

PRELIMINARY INFORMATION SHEET

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LIST OF STANDARDS

E-100 CONSTRUCTION APPROACH	JAN. 2, 2004
E-100A SIDE ROAD CONSTRUCTION APPROACH SIGNS	JAN. 2, 2004
E-101 CONSTRUCTION SIGN DETAILS	MAY 30, 2003
E-102 CONSTRUCTION SIGN DETAILS	JUNE 30, 2003
E-102A CONSTRUCTION SIGN DETAILS	MAY 1, 2004
E-107 DELINEATION, BARRACADES AND DETOURS FOR CONSTRUCTION AREAS	JUNE 30, 2003
E-121 STANDARD SIGN PLACEMENT	AUG. 8, 1995
E-136A U.S. ROUTE MARKER SIGN DETAILS	AUG. 8, 1995
E-155 WARNING SIGN DETAILS	MAY 1, 2004
E-160 FLANGED CHANNEL SIGN POST	MAY 20, 1999

HYDROLOGIC DATA

DRAINAGE AREA: 51.3 SQUARE MILES
 CHARACTER OF TERRAIN: HILLY, MOSTLY WOODED, RURAL
 STREAM CHARACTERISTICS: PROBABLY INCISED, LITTLE TO NO FLOODPLAIN, SINUOUS
 NATURE OF STREAMBED: SILT, LEDGE DOWNSTREAM OF BRIDGE

PEAK FLOW DATA
 Q 2.33 = 1500 cfs Q 50 = 5000 cfs
 Q 10 = 2800 cfs Q 100 = 8500 cfs
 Q 25 = 4000 cfs Q 500 = 8900 cfs

DATE OF FLOOD OF RECORD: 1973
 ESTIMATED DISCHARGE: UNKNOWN
 WATER SURFACE ELEV.: UNKNOWN
 NATURAL STREAM VELOCITY @ Q25 = 5.3 FPS
 ICE CONDITIONS: MODERATE
 DEBRIS: MODERATE
 DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY? NO
 IS ORDINARY RISE RAPID? NO
 IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? YES
 IF YES, DESCRIBE: IF DOWNSTREAM FLOOD DAM IS FULL, BACKWATER COULD REACH AN ELEVATION OF 564.0.

WATERSHED STORAGE: 2.9X
 HEADWATERS: UNIFORM & IMMEDIATELY ABOVE SITE

EXISTING STRUCTURE

STRUCTURE TYPE: COVERED BRIDGE ON ROLLED BEAMS YEAR BUILT: 1839
 CLEAR SPAN (NORMAL TO STREAM): 104' MODIFIED IN: 1963
 VERTICAL CLEARANCE ABOVE STREAMBED: 17'
 WATERWAY OF FULL OPENING: 1600 SQ. FT.
 DISPOSITION OF STRUCTURE: REHABILITATION

TYPE OF MATERIAL UNDER SUBSTRUCTURE: N/A

WATER SURFACE ELEV. @ Q2.33 = 553.3' VELOCITY = 3.7 FPS
 Q10 = 555.5' " 4.8 FPS
 Q25 = 556.7' " 5.4 FPS
 Q50 = 557.8' " 6.0 FPS
 Q100 = 558.8' " 6.8 FPS

PROPOSED STRUCTURE

STRUCTURE TYPE: EXISTING BRIDGE TO BE REHABILITATED, NO CHANGES

CLEAR SPAN (NORMAL TO STREAM): 104'
 VERTICAL CLEARANCE ABOVE STREAMBED: 17'
 WATERWAY OF FULL OPENING: 1600 SQ. FT.

WATER SURFACE ELEV. @ Q2.33 = 553.3' VELOCITY = 3.7 FPS
 Q10 = 555.5' " 4.8 FPS
 Q25 = 556.7' " 5.4 FPS
 Q50 = 557.8' " 6.0 FPS
 Q100 = 558.8' " 6.8 FPS

LONG TERM STREAM BED CHANGES: DOWNSTREAM LEDGE AND FALLS WILL LIMIT ANY STREAM GRADE CHANGES.
 IS THE ROADWAY OVERTOPPED BELOW THE Q100? NO FREQUENCY ABOVE Q100 RELIEF ELEVATION: 568.2' DISCHARGE OVER ROAD @ Q100: NONE

IS THE ROADWAY OVERTOPPED BELOW THE Q100? NO FREQUENCY ABOVE Q100 RELIEF ELEVATION: 568.2' DISCHARGE OVER ROAD @ Q100: NONE

UPSTREAM STRUCTURE: TOWN: THETFORD DISTANCE: 11,000'
 HIGHWAY NO.: TH 20 STRUCTURE NO.: BR 26
 STRUCTURE TYPE: SIMPLE SPAN PLATE GIRDER
 CLEAR SPAN: 91.5' CLEAR HEIGHT: 17'
 YEAR BUILT: 1985 FULL WATERWAY: 1555 SQ. FT.

SCOUR: MAXIMUM CONTRACTION SCOUR UP TO Q500 = 1'. MAXIMUM PIER SCOUR UP TO Q500 = 5'. TOTAL MAXIMUM SCOUR AT PIER = 6', UNLESS LEDGE IS HIGHER.
 REQUIRED CHANNEL PROTECTION: STONE FILL, TYPE 1

DOWNSTREAM STRUCTURE: TOWN: THETFORD DISTANCE: 18,800'
 HIGHWAY NO.: STRUCTURE NO.:
 STRUCTURE TYPE: FLOOD DAM WITH SPILLWAY ELEVATION = 564.0'
 CLEAR SPAN: CLEAR HEIGHT:
 YEAR BUILT: FULL WATERWAY:

* NO WORK IN THE CHANNEL IS ANTICIPATED, AND THEREFORE NO STONE FOR CHANNEL PROTECTION IS REQUIRED.

DESIGN CRITERIA

1. DESIGN LIVE LOAD AASHTO: H 20
2. DESIGN SPAN: 2 SPANS AT 57'-0" EACH
3. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL: 4 KSF ON LEDGE 10 KSF
4. ALLOWABLE LOAD FOR PILING: N/A TYPE: M/A ESTIMATED LENGTH: N/A
5. STRUCTURAL STEEL AASHTO GRADE: 50
6. REINFORCING STEEL GRADE: 60
7. CONCRETE HIGH PERFORMANCE CLASS A: 4" @ 4000 PSI
 CONCRETE HIGH PERFORMANCE CLASS B: 4" @ 3500 PSI

TRAFFIC MAINTENANCE

1. IS TRAFFIC TO BE MAINTAINED? YES IF YES, ON EXISTING STRUCTURE: NO OR ON TEMPORARY BRIDGE: NO OR TEMPORARY DETOUR ROUTE: YES
2. TEMPORARY BRIDGE REQUIREMENTS: ONE OR TWO WAY: NO TRAFFIC CONTROL SIGNALS REQUIRED: NO

ARE SIDEWALKS REQUIRED? NO IF SO, ON WHAT SIDE?

LOAD FACTOR LOAD RATING (TONS)

LOADING LEVELS (LOAD FACTOR)	TRUCK						
	H20	H520	S52	6 AXLE	3A. STR.	4A. STR.	5A. SCMI
INVENTORY A=2.175 B=1.00	26	47					
POSTED A=1.559 B=1.00	31	56	105		60	86	105
OPERATING A=1.309 B=1.67		62	118	149	67	96	

STRENGTH $RF = \frac{0.75 M_n - 1.3 M_{DL}}{A \times M_{LL(1)}}$ SERVICEABILITY $RF = \frac{0.95 F_y S_{LL(1)} - M_{DL} S_{LL(1)} - M_{SD} S_{LL(1)}}{1.67 M_{LL(1)}}$

TRAFFIC DATA

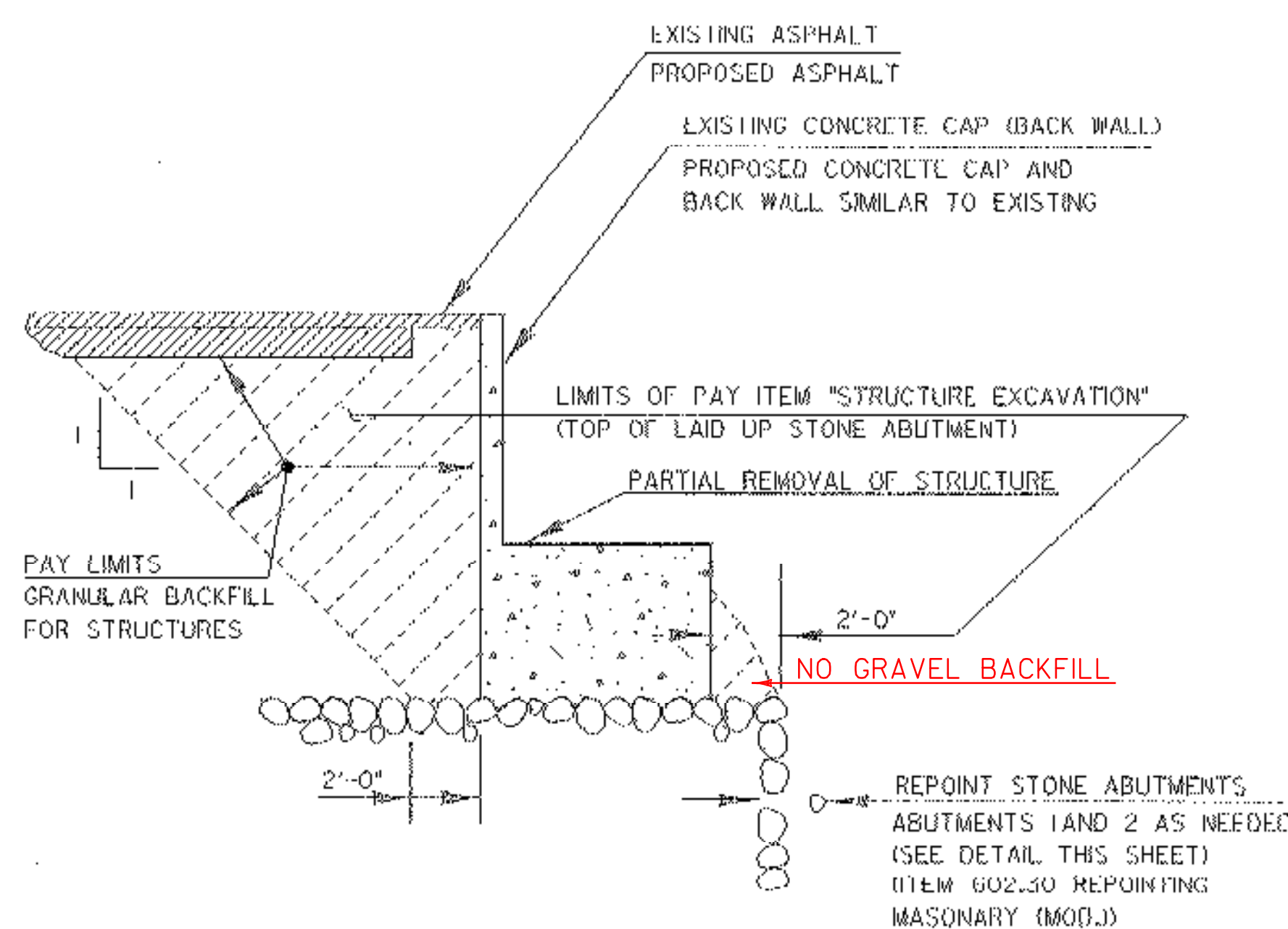
YEAR	ADT	DIV	%	%	ADTT
2006	1000	170	71	4	30
2026	1300	190	71	5	60

18 kip ESAL for flexible pavement from 2006 to 2026: 137,000
 Design speed 10 mph.

PRELIMINARY INFORMATION SHEET

PROJECT NAME: THETFORD
 PROJECT NUMBER: BHO 1444 (43)

FILE NAME: Structures/s03j036p1.dgn PLOT DATE: 27-SEP-2006
 PROJECT LEADER: M. EVANS-MONGEON DRAWN BY: G. ROKES
 DESIGNED BY: M. EVANS-MONGEON CHECKED BY: S. SCRIBNER
 IPARM: s03j036p1.i SHEET 2 OF 60

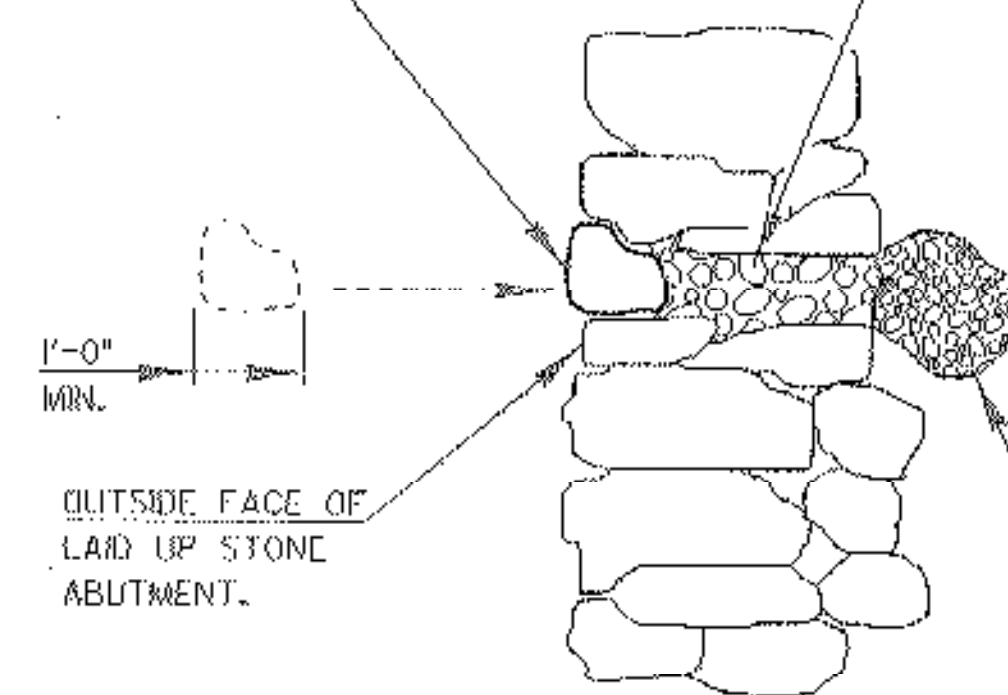


ABUTMENT NO. 1 TYPICAL AND WINGWALL SECTION

NOT TO SCALE

INSTALL AND COMPACT SMALL IRREGULAR STONES AND CRUSHED GRAVEL IN LAID UP STONE ABUTMENT (SEE NOTE 1)

INSTALL IRREGULAR STONES TO CREATE A TIGHT FIT. THE GAP BETWEEN NEW AND EXISTING STONES SHALL BE LESS THAN 1/2".



REPOINTING STONE ABUTMENTS DETAIL

NOT TO SCALE

NOTE 1: COMPACT MATERIAL BEHIND AND INTO VOIDS OF STONE ABUTMENTS BY USING TAMPING RODS OR OTHER METHODS ACCEPTABLE TO THE RESIDENT ENGINEER.