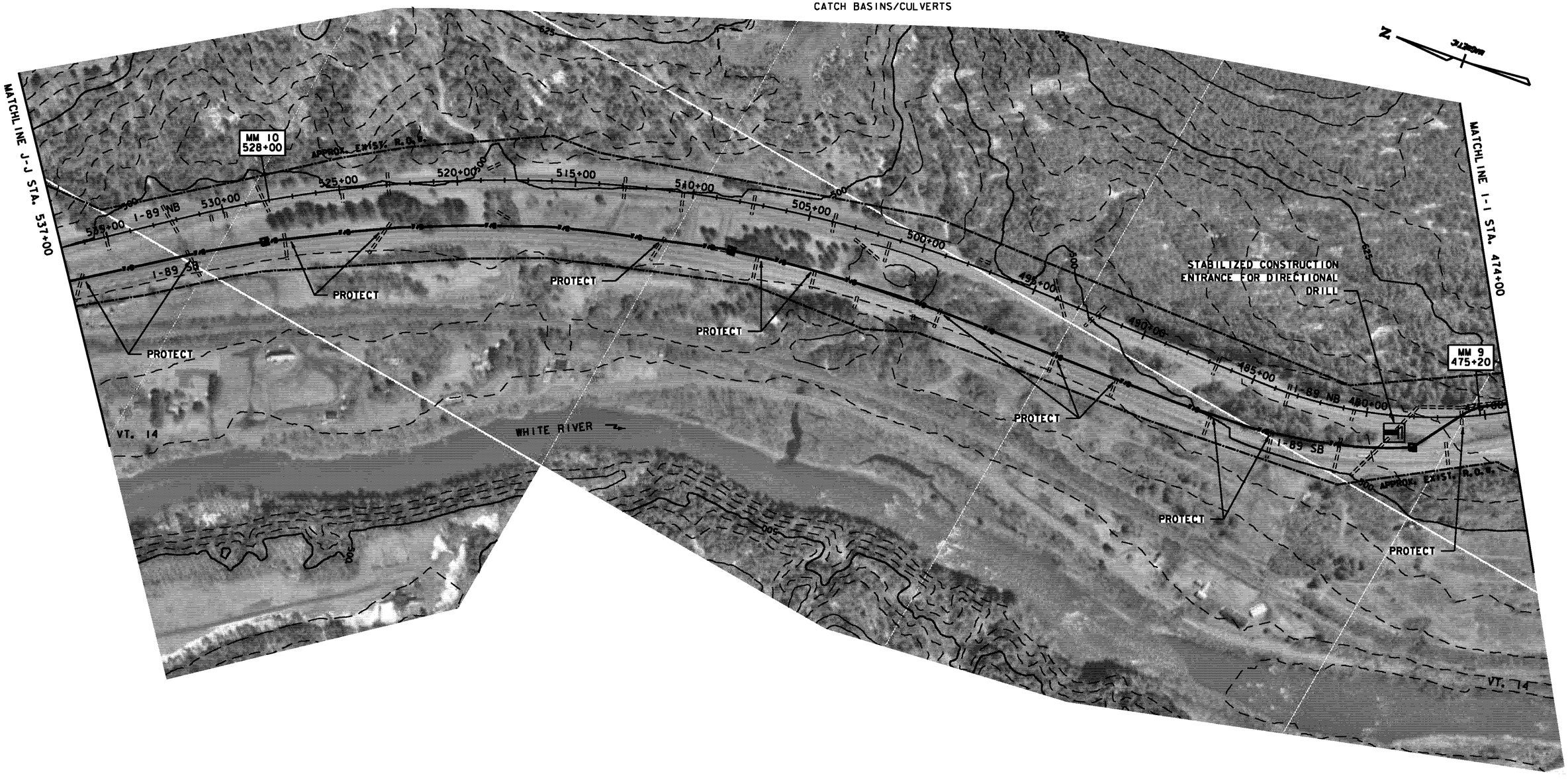
STEEP SLOPES

SHALLOW SLOPES

STEEP SLOPES
PLACE MATTING ON DISTURBED
AREAS & PROTECT ADJACENT
CATCH BASINS/CULVERTS

SHALLOW SLOPES
PLACE MATTING ON DISTURBED AREAS &
PROTECT ADJACENT CATCH BASINS/CULVERTS

DIRECTIONAL
DRILL/BORE



LEGEND

- EXISTING LIMIT OF WETLAND
- EXISTING CULVERT OR DRAINAGE
- PROPOSED HANDHOLE
- PROPOSED SPLICE VAULT
- PROPOSED COMMUNICATION CONDUIT
- STABILIZED CONSTRUCTION ENTRANCE
- PROPOSED SILT FENCE

EPSC PLAN

SCALE 1" = 200'-0

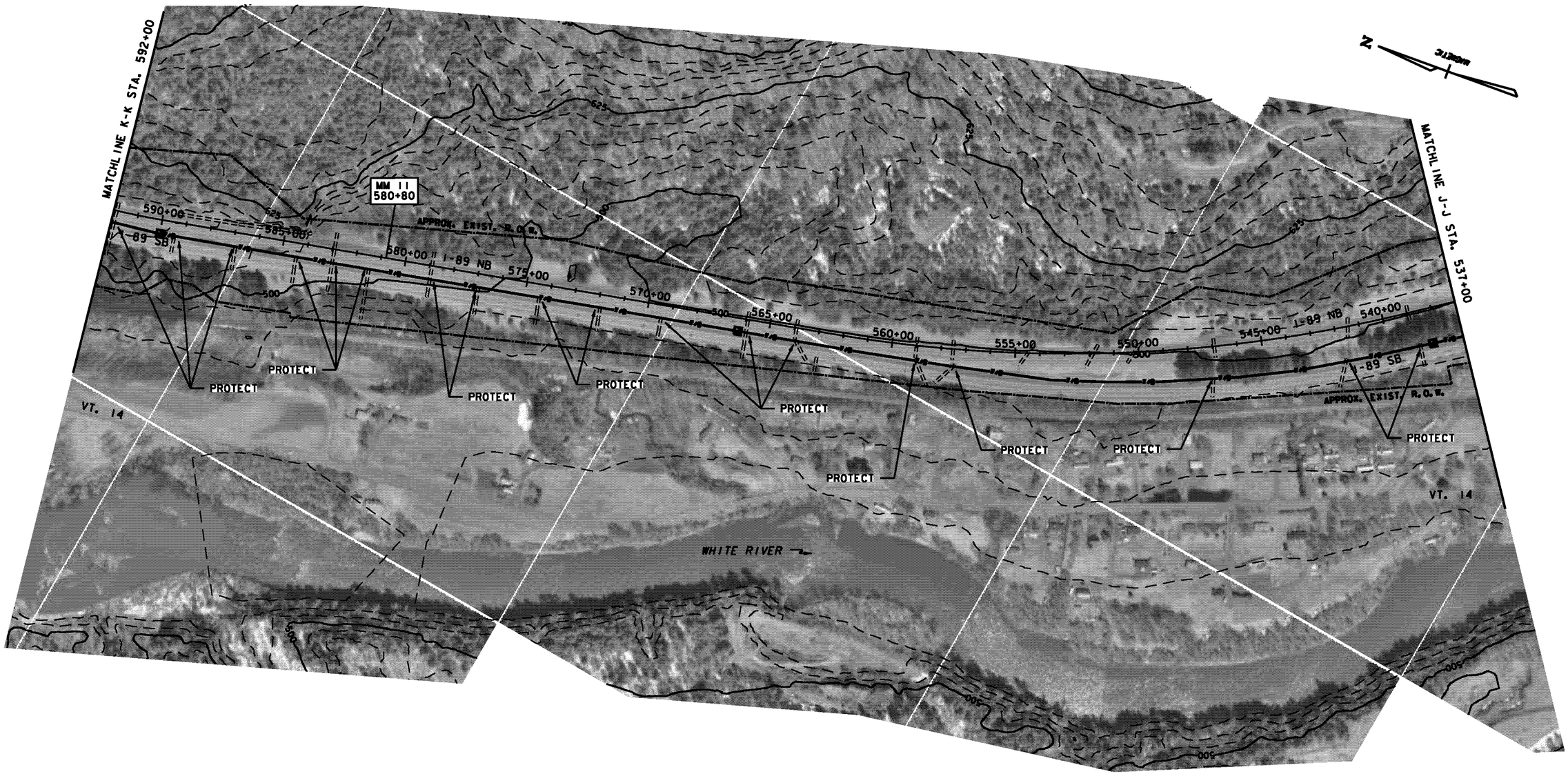
200 0 200

NOTE: SEE SHEET 50, FOR EPSC NOTES

AREA OF DISTURBANCE
(THIS SHEET) = 2,677.0 SF (0.061 AC)

PROJECT NAME:	HARTFORD SHARON
PROJECT NUMBER:	FITS503
FILE NAME: z06e142ER010.dgn	PLOT DATE: 9/15/2010
PROJECT LEADER: J. YOUNG	DRAWN BY: S. GUNN
DESIGNED BY: A. SEAMAN	CHECKED BY: J. WILSON
EPSC PLAN (SHEET 10 OF 14)	SHEET 59 OF 70

SHALLOW SLOPES
PLACE MATTING ON DISTURBED AREAS & PROTECT ADJACENT CATCH BASINS/CULVERTS



LEGEND

- EXISTING LIMIT OF WETLAND
- EXISTING CULVERT OR DRAINAGE
- PROPOSED HANDHOLE
- PROPOSED SPLICE VAULT
- PROPOSED COMMUNICATION CONDUIT
- STABILIZED CONSTRUCTION ENTRANCE
- PROPOSED SILT FENCE

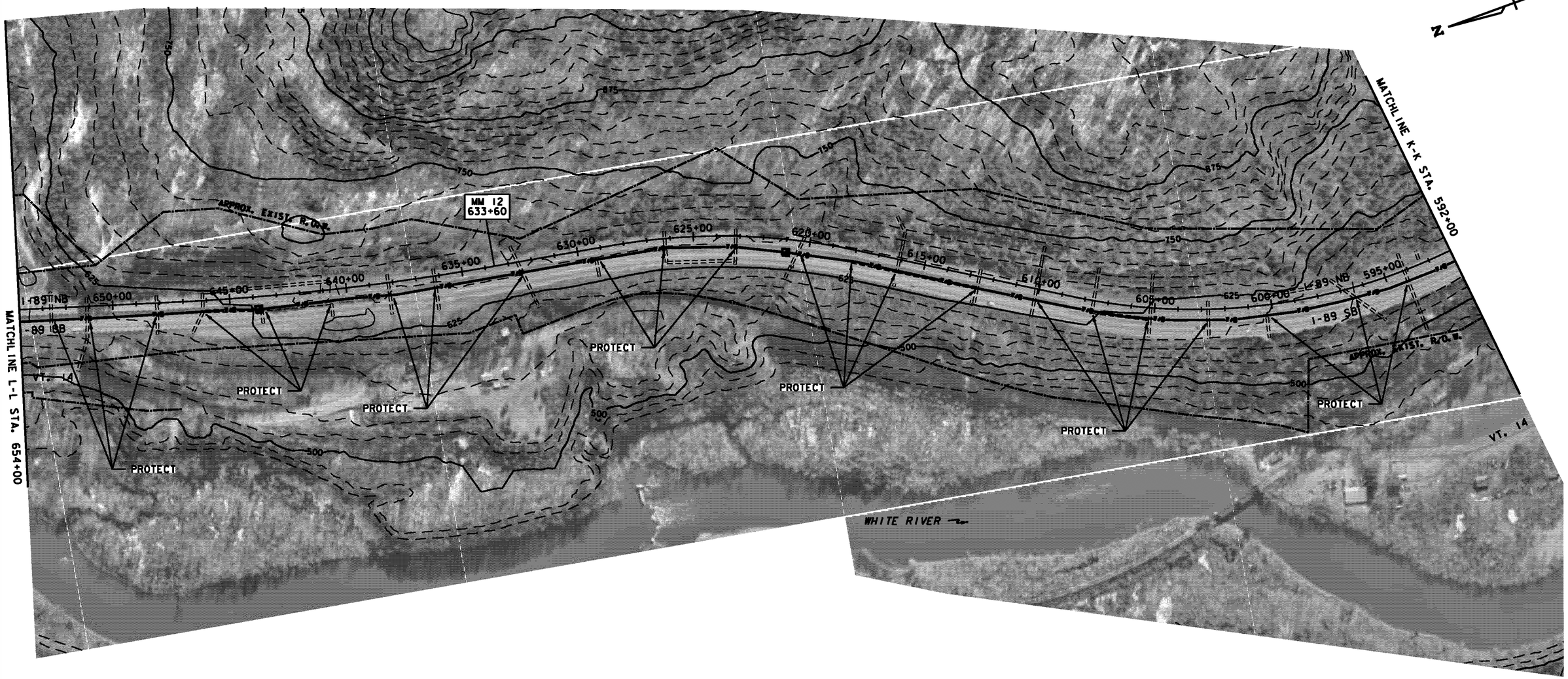
EPSC PLAN
SCALE 1" = 200'-0
200 0 200

NOTE: SEE SHEET 50, FOR EPSC NOTES

AREA OF DISTURBANCE
(THIS SHEET) = 1,347.0 SF (0.031 AC)

PROJECT NAME: HARTFORD SHARON	
PROJECT NUMBER: FITS503	
FILE NAME: z06e142ER011.dgn	PLOT DATE: 9/16/2010
PROJECT LEADER: J. YOUNG	DRAWN BY: S. GUNN
DESIGNED BY: A. SEAMAN	CHECKED BY: J. WILSON
EPSC PLAN (SHEET 11 OF 14)	SHEET 60 OF 70

SHALLOW SLOPES
PLACE MATTING ON DISTURBED AREAS & PROTECT ADJACENT CATCH BASINS/CULVERTS



LEGEND

- EXISTING LIMIT OF WETLAND
- EXISTING CULVERT OR DRAINAGE
- PROPOSED HANDHOLE
- PROPOSED SPLICE VAULT
- PROPOSED COMMUNICATION CONDUIT
- STABILIZED CONSTRUCTION ENTRANCE
- PROPOSED SILT FENCE

EPSC PLAN
SCALE 1" = 200'-0
200 0 200

NOTE: SEE SHEET 50, FOR EPSC NOTES

AREA OF DISTURBANCE
(THIS SHEET) = 1,294.5 SF (0.030 AC)

PROJECT NAME: HARTFORD SHARON	
PROJECT NUMBER: FITS503	
FILE NAME: z06e142ER012.dgn	PLOT DATE: 9/15/2010
PROJECT LEADER: J. YOUNG	DRAWN BY: S. GUNN
DESIGNED BY: A. SEAMAN	CHECKED BY: J. WILSON
EPSC PLAN (SHEET 12 OF 14)	SHEET 61 OF 70

SHALLOW SLOPES | DIRECTIONAL DRILL/BORE | SHALLOW SLOPES
PLACE MATTING ON DISTURBED AREAS & PROTECT ADJACENT CATCH BASINS/CULVERTS

EXIST. POLE

N

MM 13
686+40

PROTECT

STABILIZED CONSTRUCTION ENTRANCE FOR DIRECTIONAL DRILL

APPROX. EXIST. P.O.E.

I-89 NB

I-89 SB

VT. 14

VT. 132

WHITE RIVER

INSTALL SILT FENCE

EXIT 2

END PROJECT

MATCHLINE L-L STA. 654+00

MATCHLINE M-M STA. 718+00

EPSC PLAN
SCALE 1" = 200'-0
200 0 200

LEGEND

- EXISTING LIMIT OF WETLAND
- EXISTING CULVERT OR DRAINAGE
- PROPOSED HANDHOLE
- PROPOSED SPLICE VAULT
- PROPOSED COMMUNICATION CONDUIT
- STABILIZED CONSTRUCTION ENTRANCE
- PROPOSED SILT FENCE

NOTE: SEE SHEET 50, FOR EPSC NOTES

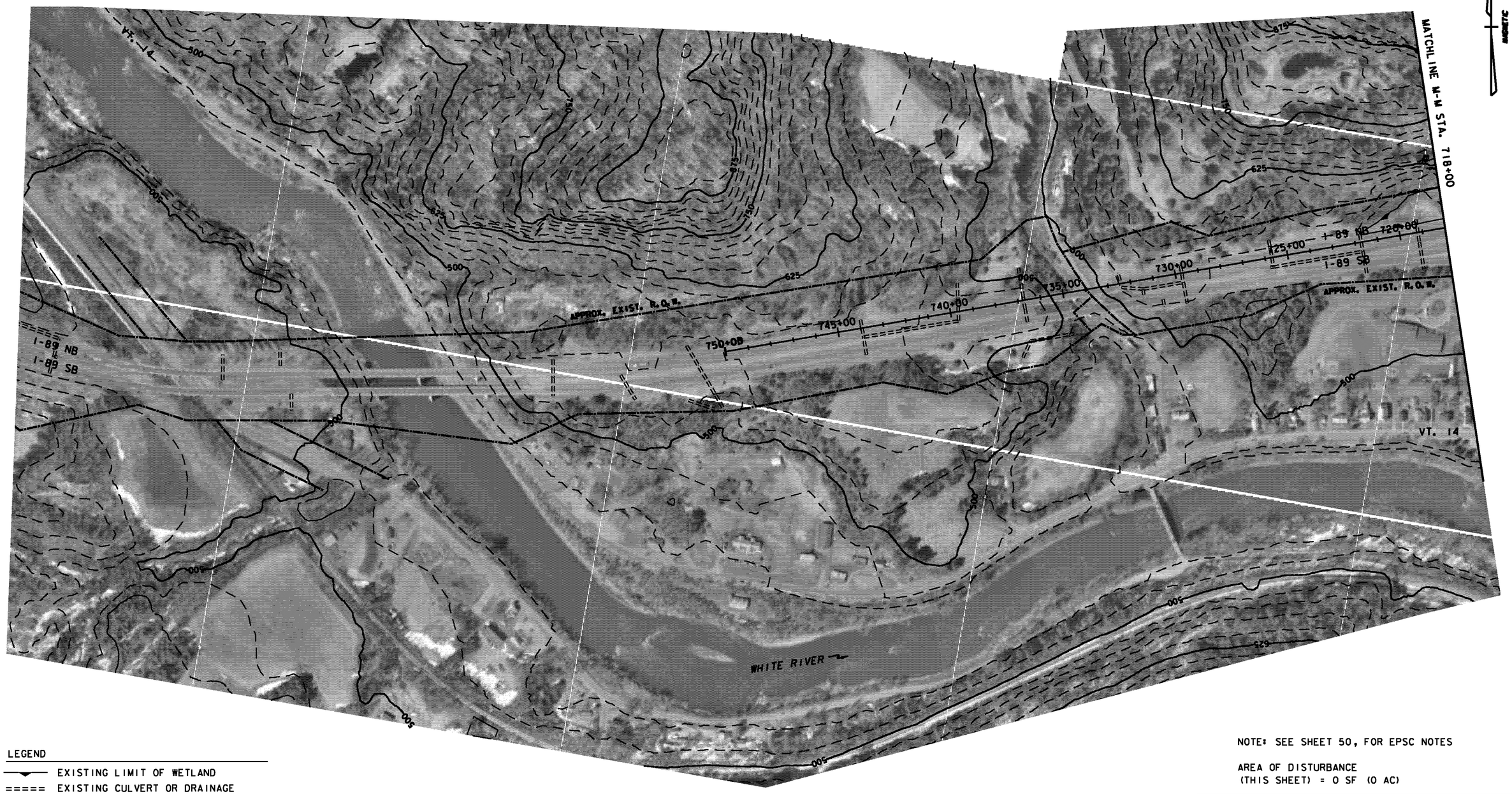
AREA OF DISTURBANCE
(THIS SHEET) = 3,834.5 SF (0.088 AC)

PROJECT NAME: HARTFORD SHARON
PROJECT NUMBER: FITS503

FILE NAME: z06e142ER013.dgn
PROJECT LEADER: J. YOUNG
DESIGNED BY: A. SEAMAN
EPSC PLAN (SHEET 13 OF 14)

PLOT DATE: 9/15/2010
DRAWN BY: S. GUNN
CHECKED BY: J. WILSON
SHEET 62 OF 70

NO WORK PROPOSED ON THIS SHEET; PROVIDED FOR INFORMATIONAL PURPOSES



LEGEND

- EXISTING LIMIT OF WETLAND
- EXISTING CULVERT OR DRAINAGE
- PROPOSED HANDHOLE
- PROPOSED SPLICE VAULT
- PROPOSED COMMUNICATION CONDUIT
- STABILIZED CONSTRUCTION ENTRANCE
- PROPOSED SILT FENCE

EPSC PLAN

SCALE 1" = 200'-0

200 0 200

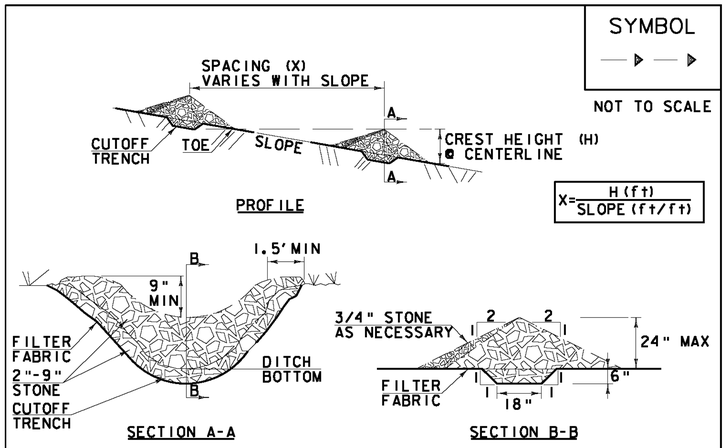
NOTE: SEE SHEET 50, FOR EPSC NOTES

AREA OF DISTURBANCE
(THIS SHEET) = 0 SF (0 AC)

PROJECT NAME: HARTFORD SHARON
PROJECT NUMBER: FITS503

FILE NAME: z06e142ER014.dgn
PROJECT LEADER: J. YOUNG
DESIGNED BY: A. SEAMAN
EPSC PLAN (SHEET 14 OF 14)

PLOT DATE: 9/15/2010
DRAWN BY: S. GUNN
CHECKED BY: J. WILSON
SHEET 63 OF 70



CONSTRUCTION SPECIFICATIONS

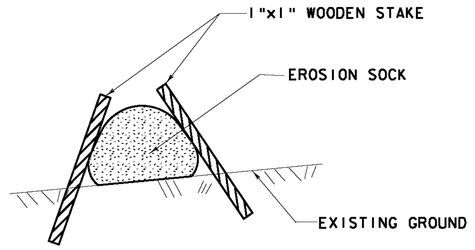
1. STONE WILL BE PLACED ON A FILTER FABRIC FOUNDATION.
2. CHECK DAMS SHALL BE SPACED SO THAT THE ELEVATION OF THE CREST OFTHE DOWNSTREAM DAM IS AT THE SAME ELEVATION AS THE TOE OF THE UPSTREAM DAM.
3. 3/4" FILTERING STONE MAY BE ADDED TO THE FACE OF THE CHECK DAM AS NECESSARY.
4. EXTEND THE STONE A MINIMUM OF 1.5' BEYOND THE DITCH BANKS TO PREVENT CUTTING AROUND THE DAM.
5. PROTECT CHANNEL DOWNSTREAM OF THE LOWEST CHECK DAM FROM SCOUR AND EROSION WITH STONE OR LINER AS APPROPRIATE.
6. ENSURE THAT CHANNEL APPURTENANCES SUCH AS CULVERT ENTRANCES BELOW CHECK DAMS ARE NOT SUBJECT TO DAMAGE OR BLOCKAGE FROM DISPLACED STONE.
7. MAXIMUM DRAINAGE AREA 2 ACRES.

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC ORIGINALLY DEVELOPED BY USDA-NRCS VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION	CHECK DAM

NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- " FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR TEMPORARY STONE CHECK DAM, TYPE I (PAY ITEM 653.25)

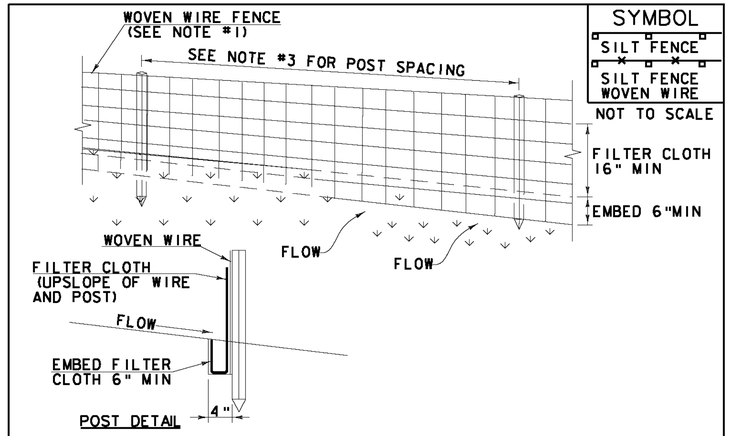
REVISIONS		
MARCH 21, 2008		WHF
JANUARY 8, 2009		WHF



NOTE: UTILIZE, INSTALL AND OVERLAP JOINTS PER MANUFACTURER'S RECOMMENDATIONS

EROSION SOCK
NOT TO SCALE

EROSION SOCK/STRAW WATTLES ARE INTENDED TO BE UTILIZED AS A TEMPORARY AND PORTABLE EROSION CONTROL METHOD DUE TO RAPID ADVANCEMENT OF FIBER OPTIC CONDUIT INSTALLATION (ASSUME 1000 LF PER DAY). ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE MANUFACTURER RECOMMENDATIONS AND ITEM 900.640, "SPECIAL PROVISION (EROSION SOCK - STRAW WATTLES)".



CONSTRUCTION SPECIFICATIONS

1. WOVEN WIRE REINFORCED FENCE IS REQUIRED WITHIN 100' UPSLOPE OF RECEIVING WATERS WHEN THE PROJECT FALLS UNDER A CONSTRUCTION STORMWATER PERMIT. WOVEN WIRE SHALL BE A MIN. 14 GAUGE WITH A 6" MAX. MESH OPENING.
2. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI100X, STABILINKA T140N OR APPROVED EQUIVALENT.
3. POST SPACING FOR WIRE-BACKED FENCE SHALL BE 10' MAXIMUM. FOR FILTER-CLOTH FENCE, WHEN ELONGATION IS >50%, POST SPACING SHALL NOT EXCEED 4' AND WHEN ELONGATION IS <50%, POST SPACING SHALL NOT EXCEED 6'.
4. WOVEN WIRE FENCE IS TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES. FILTER CLOTH IS TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
5. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY 6" AND FOLDED.
6. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN SEDIMENT REACHES HALF OF FABRIC HEIGHT.

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC ORIGINALLY DEVELOPED BY USDA-NRCS VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION	SILT FENCE

NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- " FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 649 AND AS SHOWN IN THE PLANS FOR GEOTEXTILE FOR SILT FENCE (PAY ITEM 649.51) OR GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED (PAY ITEM 649.515).

REVISIONS		
MARCH 21, 2008		WHF
DECEMBER 11, 2008		WHF
JANUARY 13, 2009		WHF

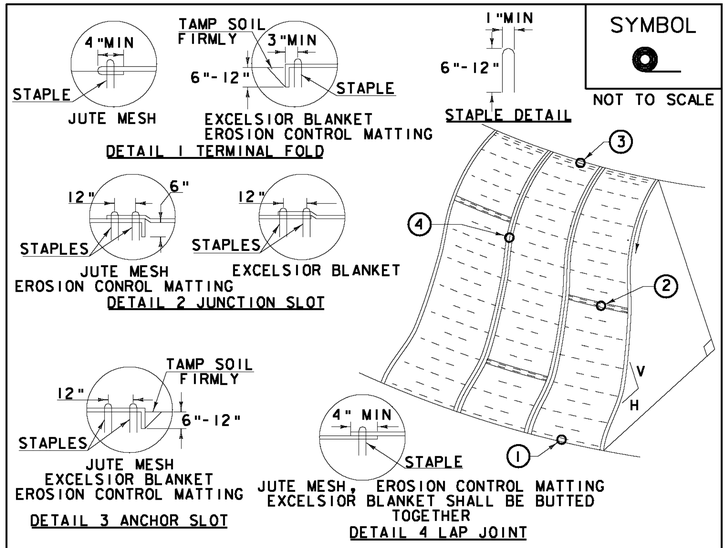
PROJECT NAME: HARTFORD SHARON
PROJECT NUMBER: FITS503

FILE NAME: z06e142ERO-DTL1.dgn
PROJECT LEADER: J. YOUNG
DESIGNED BY: A. SEAMAN
EPSC DETAILS (SHEET 1 OF 2)

PLOT DATE: 9/15/2010
DRAWN BY: S. GUNN
CHECKED BY: J. WILSON
SHEET 64 OF 70

SYMBOL

NOT TO SCALE



CONSTRUCTION SPECIFICATIONS

1. APPLY TO SLOPES GREATER THAN 3H: IV OR WHERE NECESSARY TO AID IN ESTABLISHING VEGETATION.
2. APPLY FERTILIZER, LIME SEED PRIOR TO PLACING MATTING.
3. STAPLES ARE TO BE PLACED ALTERNATELY, IN COLUMNS APPROXIMATELY 2' APART AND IN ROWS APPROXIMATELY 3' APART. APPROXIMATELY 175 STAPLES ARE REQUIRED PER 4'X225' ROLL OF MATERIAL AND 125 STAPLES ARE REQUIRED PER 4'X150' ROLL OF MATERIAL.
4. DISTURBED AREAS SHALL BE SMOOTHLY GRADED. EROSION CONTROL MATERIAL SHALL BE PLACED LOOSELY OVER GROUND SURFACE. DO NOT STRETCH.
5. ALL TERMINAL ENDS AND TRANSVERSE LAPS SHALL BE STAPLED AT APPROXIMATELY 12" INTERVALS.

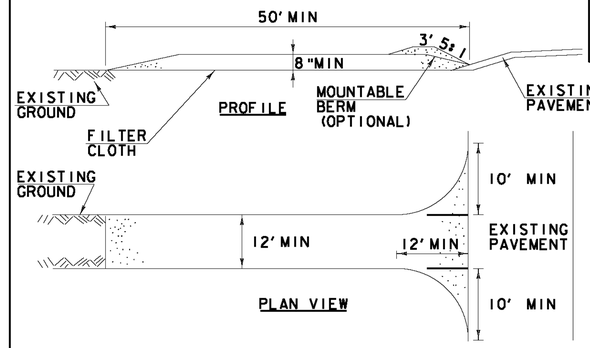
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC ORIGINALLY DEVELOPED BY USDA-NRCS VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION	ROLLED EROSION CONTROL PRODUCT (RECP) SIDE SLOPE

NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- " FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.
THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 AND AS SHOWN IN THE PLANS FOR TEMPORARY EROSION MATTING (PAY ITEM 653.20) OR PERMANENT EROSION MATTING (PAY ITEM 653.21).

REVISIONS	
APRIL 16, 2007	JMF
JANUARY 13, 2009	WHF

SYMBOL

NOT TO SCALE



CONSTRUCTION SPECIFICATIONS

1. STONE SIZE- USE 1-4" STONE, RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH- NOT LESS THAN 50' (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30' MINIMUM LENGTH APPLIES).
3. THICKNESS- NOT LESS THAN 8".
4. WIDTH- 12' MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. 24' IF SINGLE ENTRANCE TO SITE.
5. GEOTEXTILE MUST BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING STONE.
6. SURFACE WATER- ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY, ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED ACCORDING TO PERMIT REQUIREMENTS.

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC ORIGINALLY DEVELOPED BY USDA-NRCS VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION	STABILIZED CONSTRUCTION ENTRANCE

NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- " FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR VEHICLE TRACKING PAD (PAY ITEM 653.35) OR AS SPECIFIED IN THE CONTRACT.

REVISIONS	
MARCH 24, 2008	WHF
JANUARY 13, 2009	WHF

VAOT RURAL AREA MIX

	LBS/AC				
% WEIGHT	BROADCAST	HYDROSEED	NAME	GERM %	PURITY %
37.5%	22.5	45	CREEPING RED FESCUE	85%	98%
37.5%	22.5	45	TALL FESCUE	90%	95%
5.0%	3	6	RED TOP	90%	95%
15.0%	9	18	BIRDSFOOT TREFOIL	85%	98%
5.0%	3	6	ANNUAL RYE GRASS	85%	95%
100%	60	120			

VAOT URBAN AREA MIX

	LBS/AC				
% WEIGHT	BROADCAST	HYDROSEED	NAME	GERM %	PURITY %
42.5%	34	68	CREEPING RED FESCUE	85%	98%
10.0%	8	16	PERENNIAL RYE GRASS	90%	95%
42.5%	34	68	KENTUCKY BLUE GRASS	85%	85%
5.0%	4	8	ANNUAL RYE GRASS	85%	95%
100%	80	160			

GENERAL GUIDANCE

FERTILIZER		LIME	
BROADCAST	HYDROSEED	BROADCAST	HYDROSEED
10-20-10	19-19-19	PELLETIZED	LIQUID
500 LBS/AC		2 TONS/AC	4.4 GAL/AC

CONSTRUCTION GUIDANCE

1. RURAL SEED MIX: USE AS INDICATED IN THE PLANS AND/OR FOR ALL ESTABLISHED UPLAND (NON WETLAND) AREAS DISTURBED BY THE CONTRACTOR.
2. URBAN SEED MIX: USE AS INDICATED IN THE PLANS AND/OR FOR ALL ESTABLISHED LAWN AREAS DISTURBED BY THE CONTRACTOR.
3. ALL SEED MIXTURES: SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY WEIGHT AND SHALL BE FREE OF ALL NOXIOUS SEED.
4. FERTILIZER AND LIMESTONE: SHALL FOLLOW RATES SHOWN ON PLAN OR AS DIRECTED BY THE ENGINEER
5. HAY MULCH: TO BE PLACED ON EARTH SLOPES AT THE RATE OF 2 TONS/ACRE, ACHIEVE 90% GROUND COVER OR AS DIRECTED BY THE ENGINEER.
6. TOPSOIL: TO BE USED WITH SEED AS INDICATED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.
7. HYDROSEEDING: ALTHOUGH GUIDANCE IS GIVEN ABOVE THE SITE CONDITIONS AND THE TYPE OF HYDROSEED WILL ULTIMATELY DICTATE THE AMOUNTS AND TYPES OF SOIL AMENDMENTS TO BE APPLIED
8. TURF ESTABLISHMENT: PLACING SEED, FERTILIZER, LIME AND MULCH PRIOR TO SEPTEMBER 15 AND AFTER APRIL 15 CAN BETTER ENSURE A VIGOROUS GROWTH OF GRASS.

ADAPTED FROM VTRANS TECHNICAL LANSCAPE MAUAL FOR ROADWAYS AND TRANSPORTATION FACILITIES	TURF ESTABLISHMENT

REVISIONS	
JUNE 23, 2009	WHF
JANUARY 15, 2010	WHF

PROJECT NAME: HARTFORD SHARON
PROJECT NUMBER: FITS503

FILE NAME: z06e142ERO-DTL2.dgn
PROJECT LEADER: J. YOUNG
DESIGNED BY: A. SEAMAN
EPSC DETAILS (SHEET 2 OF 2)

PLOT DATE: 9/16/2010
DRAWN BY: S. GUNN
CHECKED BY: J. WILSON
SHEET 65 OF 70

TRAFFIC MANAGEMENT NOTES:

1. THE EXISTING SPEED LIMIT IS 65 MPH. THE SPEED LIMIT WILL BE REDUCED TO 55 MPH IN THE WORK ZONE FOR THIS PROJECT. ANY EXISTING SPEED LIMIT SIGNS WITHIN THE SPEED REDUCTION AREA SHALL BE COMPLETELY COVERED. CONTRACTOR SHALL OBTAIN A TEMPORARY SPEED CERTIFICATE FROM THE VERMONT AGENCY OF TRANSPORTATION (VTRANS).

2. SIGNS SHALL BE INSTALLED SO AS NOT TO OBSTRUCT EXISTING SIGNS. ANY EXISTING SIGNS NOT APPLICABLE TO VARIOUS STAGES OF CONSTRUCTION SHALL BE REMOVED OR COVERED.

3. ALL SIGNS SHALL BE IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) AND THE "STANDARD HIGHWAY SIGNS" (SHS) BOOK PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION (FHWA).

4. SOLID SUBSTRATE CONSTRUCTION SIGNS SHALL HAVE RETROREFLECTIVE SHEETING EQUAL TO OR EXCEEDING "AMERICAN SOCIETY FOR TESTING AND MATERIALS" (ASTM) TYPE VII, VIII, OR IX REQUIREMENTS, UNLESS OTHERWISE NOTED.

5. ROLL UP SIGNS SHALL HAVE RETROREFLECTIVE SHEETING EQUAL TO OR EXCEEDING ASTM TYPE VI.

6. SIGNS SHALL BE ERECTED BEFORE THE START OF ANY WORK AND SHALL BE COVERED UNTIL WORK COMMENCES, DURING PERIODS OF INACTIVITY, OR UPON COMPLETION OF THE WORK. EACH SIGN SHALL BE REMOVED UPON COMPLETION OF THE WORK AT THE DISCRETION OF THE ENGINEER.

7. FIXED SIGNS SHALL BE SET SECURELY IN THE GROUND. THE BOTTOM OF A SIGN SHALL BE AT LEAST SEVEN FEET ABOVE THE EDGE OF PAVEMENT. THE NEAREST EDGE OF A SIGN SHALL BE AT LEAST SIX FEET OUTSIDE THE SHOULDER POINT OR FOUR FEET OUTSIDE GUARDRAIL.

8. PORTABLE SIGNS SHALL BE PLACED ON THE EDGE OF ROADWAY, AND A ONE FOOT MINIMUM ABOVE TRAVELED WAY. ALL VEGETATION THAT INTERFERES WITH VIABILITY OF THE SIGNS SHALL BE REMOVED. WHEN PLACED BEHIND GUARDRAIL, THE BOTTOM OF THE SIGN FACE SHALL BE ABOVE THE TOP OF THE GUARDRAIL.

9. WHERE SIGN INSTALLATIONS ARE NOT PROTECTED BY GUARDRAIL OR OTHER APPROVED TRAFFIC BARRIERS, ALL SIGNS AND POST INSTALLATIONS SHALL BE "NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM" (NCHRP) REPORT 350 COMPLIANT AND NO SIGN POSTS SHALL EXTEND OVER THE TOP OF THE SIGN INSTALLED ON SAID POST (S). WHEN ANCHORS ARE INSTALLED, STUB SHALL NOT BE GREATER THAN FOUR INCHES ABOVE EXISTING GROUND.

10. THE CONTRACTOR SHALL HAVE SIGNS FOR CLOSURE FOR RIGHT AND LEFT LANES ON PROJECT BEFORE WORK COMMENCES.

11. THE NUMBER OF CHANNELIZING DEVICES, TYPE THREE BARRICADES, AND OTHER TRAFFIC CONTROL DEVICES SHOWN ARE FOR ILLUSTRATIVE PURPOSE ONLY. THE ACTUAL NUMBER REQUIRED ARE TO BE DETERMINED BASED ON INDIVIDUAL DETOUR CONDITIONS (TAPERS, SPEED LIMITS, LENGTHS OF DETOUR, CURVE, ETC.). WARNING LIGHTS SHALL NOT BE USED ON CHANNELIZING DEVICES.

12. PLACE LAST CHANNELIZING DEVICE 100 FEET BEYOND THE ANTICIPATED WORK ZONE TERMINAL POINT EACH DAY AND THEN START THE END TAPER. THE END TAPER SHALL BE CONSTRUCTED OF 5 ADDITIONAL RETROREFLECTIVE DRUMS SPACED AT 10 FEET ON CENTER.

13. THE ARROW BOARD SHALL BE PLACED ON THE SHOULDER OF THE ROADWAY, OR IF PRACTICAL, FURTHER FROM THE TRAVELED LANE AT THE END OF THE SHOULDER TAPER.

14. THE PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) SHALL BE USED AT THE DISCRETION OF THE ENGINEER. THE PCMS SHALL BE USED IN ACCORDANCE WITH SECTION 6F.60 OF THE MUTCD. SUGGESTED SIGN MESSAGES ARE SHOWN IN THE PCMS SIGN MESSAGE DETAIL.

15. TRAVEL LANE SHALL BE 12 FEET WIDE.

16. DURING NON-WORK PERIODS, ALL EQUIPMENT SHALL BE MOVED TO A DESIGNATED STORAGE AREA OR AT LEAST 30 FT FROM THE EDGE OF TRAVEL. EQUIPMENT PROTECTED BY GUARDRAIL MUST BE AT LEAST 4 FT BEHIND GUARDRAIL.

17. ALL WORK IS TO BE PERFORMED WITHIN THE LEGAL RIGHT-OF-WAY. THE CONTRACTOR SHALL OBTAIN PERMISSION FROM THE STATE OF VERMONT TO ACCESS THE WORK ZONE FROM ROADS OUTSIDE THE HIGHWAY RIGHT-OF-WAY, OR TO UTILIZE INTERSTATE TURN-AROUNDS.

18. THE CONTRACTOR SHALL MAINTAIN ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES.

19. EXISTING UTILITIES ARE SHOWN IN ACCORDANCE WITH THE BEST INFORMATION AVAILABLE AND ARE FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. THE ACCURACY AND COMPLETENESS OF EXISTING UTILITY INFORMATION IS NOT GUARANTEED AND SHALL BE VERIFIED BY THE CONTRACTOR. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS TO ENSURE THE PROTECTION OF THE UTILITIES AND SERVICES.

20. THE CONTRACTOR SHALL COORDINATE WORK SUCH THAT NO ONE WORK AREA WILL HAVE ADVERSE EFFECT ON ANOTHER WORK AREA. ADVERSE EFFECTS INCLUDE, BUT ARE NOT LIMITED TO, PROBLEMS ARISING FORM CONFLICT IN MAINTENANCE OF TRAFFIC SET-UPS, BLOCKING OF OR DELAYING MATERIAL DELIVERIES, OVERLAPPING CONSTRUCTION ACTIVITIES, DISRUPTING THE FLOW OF TRAFFIC, ETC.

SEQUENCE OF CONSTRUCTION:

21. SEQUENCING OF CONSTRUCTION ACTIVITIES SHALL BE SUCH THAT DISRUPTIONS TO TRAFFIC ARE MINIMIZED. REFER TO THE SPECIAL PROVISIONS FOR GUIDELINES REGARDING ALLOWABLE WORK PERIODS, LANE RESTRICTION TIMES, AND COMPLETION DETAILS.

22. SET/RESET TRAFFIC CONTROL DEVICES AS NEEDED TO MATCH WITHIN THE ACTIVE WORK ZONE.

MAINTENANCE AND PROTECTION OF TRAFFIC:

23. DESIGN OF TRAFFIC CONTROL AND DEVICES SHALL CONFORM TO STATE OF VERMONT AGENCY OF TRANSPORTATION (VTRANS) STANDARDS AND THE LATEST EDITION OF THE MUTCD. THE CONTRACTOR SHALL INCLUDE ALL VERMONT TRAFFIC STANDARD PLANS THAT APPLY TO THIS PROJECT. WHERE CONFLICTS EXISTS, THE MUTCD SHALL GOVERN.

24. THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH SEVEN CALENDAR DAYS ADVANCE NOTICE PRIOR TO ANY LANE CLOSURES.

25. THE CONTRACTOR SHALL PROVIDE ONE WORKER TO MAINTAIN TRAFFIC CONTROL DEVICES AT ALL THE TIMES AND VEHICLE EQUIPPED WITH A ROTATING OR STROBE LIGHT.

26. ALL WORKERS SHALL WEAR RETROREFLECTIVE SAFETY VESTS AND HARD HATS.

27. WORK SHALL NOT COMMENCE UNTIL NCHRP 350 APPROVED TRUCK MOUNTED ATTENUATORS (TMA) ARE IN PLACE AS INDICATED OR AS DIRECTED BY THE ENGINEER. THE TMA'S SHALL HAVE A FLASHING ARROW PANEL AND SHALL REMAIN 100' TO 250' BEHIND WORK CREW AT ALL TIMES. THE TMA SHOULD BE USED IN "CAUTION" MODE WHEN IT IS NOT USED FOR A LANE CLOSURE.

28. A 96" X 48" ARROW SIGN (WI-6) SHALL BE KEPT WITH THE FLASHING ARROW PANEL TO BE USED IN CASE OF MALFUNCTION.

29. TRAFFIC CONTROL SETUPS SHALL BE SHORT-TERM AND SHALL BE REMOVED AT THE END OF THE WORK PERIOD WITH THE EXCEPTION OF WORK AREAS IN WHICH ALL OPEN EXCAVATION HAS NOT BEEN BACK FILLED OR COVERED TO THE SATISFACTION OF THE ENGINEER. TRAFFIC CONTROL FOR LONG-TERM OPERATION (SEE VAOT STANDARD E-103) SHALL BE USED IF OPEN EXCAVATION HAS NOT BEEN FILLED OR COVERED. SEE VAOT STANDARD TO DETERMINE WHEN BARRIER IS REQUIRED TO PROTECT A DROP-OFF.

30. CONTRACTOR SUBMITTED TRAFFIC CONTROL PLANS SHALL INCLUDE DETAIL AND METHODS FOR ALL STATE HIGHWAYS AND LOCAL TOWN ROADS AFFECTED.

31. PAYMENT FOR TRAFFIC CONTROL, INCLUDING PREPARING, IMPLEMENTING INSPECTING, MAINTAINING AND REMOVING ALL TRAFFIC CONTROL DEVICES SHALL BE PAID AS ITEM 900.645, SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE).

WORK ZONE TAPER NOTES

32. TAPER FORMULA
    $L = WS$ FOR S >/ 45 MPH
    $L = \frac{WS^2}{60}$ FOR S </ 40 MPH

WHERE:
L = MINIMUM LENGTH OF TAPER (IN FEET)
S = NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK ZONE OR 85% SPEED (MPH)
W =WIDTH OF OFFSET (IN FEET)

33. THE MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES IN A TAPER SHOULD BE APPROXIMATELY EQUAL IN FEET TO THE SELECTED S.

34. THE FINAL LOCATION OF PROPOSED SIGNS SHALL BE DETERMINED IN THE FIELD AS DEEMED APPROPRIATE.

35. TYPE III BARRICADES SHALL BE USED AR REQUIRED BY THE ENGINEER OR STANDARD VAOT STANDARD DRAWING E-103.

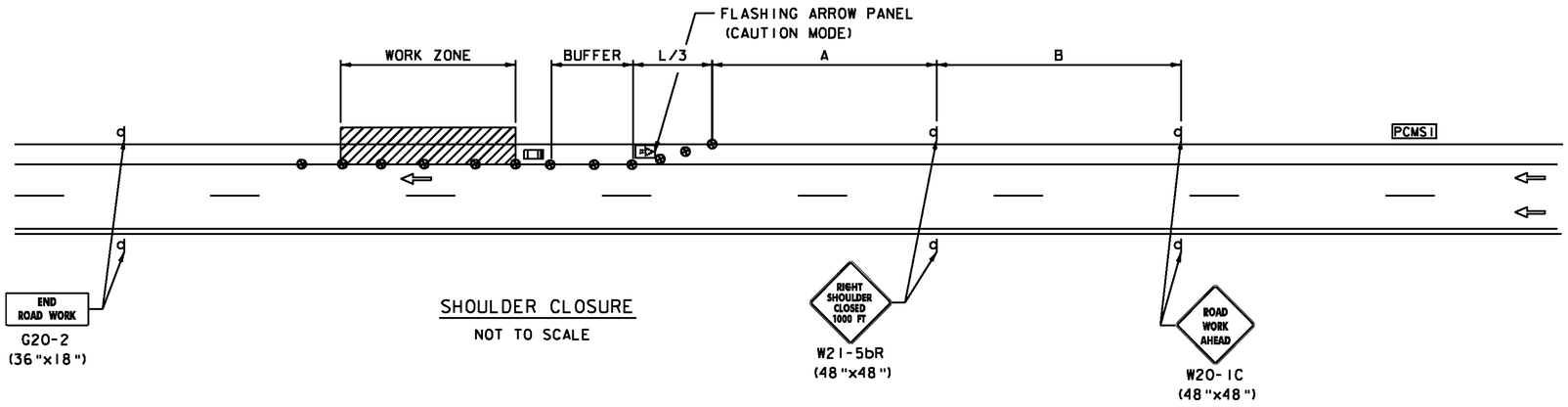
36. USE FLASHING ARROW BOARD AS REQUIRED.

37. SPEED LIMIT SHALL BE APPROVED BY THE GOVERNING AGENCY PRIOR TO INSTALLATION.

PROJECT NAME: HARTFORD SHARON
PROJECT NUMBER: FITS503

FILE NAME: z06e142TNT.dgn
PROJECT LEADER: J. YOUNG
DESIGNED BY: P. VASILIOU
TRAFFIC MANGEMENT NOTES

PLOT DATE: 10/1/2010
DRAWN BY: S. GUNN
CHECKED BY: J. WILSON
SHEET 66 OF 70



SHOULDER CLOSURE

NOT TO SCALE

PCMS SIGN MESSAGES

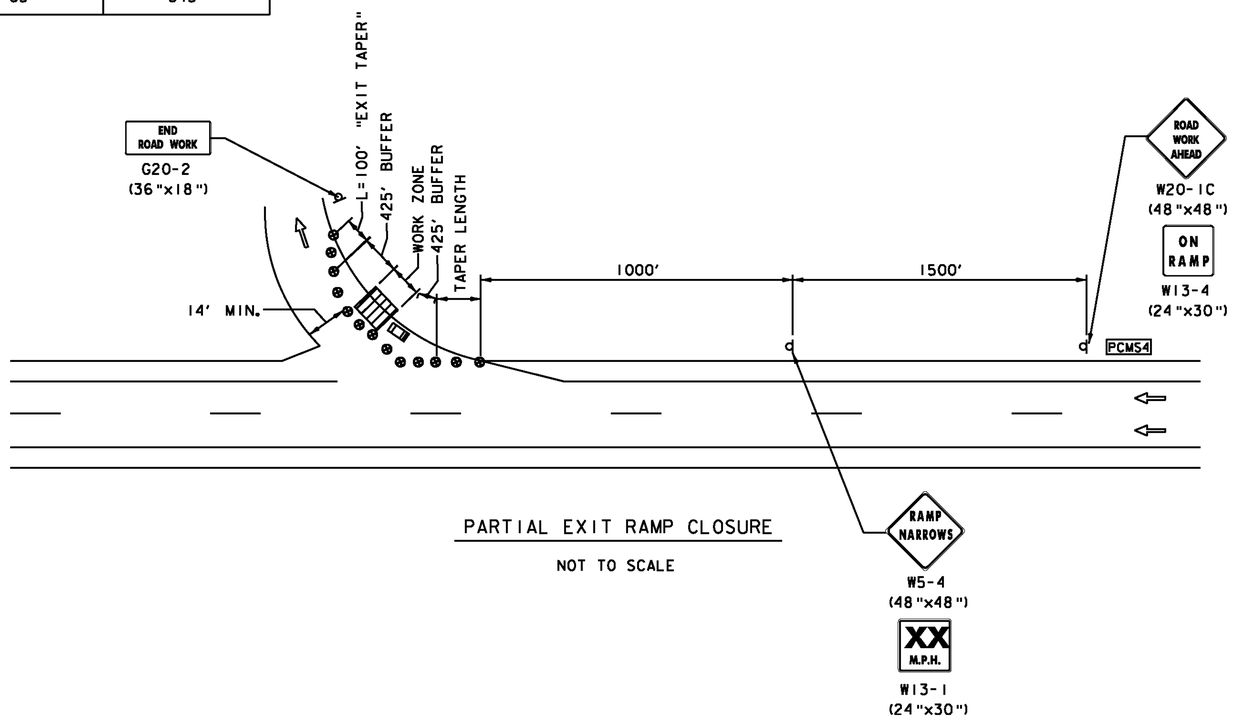
	SCREEN 1	SCREEN 2
PCMS1	SHOULDER CLOSED AHEAD	USE CAUTION
PCMS2	LEFT LANE CLOSED AHEAD	PLEASE MERGE EARLY
PCMS3	RIGHT LANE CLOSED AHEAD	PLEASE MERGE EARLY
PCMS4	RAMP WORK AHEAD	USE CAUTION

SUGGESTED BUFFER ZONE DISTANCE	
SPEED (MPH)	DISTANCE (FT)
45	360
50	425
55	495
60	570
65	645

NOTE: THESE SET-UPS ARE TYPICALS FOR BIDDING PURPOSES ONLY. ROADWAY GEOMETRY MAY REQUIRE THE SET-UPS TO BE LONGER THAN THE LENGTHS NOTED. THIS IS AT THE DISCRETION OF THE ENGINEER AND WITHOUT EXTRA COMPENSATION.

KEY

- REFL. DRUM
- SIGN
- WORK ZONE
- DIRECTION OF TRAFFIC
- TYPE III PORTABLE BREAKAWAY BARRICADE
- FLASHING ARROW BOARD
- TRUCK MOUNTED ATTENUATOR (TMA)
- PCMS PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)



PARTIAL EXIT RAMP CLOSURE

NOT TO SCALE

SUGGESTED WORK ZONE WARNING SIGN SPACING

ROAD TYPE	DISTANCE BETWEEN SIGNS		
	A	B	C
URBAN (LOW SPEED) 25 - 30 MPH*	100 FT.	100 FT.	100 FT.
URBAN (HIGH SPEED) 35 - 40 MPH*	350 FT.	350 FT.	350 FT.
RURAL ROADWAYS*	500 FT.	500 FT.	500 FT.
FREEWAYS AND EXPRESSWAYS*	1,000 FT.	1,500 FT.	2,640 FT.

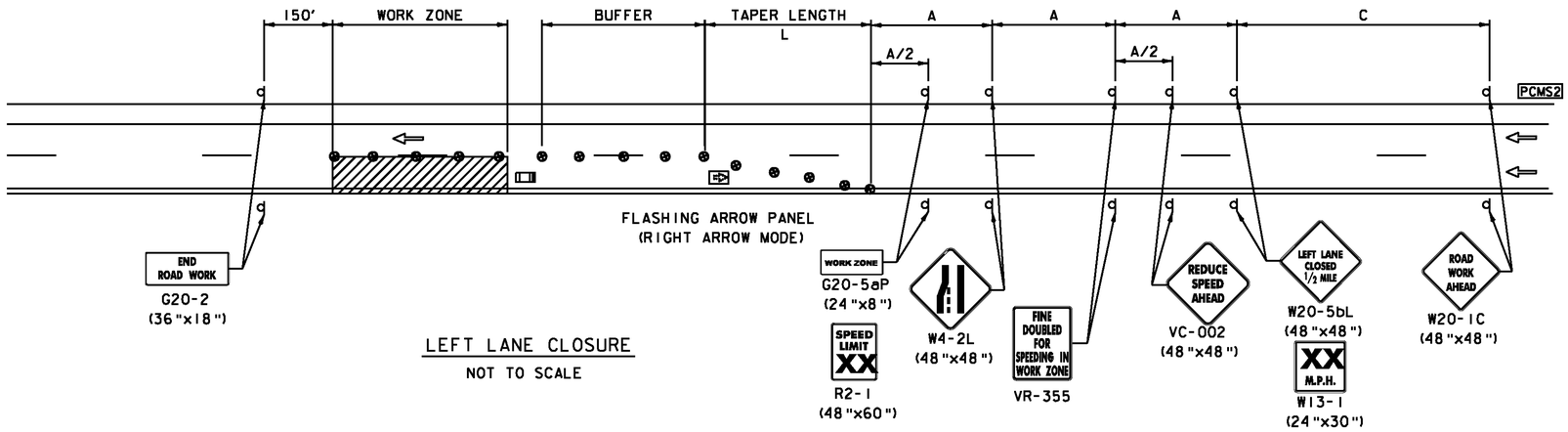
* SPEED CATEGORY TO BE DETERMINED BY HIGHWAY AGENCY

SIGN DISTANCES ARE BASED ON VTRANS STANDARD E-103 FOR SPEED REDUCTION.

PROJECT NAME: HARTFORD SHARON
PROJECT NUMBER: FITS503

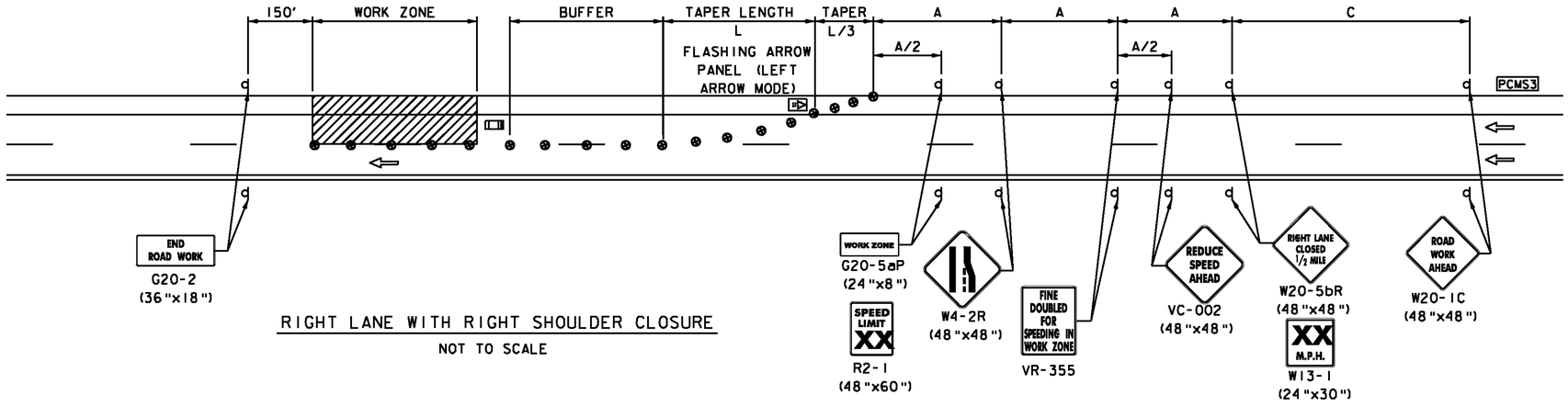
FILE NAME: z06e142TM1.dgn
PROJECT LEADER: J. YOUNG
DESIGNED BY: P. VASILIOU
TRAFFIC MANAGEMENT DETAILS 1

PLOT DATE: 9/15/2010
DRAWN BY: S. GUNN
CHECKED BY: J. WILSON
SHEET 67 OF 70



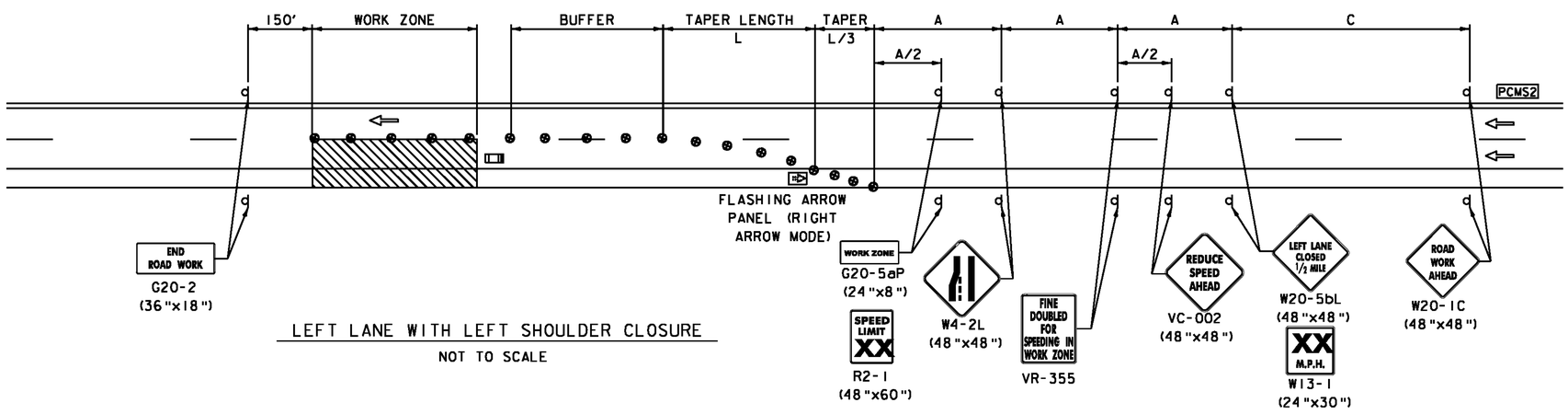
LEFT LANE CLOSURE

NOT TO SCALE



RIGHT LANE WITH RIGHT SHOULDER CLOSURE

NOT TO SCALE



LEFT LANE WITH LEFT SHOULDER CLOSURE

NOT TO SCALE

SUGGESTED WORK ZONE WARNING SIGN SPACING

ROAD TYPE	DISTANCE BETWEEN SIGNS		
	A	B	C
URBAN (LOW SPEED) 25 - 30 MPH*	100 FT.	100 FT.	100 FT.
URBAN (HIGH SPEED) 35 - 40 MPH*	350 FT.	350 FT.	350 FT.
RURAL ROADWAYS*	500 FT.	500 FT.	500 FT.
FREEWAYS AND EXPRESSWAYS*	1,000 FT.	1,500 FT.	2,640 FT.

* SPEED CATEGORY TO BE DETERMINED BY HIGHWAY AGENCY

SIGN DISTANCES ARE BASED ON VTRANS STANDARD E-103 FOR SPEED REDUCTION.

NOTE: THESE SET-UPS ARE TYPICALS FOR BIDDING PURPOSES ONLY. ROADWAY GEOMETRY MAY REQUIRE THE SET-UPS TO BE LONGER THAN THE LENGTHS NOTED. THIS IS AT THE DISCRETION OF THE ENGINEER AND WITHOUT EXTRA COMPENSATION.

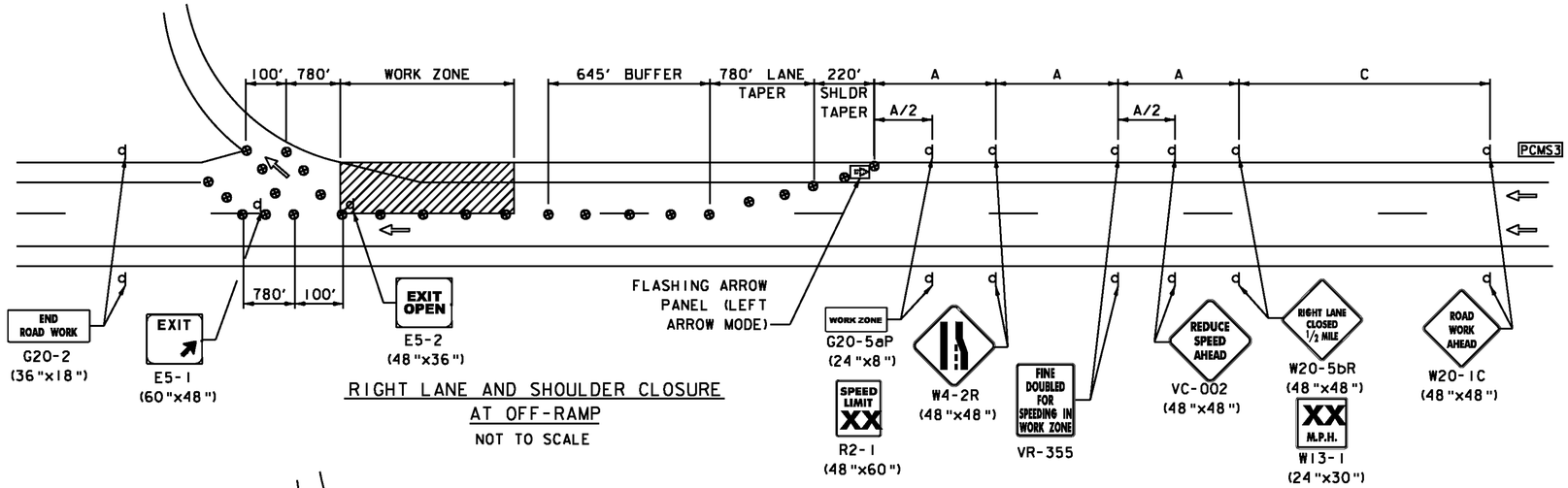
KEY

- REFL. DRUM
- SIGN
- WORK ZONE
- DIRECTION OF TRAFFIC
- TYPE III PORTABLE BREAKAWAY BARRICADE
- FLASHING ARROW BOARD
- TRUCK MOUNTED ATTENUATOR (TMA)
- PCMS PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)

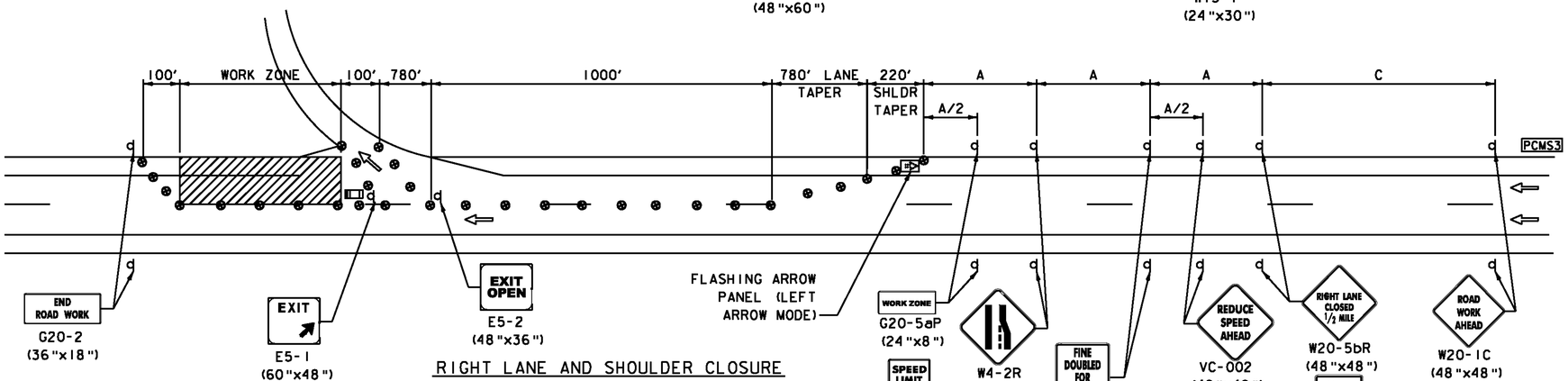
PROJECT NAME: HARTFORD SHARON
PROJECT NUMBER: FITS503

FILE NAME: z06e142TM2.dgn
PROJECT LEADER: J. YOUNG
DESIGNED BY: P. VASILIOU
TRAFFIC MANAGEMENT DETAILS 2

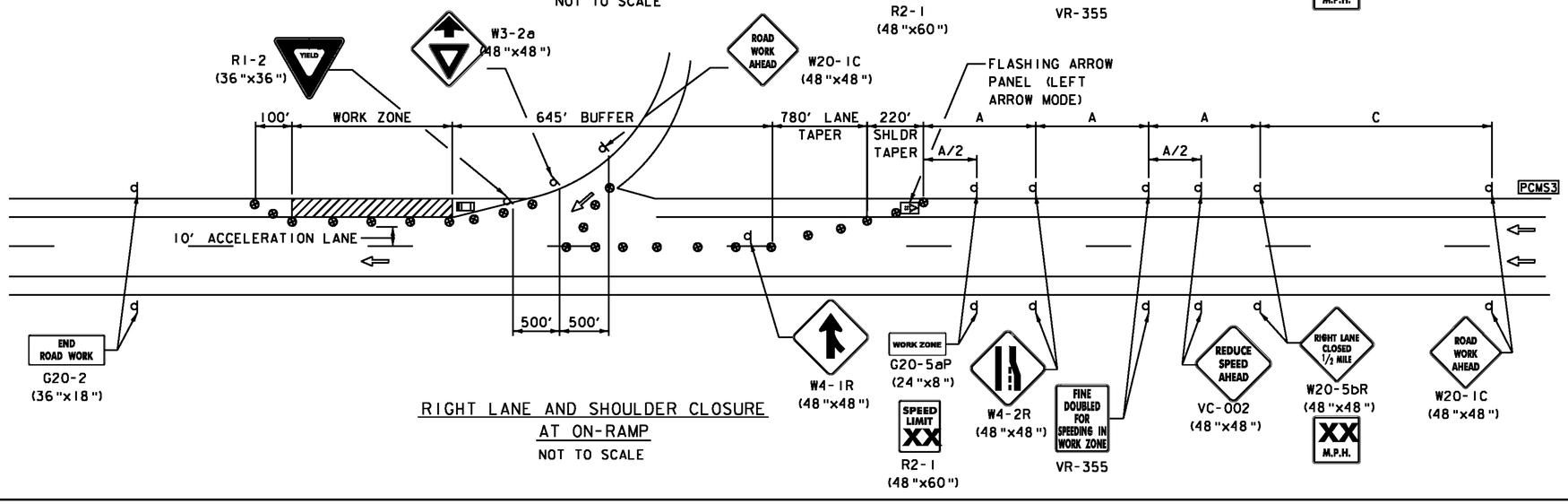
PLOT DATE: 9/15/2010
DRAWN BY: S. GUNN
CHECKED BY: J. WILSON
SHEET 68 OF 70



RIGHT LANE AND SHOULDER CLOSURE
AT OFF-RAMP
NOT TO SCALE



RIGHT LANE AND SHOULDER CLOSURE
FOLLOWING OFF-RAMP
NOT TO SCALE



RIGHT LANE AND SHOULDER CLOSURE
AT ON-RAMP
NOT TO SCALE

SUGGESTED WORK ZONE WARNING SIGN SPACING

ROAD TYPE	DISTANCE BETWEEN SIGNS		
	A	B	C
URBAN (LOW SPEED) 25 - 30 MPH*	100 FT.	100 FT.	100 FT.
URBAN (HIGH SPEED) 35 - 40 MPH*	350 FT.	350 FT.	350 FT.
RURAL ROADWAYS*	500 FT.	500 FT.	500 FT.
FREEWAYS AND EXPRESSWAYS*	1,000 FT.	1,500 FT.	2,640 FT.

* SPEED CATEGORY TO BE DETERMINED BY HIGHWAY AGENCY

SIGN DISTANCES ARE BASED ON VTRANS STANDARD E-103 FOR SPEED REDUCTION.

NOTE: THESE SET-UPS ARE TYPICALS FOR BIDDING PURPOSES ONLY. ROADWAY GEOMETRY MAY REQUIRE THE SET-UPS TO BE LONGER THAN THE LENGTHS NOTED. THIS IS AT THE DISCRETION OF THE ENGINEER AND WITHOUT EXTRA COMPENSATION.

KEY

- REFL. DRUM
- SIGN
- WORK ZONE
- DIRECTION OF TRAFFIC
- TYPE III PORTABLE BREAKAWAY BARRICADE
- FLASHING ARROW BOARD
- TRUCK MOUNTED ATTENUATOR (TMA)
- PCMS PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)

PROJECT NAME: HARTFORD SHARON
PROJECT NUMBER: FITS503

FILE NAME: z06e142TM3.dgn
PROJECT LEADER: J. YOUNG
DESIGNED BY: P. VASILIOU
TRAFFIC MANAGEMENT DETAILS 3

PLOT DATE: 10/1/2010
DRAWN BY: S. GUNN
CHECKED BY: J. WILSON
SHEET 69 OF 70

IDENTIF-ICATION NUMBER	SIZE OF SIGN		TEXT	TEXT DIMENSIONS (IN)			NUMBER OF SIGNS REQUIRED	COLOR			UNIT AREA (SF)	AREA IN SQUARE FEET
	WIDTH (IN)	HEIGHT (IN)		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.		BACK-GROUND	LEGEND	BORDER		
E5-1	48"	36"		SEE STANDARD HIGHWAY SIGNS			1	GREEN	WHITE	WHITE	12.00	12.00
E5-2	48"	36"		SEE STANDARD HIGHWAY SIGNS			1	ORANGE	BLACK	BLACK	12.00	12.00
G20-2	36"	18"		SEE STANDARD HIGHWAY SIGNS			2	ORANGE	BLACK	BLACK	4.50	9.00
G20-5aP	24"	8"		SEE STANDARD HIGHWAY SIGNS			2	ORANGE	BLACK	BLACK	1.33	2.66
R1-2	36"	36"		SEE STANDARD HIGHWAY SIGNS			1	RED WHITE	RED	WHITE	4.50	4.50
R2-1	48"	60"		SEE STANDARD HIGHWAY SIGNS			2	WHITE	BLACK	BLACK	20.00	40.00
W3-2a	48"	48"		SEE STANDARD HIGHWAY SIGNS			1	ORANGE	BLACK RED WHITE	BLACK	16.00	16.00
W4-1R	48"	48"		SEE STANDARD HIGHWAY SIGNS			1	ORANGE	BLACK	BLACK	16.00	16.00
W4-2L	48"	48"		SEE STANDARD HIGHWAY SIGNS			2	ORANGE	BLACK	BLACK	16.00	32.00
W4-2R	48"	48"		SEE STANDARD HIGHWAY SIGNS			2	ORANGE	BLACK	BLACK	16.00	32.00
W5-4	48"	48"		SEE STANDARD HIGHWAY SIGNS			1	ORANGE	BLACK	BLACK	16.00	16.00
W13-1	24"	30"		SEE STANDARD HIGHWAY SIGNS			2	ORANGE	BLACK	BLACK	5.00	10.00
W13-4	24"	30"		SEE STANDARD HIGHWAY SIGNS			1	ORANGE	BLACK	BLACK	5.00	5.00
W20-1	48"	48"		SEE STANDARD HIGHWAY SIGNS			2	ORANGE	BLACK	BLACK	16.00	32.00

IDENTIF-ICATION NUMBER	SIZE OF SIGN		TEXT	TEXT DIMENSIONS (IN)			NUMBER OF SIGNS REQUIRED	COLOR			UNIT AREA (SF)	AREA IN SQUARE FEET
	WIDTH (IN)	HEIGHT (IN)		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.		BACK-GROUND	LEGEND	BORDER		
W20-5bL	48"	48"		SEE STANDARD HIGHWAY SIGNS			2	ORANGE	BLACK	BLACK	16.00	32.00
W20-5bR	48"	48"		SEE STANDARD HIGHWAY SIGNS			2	ORANGE	BLACK	BLACK	16.00	32.00
W21-5bR	48"	48"		SEE STANDARD HIGHWAY SIGNS			2	ORANGE	BLACK	BLACK	16.00	32.00
VC-002	48"	48"		SEE VTRANS STANDARDS			2	ORANGE	BLACK	BLACK	16.00	32.00
VR-355	48"	60"		SEE VTRANS STANDARDS			3	WHITE	BLACK	BLACK	20.00	40.00

PROJECT NAME: HARTFORD SHARON
PROJECT NUMBER: FITS503

FILE NAME: z06e142TQN.dgn
PROJECT LEADER: J. YOUNG
DESIGNED BY: P. VASILIOU
TRAFFIC MANAGEMENT SIGN SUMMARY

PLOT DATE: 9/15/2010
DRAWN BY: S. GUNN
CHECKED BY: J. WILSON
SHEET 70 OF 70