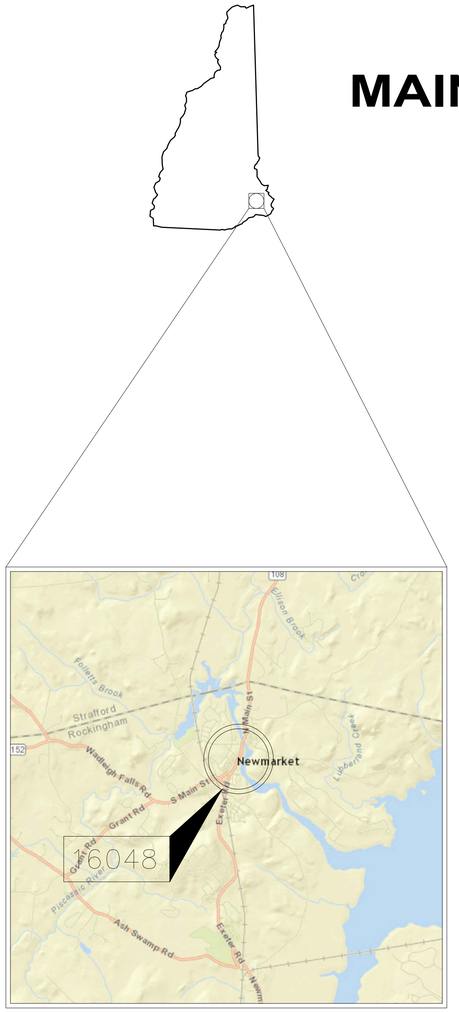
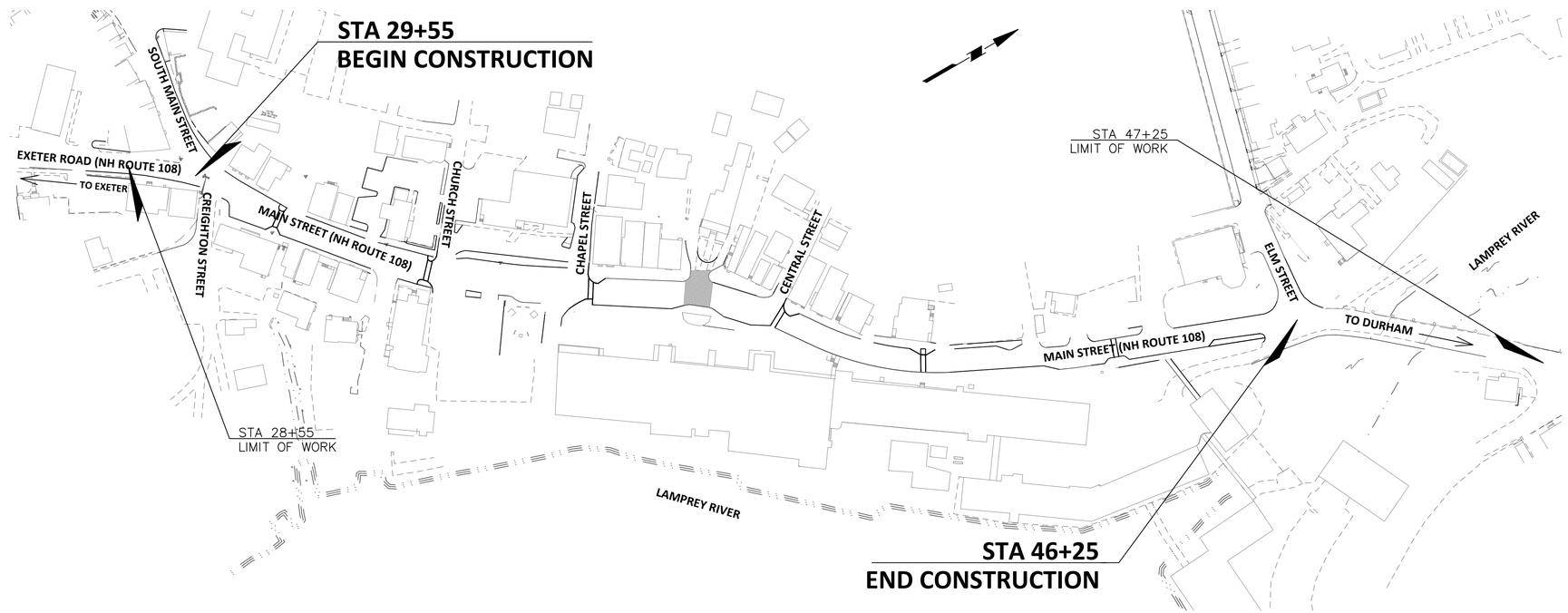
STATE OF NEW HAMPSHIRE
TOWN OF NEWMARKET, NH

PRELIMINARY DESIGN PLANS
MAIN STREET PEDESTRIAN CROSSING IMPROVEMENTS

X-A001(108)
NHDOT PROJECT NO. # 16048
NH ROUTE 108



LOCATION MAP
SCALE: 1" = 0.5 MILES



TOWN OF NEWMARKET, NH
COUNTY OF ROCKINGHAM
SCALE: 1" = 100'

PRELIMINARY DESIGN PLANS - NOT FOR CONSTRUCTION

DRAWN BY DATE
CHECKED BY DATE

DuBois & King inc.
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BEDFORD, NEW HAMPSHIRE 03110
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ENGINEERING • PLANNING • MANAGEMENT • DEVELOPMENT

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THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION	U. S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION

FEDERAL PROJECT NO.	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
X-A001 (108)	16048	1	32

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	TITLE PAGE
2	INDEX OF SHEETS AND GENERAL NOTES
3–4	STANDARD SYMBOLS
5–6	SUMMARY OF QUANTITIES
7	SIGN TEXT SUMMARY (NOT INCLUDED)
	SPECIAL USE PLANS
8	TYPICAL CROSSWALK AND SIDEWALK DETAILS
9	DRAINAGE, LIGHTING, SIGNAGE, AND PAVEMENT MARKING DETAILS
10–12	CROSSWALK DETAILS
13	CANTILEVERED DECK DETAILS
	ROADWAY PLANS
14–17	GENERAL PLANS
18–20	DRAINAGE AND UTILITY PLANS
21–24	CURBING AND PAVEMENT LAYOUT
25–28	PAVEMENT MARKING AND SIGNING
29	LANDSCAPING PLAN
30	TRAFFIC CONTROL NOTES
31	TRAFFIC CONTROL NOTES
	REFERENCE PLANS
32	PHOTOMETRIC PLAN (NOT INCLUDED)

GENERAL NOTES

1. FOR STANDARD PLANS, SEE "STANDARD PLANS FOR ROAD CONSTRUCTION" DATED 2010 (A BOUND BOOK).
2. HIGH TENSION OVERHEAD TRANSMISSION LINES ARE LOCATED THROUGHOUT THE PROJECT WITH CROSSINGS AT VARIOUS LOCATIONS AND RUNNING ALONG THE ROAD THROUGHOUT THE PROJECT EVEN ON REGULAR POLES. THE CONTRACTOR IS ADVISED THAT EXTREME CAUTION WILL BE REQUIRED IN THE OPERATION OF EQUIPMENT, ESPECIALLY CRANES AND PILE DRIVING EQUIPMENT.
3. REMOVE TOPSOIL FOR ITS TOTAL DEPTH WITHIN THE LIMITS OF THE SLOPE LINES. UNLESS OTHERWISE DIRECTED, STOCKPILE TOPSOIL AND USE IT ON THIS PROJECT AS NEEDED UNDER SECTION 641 – LOAM AND/OR SECTION 647 HUMUS.
4. REMOVAL OF EXISTING CONCRETE PAVEMENT WILL BE PAID UNDER ITEM 203.2 – ROCK EXCAVATION. THE BITUMINOUS PAVEMENT ABOVE THE CONCRETE WILL NOT BE PAID UNDER ITEM 203.2
5. MODIFY SUPERELEVATION ON EXISTING CURVES BY THE USE OF A LEVELING COURSE TO THE RATES INDICATED ON THE PLANS OR AS ORDERED.
6. EXISTING DELINEATORS AND WITNESS MARKERS THAT ARE REMOVED AND DETERMINED BY THE ENGINEER TO BE IN ACCEPTABLE CONDITION SHALL BE RESET (SUBSIDIARY). ADDITIONAL DELINEATORS AND WITNESS MARKERS ORDERED WILL BE PAID UNDER THE APPROPRIATE ITEMS OF THE CONTRACT.
7. NO EXISTING MONUMENTS, BOUNDS, OR BENCHMARKS SHALL BE DISTURBED WITHOUT FIRST MAKING PROVISIONS FOR RELOCATION.
8. PERFORM ALL WORK WITHIN THE EXISTING RIGHT–OF–WAY, UNLESS OTHERWISE SHOWN ON PLANS OR AS ORDERED BY THE ENGINEER.
9. REMOVE UNPROTECTED PROJECT MARKERS (SUBSIDIARY).
10. SURVEY DATA FOR THIS PROJECT WAS COLLECTED BY DOUCET SURVEY, INC. AND FIELD NOTES CAN BE LOCATED BY CONTACTED DOUCET SURVEY AT (603) 659–6560. ADDITIONAL EXISTING CONDITIONS INFORMATION WAS PROVIDED BY THE TOWN AND IS USED FOR REFERENCE PURPOSES ONLY. DUBOIS & KING, INC. MAKES NO CLAIM TO THE ACCURACY OF THE EXISTING CONDITIONS AS SHOWN ON THE PLANS.
11. QUANTITIES FOR EMBANKMENT AND EXCAVATION FOR SLOPE ROUNDINGS AS SHOWN ON THE TYPICALS HAVE NOT BEEN CALCULATED AND ARE NOT INCLUDED IN THE QUANTITY SUMMARIES, AND ARE CONSIDERED SUBSIDIARY TO THE APPROPRIATE 203 ITEMS.
12. CLEAR TO THE SLOPE LINES ONLY UNLESS OTHERWISE STATED ON THE PLANS. CONTACT THE PROJECT ENGINEER PRIOR TO CLEARING OPERATIONS.

THE FOLLOWING GENERAL NOTES WILL BE USED ON THIS PROJECT:

1	2		4		6	7	8	9	10		

GENERAL CONSTRUCTION NOTES

1. GENERAL CONSTRUCTION NOTES SHALL APPLY TO ALL DRAWINGS CONTAINED HEREIN.
2. ALL WORK PERFORMED BY THE CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS AND REQUIREMENTS.
3. ALL DIMENSIONS AND FIELD CONDITIONS SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF THE WORK, ORDERING OF MATERIALS, OR FABRICATION (V.I.F. = VERIFY IN FIELD).
4. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTION SAFETY, AND MEANS AND METHODS TO PERFORM AND COMPLETE THE WORK.
5. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING AND DETERMINING ALL UTILITIES (ABOVE AND BELOW GROUND) WITHIN THE PROJECT LIMITS, AND TO TAKE THE NECESSARY PRECAUTIONS TO PROTECT UTILITIES DURING CONSTRUCTION. CONTACT DIG SAFE AT 1–800–DIG–SAFE (WWW.DIGSAFE.COM)
6. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND PRODUCT LITERATURE (MANUFACTURER'S LITERATURE, CUT SHEETS, APPLICATION PROCEDURES, ETC.), AS DIRECTED IN THE SPECIFICATIONS FOR PRODUCTS PROPOSED FOR USE ON THE PROJECT, FOR APPROVAL BY THE ENGINEER.
7. SITE WORK SHALL BE CONSTRUCTED FROM A COMPLETE SET OF PLANS. FOLLOW ALL DETAILS, NOTES, SPECIFICATIONS, ETC. CONTAINED ON THESE DRAWINGS FOR ALL ASPECTS OF THIS PROJECT. THE ENGINEER IS TO BE NOTIFIED OF ANY CONFLICT WITHIN THIS PLAN SET.
8. MAINTAIN ACCESS TO ALL DRIVEWAYS WITHIN PROJECT LIMITS AT ALL TIMES.

PRELIMINARY DESIGN PLANS - NOT FOR CONSTRUCTION

D&K FILE	NAME1	DATE	DATE1
DESIGNED BY	NAME2	DATE	DATE2
CHECKED BY	NAME3	DATE	DATE3

DuBois & King inc.

NOT FOR CONSTRUCTION

NEWMARKET, NEW HAMPSHIRE

NHDOT PROJECT NO. 16048 / FHWA PROJECT NO. x–a001(108)

INDEX OF SHEETS AND GENERAL NOTES

D&K PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
621764L	2	32

GENERAL

EDGE OF PAVEMENT — PROPOSED ROADWAY
TRAVELED WAY — existing roadway — (pavement removed outside slope lines)

DRIVEWAYS — (label surface type)

BUILDINGS — (building to be removed) — (label house or type of building)

FOUNDATION — (label type)

LEACH FIELD — leach field

BRIDGE CROSSINGS — STREAM — OVERPASS

STEPS AND WALK — (label type)

INTERMITTENT WATER COURSE

SHORE LINE — river/stream — pond — (label name of water body)

POTENTIAL WET AREA SYMBOL

BRUSH OR WOODS LINE

TREES (PLANS) — (deciduous) (coniferous) (stump)

TREE OR STUMP (CROSS-SECTIONS) — (show station, circumference in feet & type)

HEDGE — (label type)

MONITORING WELL — mon W

WELL — W

FLAG POLE — fp

ORIGINAL GROUND (TYPICALS)

ROCK OUTCROP

ROCK LINE (TYPICALS & SECTIONS ONLY)

	existing	PROPOSED
GUARDRAIL (LABEL TYPE)	bgr / cgr	BGR / MEDIAN CGR
JERSEY BARRIER		
CURB (LABEL TYPE)		
STONE WALL		
RETAINING WALL (LABEL TYPE)		(points toward retained ground)
FENCE (LABEL TYPE)		

SIGNS — (single post) — (double post)

GAS PUMP — gp

FUEL TANK (ABOVE GROUND) — ft (label size & type)

STORAGE TANK FILLER CAP — fc

SEPTIC TANK — S

GRAVE — gr

MAILBOX — mb

VENT PIPE — vp

SATELLITE DISH ANTENNA — da

PHONE — ph

GROUND LIGHT/LAMP POST — gl lp

BORING LOCATION — B

TEST PIT — TP

INTERSTATE NUMBERED HIGHWAY — 293

UNITED STATES NUMBERED HIGHWAY — 3

STATE NUMBERED HIGHWAY — 102

WETLANDS

WETLAND DESIGNATION AND TYPE — 2 PUB2E

DELINEATED WETLAND — DW

PRIME WETLAND — PWET

ORDINARY HIGH WATER — OHW

TOP OF BANK — TOB

TOP OF BANK & ORDINARY HIGH WATER — TOBOHW

MEAN HIGH TIDE — MHT

TIDAL BUFFER ZONE — TBZ

HIGHEST OBSERVABLE TIDAL LINE — HOTL

SPECIAL AQUATIC SITE — SAS

VERNAL POOL — VP

INVASIVE SPECIES LABEL — I.S. I — I.S. II

INVASIVE SPECIES — INV

WATER FRONT BUFFER — WB50

NATURAL WOODLAND BUFFER — NWB150

PROTECTED SHORE LAND — PS250

FLOODPLAIN / FLOODWAY

500 YEAR FLOODPLAIN BOUNDARY — FP500

100 YEAR FLOODPLAIN BOUNDARY — FP100

FLOODWAY — FW

ENGINEERING

CONSTRUCTION BASELINE — 30 31 32

PC, PT, POT (ON CONST BASELINE)

PI (IN CONSTRUCTION BASELINES)

INTERSECTION OR EQUATION OF TWO LINES

ORIGINAL GROUND LINE (PROFILES AND CROSS-SECTIONS)

PROFILE GRADE LINE (PROFILES AND CROSS-SECTIONS)

CLEARING LINE — SLOPE LINE

SLOPE LINE

SLOPE LINE (FILL)

SLOPE LINE (CUT)

PROFILES AND CROSS SECTIONS:
ORIGINAL GROUND ELEVATION (LEFT) — 72.5
FINISHED GRADE ELEVATION (RIGHT) — 79.14

PRELIMINARY DESIGN PLANS - NOT FOR CONSTRUCTION

SHEET 1 OF 2

DuBois & King inc.

NOT FOR CONSTRUCTION

NEWMARKET, NEW HAMPSHIRE

NHDOT PROJECT NO. 16048 / FHWA PROJECT NO. x-a001(108)

STANDARD SYMBOLS

D&K PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
621764L	3	31

DRAINAGE

MANHOLE
CATCH BASIN — cb
DROP INLET — di
(existing) (PROPOSED)

DRAINAGE PIPE (existing)
DRAINAGE PIPE (PROPOSED)
(label size & type)

UNDERDRAIN (existing) W/ FLUSHING BASIN
UNDERDRAIN (PROPOSED) W/ FLUSHING BASIN
show direction of flow
fb
(label size & type)

HEADER (existing & PROPOSED)
(with stone outlet protection)

END SECTION (existing & PROPOSED)
METAL or PLASTIC
RCP

OPEN DITCH (PROPOSED)

EROSION CONTROL/ STONE SLOPE PROTECTION

BOUNDARIES / RIGHT-OF-WAY

RIGHT-OF-WAY LINE (label type)
RR RIGHT-OF-WAY LINE
PROPERTY LINE
PROPERTY LINE (COMMON OWNER)
TOWN LINE — BOW / CONCORD
COUNTY LINE — COOS / GRAFTON
STATE LINE — MAINE / NEW HAMPSHIRE
NATIONAL FOREST
LCHIP CONSERVATION EASEMENT
BENCH MARK / SURVEY DISK
BOUND — bnd (PROPOSED)
STATE LINE/ TOWN LINE MONUMENT — S/L T/L
NHDOT PROJECT MARKER
IRON PIPE OR PIN — ip
DRILL HOLE IN ROCK — dh
TAX MAP AND LOT NUMBER — 156 / 14 — 1642/341 — 6.80 Ac.±
PROPERTY PARCEL NUMBER — 12
HISTORIC PROPERTY

UTILITIES

existing PROPOSED

TELEPHONE POLE
POWER POLE
JOINT OCCUPANCY
MISCELLANEOUS/UNKNOWN POLE
GUY POLE OR PUSH BRACE
(plot point at face not center of symbol)

LIGHT POLE
LIGHT ON POWER POLE
LIGHT ON JOINT POLE

POLE STATUS:
REMOVE, LEAVE, PROPOSED, OR TEMPORARY AS APPLICABLE e.g.:
R L P+04 25.0' T+04 25.0'

RAILROAD (label ownership)
RAILROAD SIGN
RAILROAD SIGNAL
UTILITY JUNCTION BOX — jb JB
OVERHEAD ELECTRIC — OE

UNDERGROUND UTILITIES

WATER (on existing lines label size, type and note if abandoned) — W PW
SEWER — S PS
TELEPHONE — T PT
ELECTRIC — E PE
GAS — G PG
LIGHTING — L PL
INTELLIGENT TRANSPORTATION SYSTEM — ITS PITS
FIBER OPTIC — FO PFO
WATER SHUT OFF — WSO
GAS SHUT OFF — GSO
HYDRANT — HYD

MANHOLES
SEWER — MHS
TELEPHONE — MHT
ELECTRICAL — MHE
GAS — MHG
UNKNOWN

TRAFFIC SIGNALS / ITS

existing PROPOSED

MAST ARM (existing) — 30' MA (NOTE ANGLE FROM ℄)
OPTICOM RECEIVER
OPTICOM STROBE
TRAFFIC SIGNAL
PEDESTAL WITH PEDESTRIAN SIGNAL HEADS AND PUSH BUTTON UNIT
SIGNAL CONDUIT — C PC
CONTROLLER CABINET — cc CC
METER PEDESTAL — mp MP
PULL BOX — pb PB
LOOP DETECTOR (QUADRUPOLE) — (label size)
LOOP DETECTOR (RECTANGULAR) — (label size)
CAMERA POLE (CCTV)
FIBER OPTIC DELINEATOR — fod FOD
FIBER OPTIC SPLICE VAULT — SVF
ITS EQUIPMENT CABINET — its ITS
VARIABLE SPEED LIMIT SIGN
DYNAMIC MESSAGE SIGN
ROAD AND WEATHER INFO SYSTEM

CONSTRUCTION NOTES

CURB MARK NUMBER - BITUMINOUS — B-1
CURB MARK NUMBER - GRANITE — G-1
CLEARING AND GRUBBING AREA — A
DRAINAGE NOTE — 1
EROSION CONTROL NOTE — A
FENCING NOTE — A
GUARDRAIL NOTE — 1
ITS NOTE — 1
LIGHTING NOTE — A
TRAFFIC SIGNAL NOTE — 1

PRELIMINARY DESIGN PLANS - NOT FOR CONSTRUCTION

SHEET 2 OF 2

DuBois & King inc.

NOT FOR CONSTRUCTION

NEWMARKET, NEW HAMPSHIRE

NHDOT PROJECT NO. 16048 / FHWA PROJECT NO. x-a001(108)

STANDARD SYMBOLS

D&K PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
621764L	4	29

CURBING

ITEM NO.			609.01	609.02	609.924
DESCRIPTION	MARK NUMBER	RADIUS	STRAIGHT GRANITE CURB	CURVED GRANITE CURB	SPECIAL GRANITE CURB 0-12" REVEAL
STA		LF	LF	LF	LF
STA 30+85.5 RT 23.4' - STA 30+92.1 RT 15.0	BK1		10.91		
STA 30+86.5 LT 19.0' - STA 30+86.5 LT 16.0	G2		3		
STA 30+86.5 LT 16.0' - STA 30+91.8 LT 11.5	BK3	5		7	
STA 30+92.3 RT 14.4 - STA 30+89.8 LT 11.2	BK4				25.7
STA 30+92.1 RT 15.0 - STA 30+98.2 LT 14.0	BK5				6.6
STA 30+91.0 LT 11.5 - STA 30+91.8 LT 11.5	BK6				0.8
STA 30+91.8 LT 11.5 - STA 30+96.6 LT 15.5	BK7			7	
STA 30+98.4 RT 13.5 - STA 30+96.3 LT 13.4	BK8				26.4
STA 30+98.4 RT 13.5 - STA 31+6.3 RT 20.2	BK9		10.9		
STA 30+96.6 LT 15.5 - STA 30+97.1 LT 19.2	G10		4		
STA 33+15.2 RT 20.5 - STA 33+15.2 RT 17.1	G11		3		
STA 33+15.2 RT 17.1 - STA 33+19.6 RT 12.5	BK12	5			7
STA 33+20.0 LT 24.4 - STA 33+20.1 LT 22.0	G13		2		
STA 33+20 LT 22.0 - STA 33+27.5 LT 18.4	BK 14	5			10
STA 33+19.6 RT 12.5 - STA 33+23.9 RT 12.6	BK15				4
STA 33+21.2 LT 18.4 - STA 33+22.0 RT 12.1	BK16				30.5
STA 33+23.9 RT 12.6 - STA 33+38.1 RT 24.8	BK17	15			21
STA 33+27.3 LT 17.7 - STA 33.28.0 RT 12.6	BK18				30.3
STA 33+27.5 LT 18.4 - STA 33+31.4 LT 26.7	G19	10		9	
STA 33+30.8 LT 34.8 - STA 33+31.4 LT 26.7	G20		8		
STA 33+38.1 RT 24.8 - STA 33+38.4 RT 26.8	G21		2		
STA 35+34.9 RT 26.4 - STA 35+47.4 RT 17.1	GB22	77	16		
STA 35+47.4 RT 17.1 - STA 35+57.0 RT 12.0	G23		11		
STA 35+61.1 LT 41.4 - STA 35+60.1 LT 28.2	G24		13		
STA 35+57.0 RT 12.0 - STA 25+59.2 RT 11.4	G25	5		2	

CURBING

ITEM NO.			609.01	609.02	609.924
DESCRIPTION	MARK NUMBER	RADIUS	STRAIGHT GRANITE CURB	CURVED GRANITE CURB	SPECIAL GRANITE CURB 0-12" REVEAL
STA		LF	LF	LF	LF
STA 35+60.1 LT 28.2 - STA 35+74.5 RT 12.7	G26	15		24	
STA 35+61.4 RT 10.9 - STA 35+61.7 LT 19.4	BK27				30.4
STA 35+59.2 RT 11.4 - STA 35+67.4 RT 11.5	BK28				8
STA 35+67.4 RT 11.0 - STA 35+67.6 LT 13.8	BK29				24.8
STA 35+67.4 RT 11.5 - STA 35+67.3 RT 19.5	BK30				8
STA 35+74.5 LT 12.7 - STA 35+85.4 LT 20.5	G31		13		
STA 38+37.0 RT 13.0 - STA 38+41.3 LT 23.1	BK32				36.4
STA 38+41.6 LT32.9 - STA 38+41.4 LT 26.9	BK33				6
STA 38+41.4 LT 26.9 - STA 38+56.6 LT 11.9	G34	15		24	
STA 38+43.1 RT 13.0 - STA 38+46.4 LT 14.9	BK35				28.1
STA 38+56.6 LT 11.9 - STA 38+67.0 LT 20.5	G36		14		
STA 40+44.1 LT 20.5 - STA 40+61.2 LT 12.9	BK37				18
STA 40+61.8 LT 12.3 - STA 40.63 RT 12.7	BK38				25.1
STA 40+61.2 LT 12.9 - STA 40+68.5 LT 12.6	BK39				7
STA 40+68.0 LT 12.1 - STA 40+68.9 RT 12.8	BK40				24.8
STA 40+68.5 LT 12.6 - STA 40+83 LT 20.6	BK41				15.8
STA 43+42.1 LT 13.0 - STA 43+42.6 RT 13.8	BK42				26.8
STA 43+48.1 LT 13.0 - STA 43+48.6 RT 13.7	BK43				26.8
STA 44+81.2 RT 20.4 - STA 44+89.7 RT 12.5	G44		11.6		
STA 44+89.7 RT 12.5 - STA 45+58.1 RT 14.3	G45		68.5		

SUBTOTAL			190.91	73	448.3
ROUNDING			9.09	2	1.7
TOTAL			200	75	450

PRELIMINARY DESIGN PLANS - NOT FOR CONSTRUCTION

D&K FILE	NAME1	DATE DATE1
DESIGNED BY	NAME2	DATE DATE2
CHECKED BY	NAME3	DATE DATE3

DuBois & King inc.

NOT FOR CONSTRUCTION

NEWMARKET, NEW HAMPSHIRE

NHDOT PROJECT NO. 16048 / FHWA PROJECT NO. x-a001(108)

SUMMARIES

D&K PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
621764L	5	32

PAVEMENT MARKINGS

ITEM NO.	632.3106	632.3112	632.32	632.911
	RETROREF. THERMO. PAVEMENT MARKINGS, 6" LINE	RETROREF. THERMO. PAVEMENT MARKINGS, 12" LINE	RETROREF. THERMO. PAVEMENT MARKINGS, SYMBOL OR WORD	OBLITERATE PAVEMENT MARKING LINE, 12" WIDE AND UNDER
LOCATION	LF	LF	SF	LF
STA 31+00	58.03			
STA 32+00			16.2	
STA 33+25	63.43			
STA 33+50		80		92
STA 34+50			16.2	
STA 35+50				83
STA 35+65	59.77			
STA 36+90			16.2	
STA 38+40	65.6			
STA 39+50			16.2	
STA 40+65	49.7			
STA 42+00			16.2	
STA 43+45	53.52			
STA 44+50			16.2	
STA 47+00			16.2	
SUBTOTAL	350.1	80.0	113.4	175
ROUNDING	4.9	0.0	1.6	0
TOTAL	355.0	80.0	115.0	175.0

SIDEWALK

ITEM NO.	304.3	520.1	608.XXX	608.XXX	608.54
	CRUSHED GRAVEL	AIR ENTRAINED CONCRETE 4,000 PSI	INTERLOCKING CONCRETE RED PAVERS	BRICK SIDEWALK	DETECTABLE WARNING DEVICES CAST IRON
LOCATION	CY	CY	SY	SY	LF
STA 31+00	4.6	4.9	18.4		6.5
STA 33+25	6.0	5.5	19.7		6.5
STA 35+65	8.5	5.2	19.7		9.5
STA 38+40	5.1	5.8	20.9		6.0
STA 40+65	4.9	4.6	16.6		3.0
STA 43+45	4.5	5.0	17.8	13.3	
SUBTOTAL	33.6	31.0	113.2	13.3	31.5
ROUNDING	1.4	1.1	1.8	1.7	3.5
TOTAL	35.0	32.1	115.0	15.0	35.0

DRAINAGE

	603.00212	604.19	604.4	604.12	604.62
	12" RCP	SPECIAL CATCH BASIN (DOGHOUSE)	RECONSTRUCTING/ ADJUSTING CATCH BASIN & DROP INLET	CATCH BASIN TYPE B	DRAIN MANHOLD COVERS & FRAMES
#	LF	U	LF	U	EA
1		1			
2			3.3		1
3	13.3			1	
4		1			
5			2		
6		1			
SUBTOTAL	13.3		5.3	1	1
ROUNDING	1.7		0.2		
TOTAL	15		5.5	2	2

LANDSCAPING

EA	ITEM 650.2 - DESCRIPTION	UNIT
6	ULMUS AMERICANA 'PRINCETON', PRINCETON AMERICAN ELM	1
	UNIT TOTAL	1

INCIDENTAL ITEMS

ITEM NO.	ITEM DESCRIPTION	UNITS	QUANTITY
209.1	GRANULAR BACKFILL	CY	
214	FINE GRADING	CY	
615.0X	TRAFFIC SIGN TYPE x	EA	
615.0X	TRAFFIC SIGN TYPE x	SF	
615.0X	TRAFFIC SIGN TYPE x	SF	
615.0X	TRAFFIC SIGN TYPE x	SF	
618.61	UNIFORMED OFFICERS WITH VEHICLE	$	
618.7	FLAGGERS	HR	
619.25	PORTABLE CHANGEABLE MESSAGE SIGN	U	
619.253	PORTABLE CHANGEABLE MESSAGE BOARD	UWK	
645.7	STORMWATER POLLUTION PREVENTION PLAN	U	
645.71	MONITORING SWPP AND EROSION AND SEDIMENT CONTROL	HR	
1008.52	ALTERATIONS AND ADDITIONS AS NEEDED	$	
	UNIT TOTAL		

PRELIMINARY DESIGN PLANS - NOT FOR CONSTRUCTION

D&K FILE	NAME1	DATE	DATE1
DESIGNED BY	NAME2	DATE	DATE2
CHECKED BY	NAME3	DATE	DATE3

DuBois & King inc.

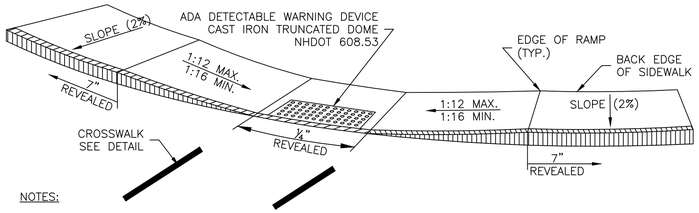
NOT FOR CONSTRUCTION

NEWMARKET, NEW HAMPSHIRE

NHDOT PROJECT NO. 16048 / FHWA PROJECT NO. x-a001(108)

SUMMARIES

D&K PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
621764L	6	32

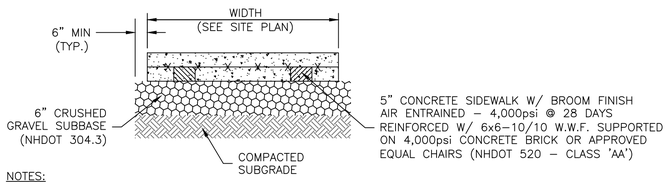


NOTES:

1. SLOPE OF RAMP VARIES WITH SIDEWALK WIDTH AND HEIGHT, WITH A MAXIMUM SLOPE OF 12:1 AND MINIMUM SLOPE OF 16:1
2. A BROOM FINISH TRANSVERSE TO THE SLOPE SHALL BE USED ON PORTLAND CEMENT CONCRETE RAMPS
3. MAINTAIN THE NORMAL GUTTER PROFILE THROUGHOUT THE RAMP AREA
4. INTERCEPT DRAINAGE ALONG THE CURB IN ADVANCE OF THE RAMP

SIDEWALK CORNER – CURB EXTENSION DETAIL

NOT TO SCALE

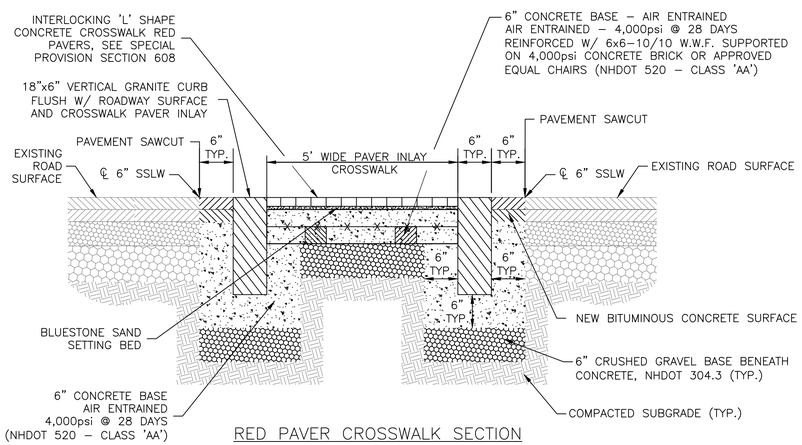


NOTES:

2. MAXIMUM ALLOWABLE SIDEWALK SLOPE IN ALL DIRECTIONS SHALL BE IN ACCORDANCE WITH AMERICAN DISABILITY ACT (ADA) STANDARDS FOR ACCESSIBLE DESIGN; CROSS–SLOPE SHALL BE NO LESS THAN 1% AND NO GREATER THAN 2%
3. ALL MATERIALS AND WORKMANSHIP SHALL COMPLY WITH NHDOT STANDARD SPECIFICATIONS
4. REMOVE ALL UNSUITABLE MATERIAL TO THE SATISFACTION OF THE ENGINEER
5. IN THE EVENT BEDROCK IS ENCOUNTERED, EXCAVATE BEDROCK TO A MINIMUM OF 6" BELOW THE SUB–BASE MATERIAL AND REPLACE WITH BANKRUN GRAVEL
6. SUBGRADE MATERIAL SHALL BE SHAPED AND COMPACTED TO AN EVEN SURFACE. ALL SOFT AND YIELDING MATERIAL SHALL BE REMOVED AND REPLACED WITH ACCEPTABLE MATERIAL
7. 1/4" RADIUS x 1/2" WIDE x 1/2" DEPTH TOOLED CONTROL JOINTS SHALL BE LOCATED 5' O.C.
8. 1/2" EXPANSION JOINTS SHALL CONFORM TO AASHTO M153, TYPE III OR AASHTO M213 AND BE LOCATED 20' O.C.
9. PROTECTIVE COATING SHALL BE SILANE/SILOXANE AND APPLIED IN ACCORDANCE WITH NHDOT 534.2.2 AND 534.3; RESPECTIVELY

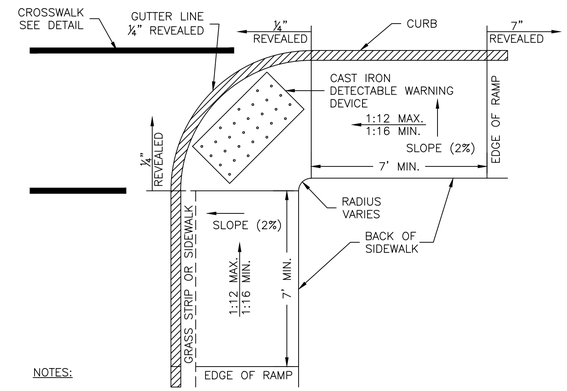
CONCRETE SIDEWALK DETAIL

NOT TO SCALE



RED PAVER CROSSWALK SECTION

NOT TO SCALE

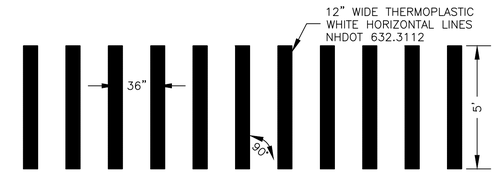


NOTES:

1. SLOPE OF RAMP VARIES WITH SIDEWALK WIDTH AND HEIGHT, WITH A MAXIMUM SLOPE OF 12:1 AND MINIMUM SLOPE OF 16:1
2. A BROOM FINISH TRANSVERSE TO THE SLOPE SHALL BE USED ON PORTLAND CEMENT CONCRETE RAMPS
3. MAINTAIN THE NORMAL GUTTER PROFILE THROUGHOUT THE RAMP AREA
4. INTERCEPT DRAINAGE ALONG THE CURB IN ADVANCE OF THE RAMP

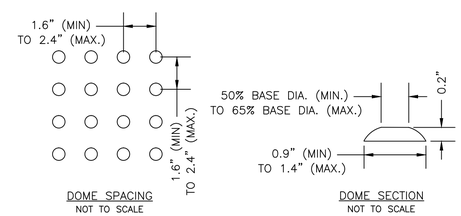
SIDEWALK CORNER DETAIL

NOT TO SCALE



CONTINENTAL CROSSWALK PAVEMENT MARKING DETAIL

NOT TO SCALE



NOTES:

1. ADA DETECTABLE WARNING DEVICES SHALL BE CAST IRON IN ACCORDANCE WITH NHDOT 608.54.
2. DEVICE SHALL BE 24" (MIN) IN WIDTH. LENGTH SHALL EQUAL THE CROSSWALK ACCESS.
3. INSTALLATION SHALL BE PER MANUFACTURER'S RECOMMENDATION.

DETECTABLE WARNING DEVICE DETAIL

NOT TO SCALE

PRELIMINARY DESIGN PLANS - NOT FOR CONSTRUCTION

D&K FILE	NAME1	DATE DATE1
DESIGNED BY	NAME2	DATE DATE2
CHECKED BY	NAME3	DATE DATE3

DuBois & King inc.

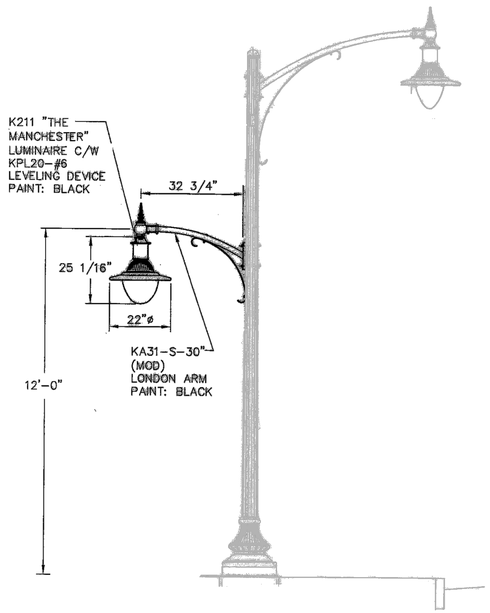
NOT FOR CONSTRUCTION

NEWMARKET, NEW HAMPSHIRE

NHDOT PROJECT NO. 16048 / FHWA PROJECT NO. x–a001(108)

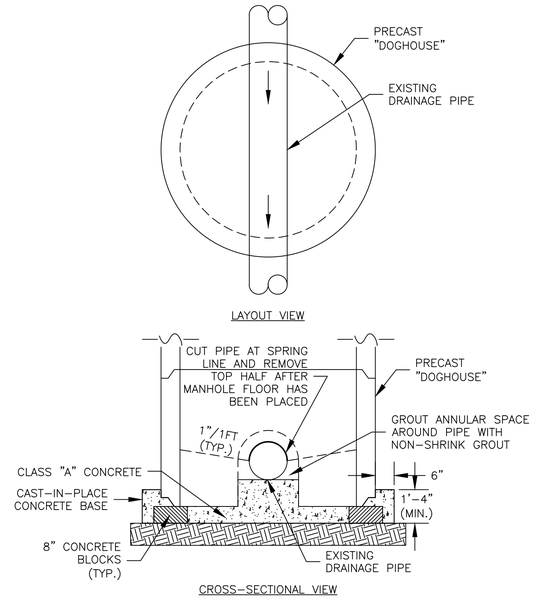
TYPICAL SIDEWALK AND CROSSWALK DETAILS

D&K PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
621764L	8	32



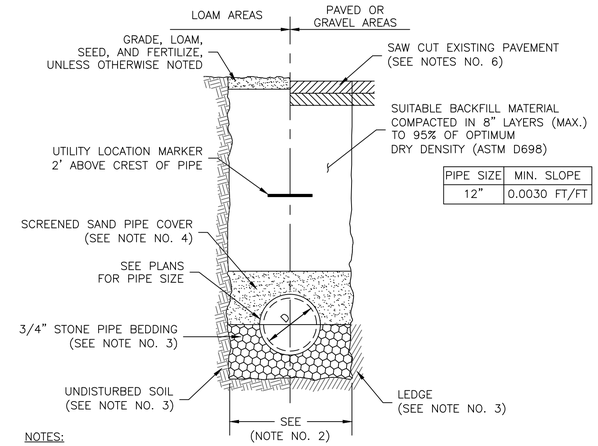
LIGHT FIXTURE DETAIL

NOT TO SCALE



DOGHOUSE STYLE MANHOLE DETAIL

NOT TO SCALE



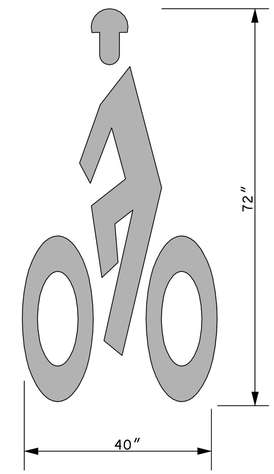
PIPE SIZE	MIN. SLOPE
12"	0.0030 FT/FT

NOTES:

1. ALL EXCAVATION MUST MEET OSHA STANDARDS.
2. STANDARD TRENCH WIDTH SHALL BE D+2' OR 3'; WHICHEVER IS GREATER.
3. BEDDING MATERIAL SHALL BE FULL WIDTH OF TRENCH. BEDDING MATERIAL SHALL BE 6" BELOW PIPE (IN EARTH) OR 12" BELOW PIPE (IN LEDGE) UP TO SPRING LINE OF PIPE.
4. SAND COVER/CUSHION MATERIAL SHALL BE FULL WIDTH OF TRENCH. SAND MATERIAL SHALL BE FROM SPRING LINE UP TO 12" (MINIMUM) ABOVE CREST OF PIPE.
5. STORM DRAIN LAYOUT PLAN PIPE SLOPES SHALL GOVERN OVER MINIMUM PIPE SLOPE SCHEDULE.
6. DURING PAVEMENT REPAIR, THE CONTRACTOR SHALL CUT-BACK SUBBASE MATERIAL AN ADDITIONAL 12-INCHES ON EITHER SIDE OF THE TRENCH AND PAVEMENT COLD PLANE MILL AREA TO A DEPTH OF 1-3/4" AN ADDITIONAL 24-INCHES ON EITHER SIDE OF SUBBASE MATERIAL CUT-BACK.

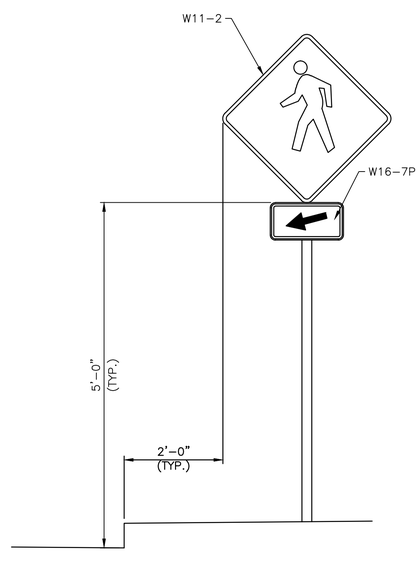
STORM DRAIN PIPE TRENCH DETAIL

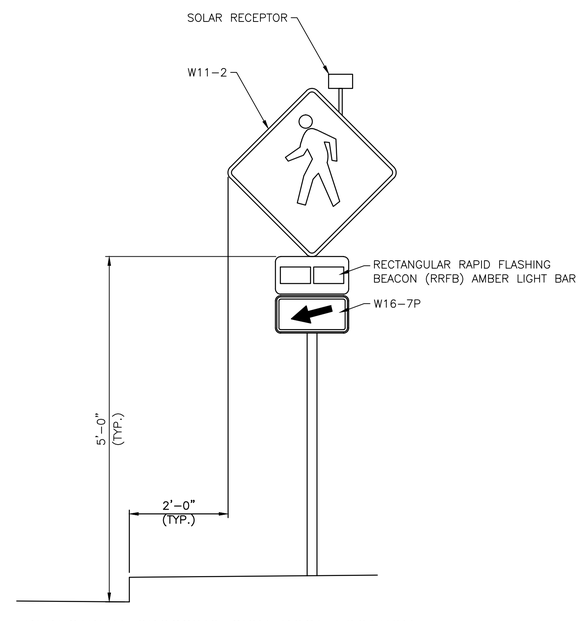
NOT TO SCALE



BICYCLE LANE SYMBOL

PAY QUANTITY = 8.1 FT²





PEDESTRIAN CROSSING SIGN POST LOCATION
RFBB AND PLACARD INSTALLATION DETAIL

NOT TO SCALE

NOTE:

1. ALL TRAFFIC SIGNS, POSTS AND FOUNDATIONS SHALL BE IN ACCORDANCE WITH NHDOT SECTION 615 SPECIFICATIONS.
2. CONTRACTOR SHALL UTILIZE EXISTING POWER SOURCE ASSOCIATED WITH DETAIL 'A' ABOVE.

PEDESTRIAN CROSSING SIGN POST LOCATION
AND PLACARD INSTALLATION DETAIL

NOT TO SCALE

D&K FILE	NAME1	DATE	DATE1
DESIGNED BY	NAME2	DATE	DATE2
CHECKED BY	NAME3	DATE	DATE3

DuBois & King inc.

NOT FOR CONSTRUCTION

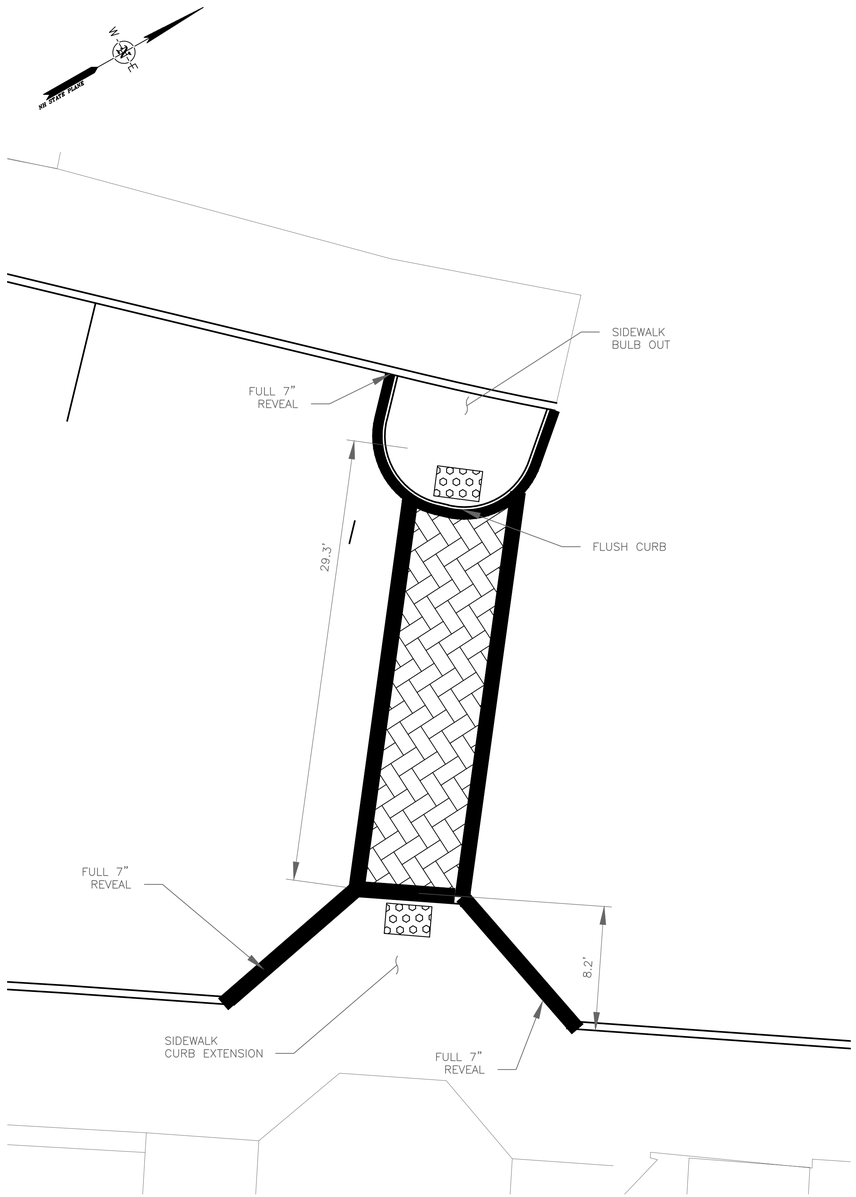
NEWMARKET, NEW HAMPSHIRE

NHDOT PROJECT NO. 16048 / FHWA PROJECT NO. x-a001(108)

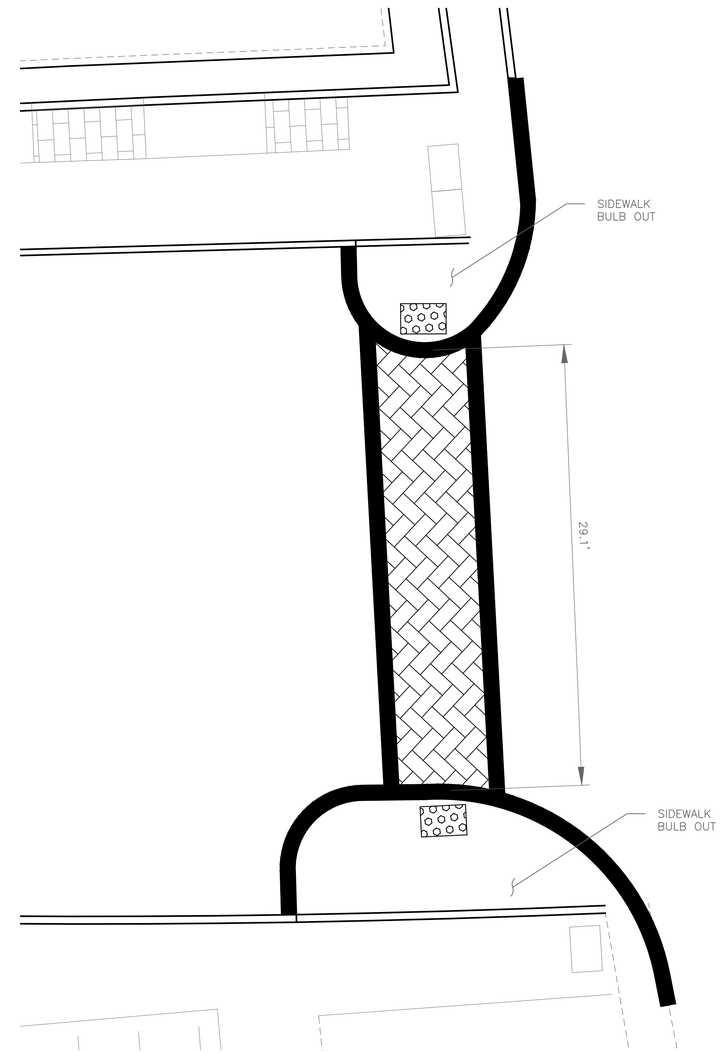
DRAINAGE, LIGHTING, SIGNAGE, AND PAVEMENT MARKING DETAILS

D&K PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
621764L	9	32

PRELIMINARY DESIGN PLANS - NOT FOR CONSTRUCTION



STA. 31+00



STA. 33+25

PRELIMINARY DESIGN PLANS - NOT FOR CONSTRUCTION

HORIZONTAL GRAPHIC SCALE
0 5 10
1" = 5'

DuBois & King inc.

NOT FOR CONSTRUCTION

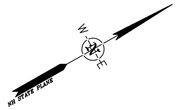
NEWMARKET, NEW HAMPSHIRE

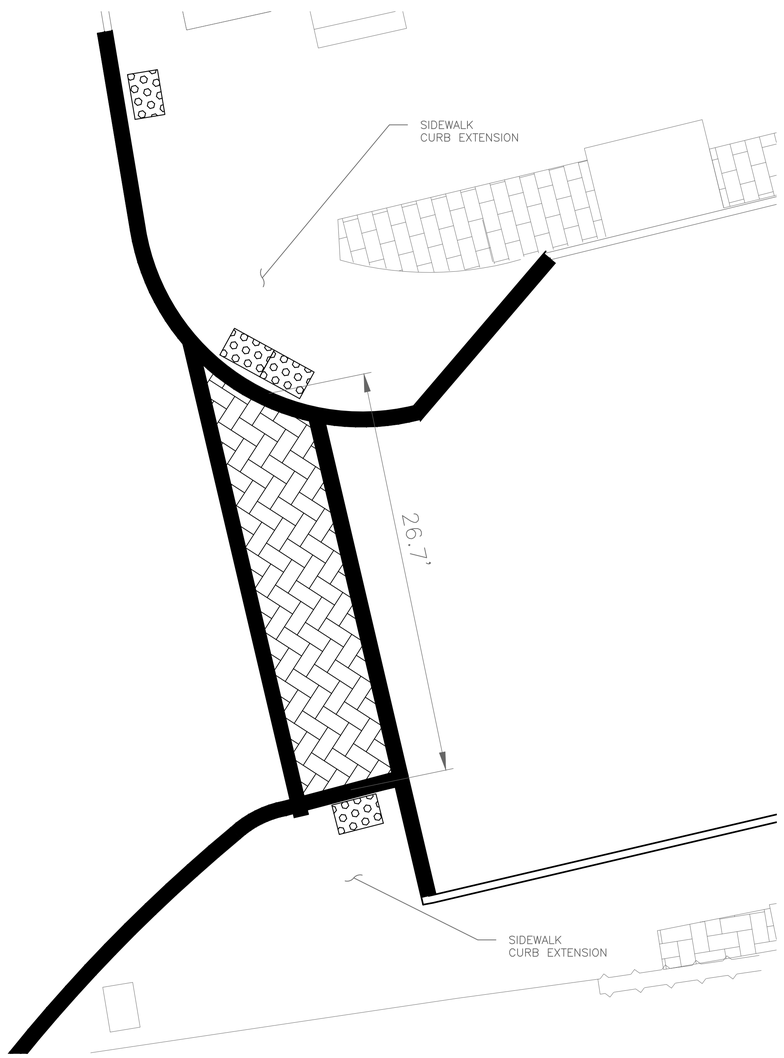
NHDOT PROJECT NO. 16048 / FHWA PROJECT NO. x-a001(108)

CROSSWALK DETAILS
(SHEET 1 OF 3)

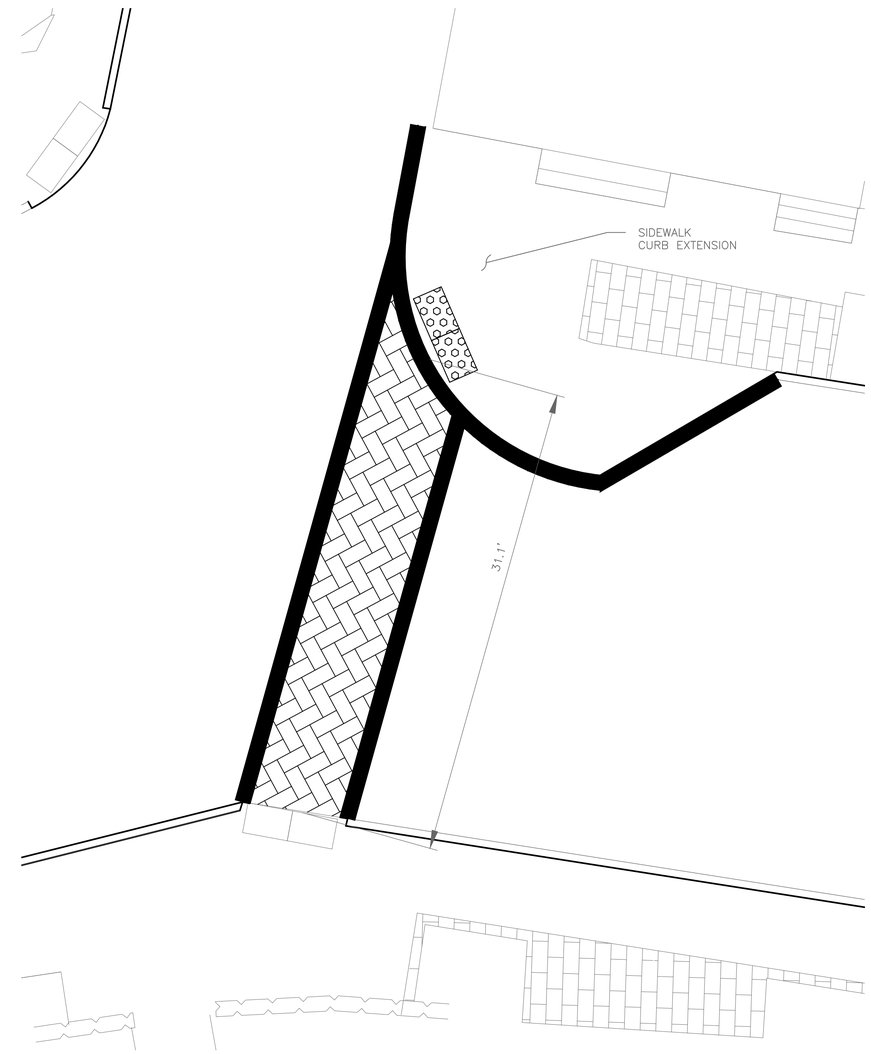
D&K PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
621764L	10	32

D&K FILE	NAME1	DATE	DATE1
DESIGNED BY	NAME2	DATE	DATE2
CHECKED BY	NAME3	DATE	DATE3





STA. 35+65



STA. 38+40

PRELIMINARY DESIGN PLANS - NOT FOR CONSTRUCTION

HORIZONTAL GRAPHIC SCALE
0 5 10
1" = 5'

DuBois & King inc.

NOT FOR CONSTRUCTION

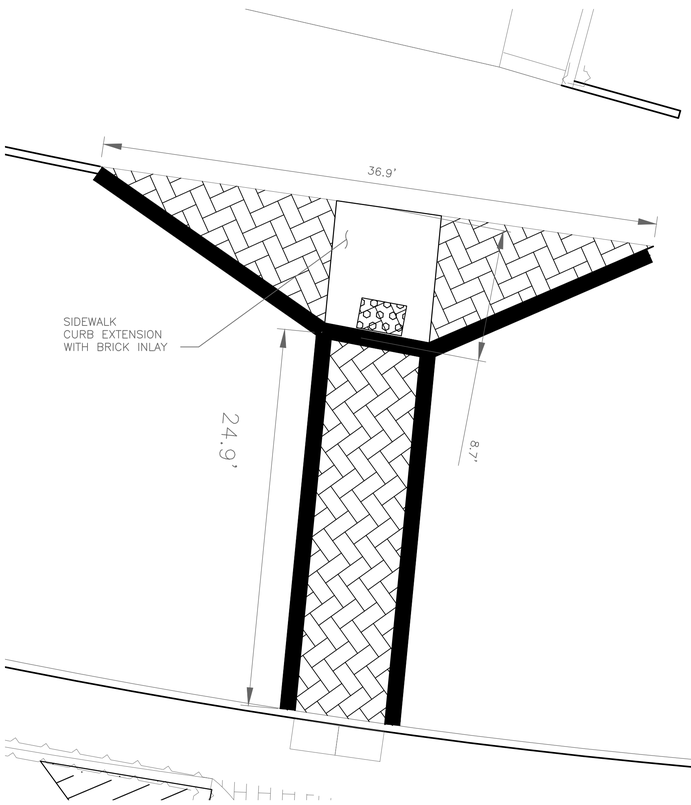
NEWMARKET, NEW HAMPSHIRE

NHDOT PROJECT NO. 16048 / FHWA PROJECT NO. x-a001(108)

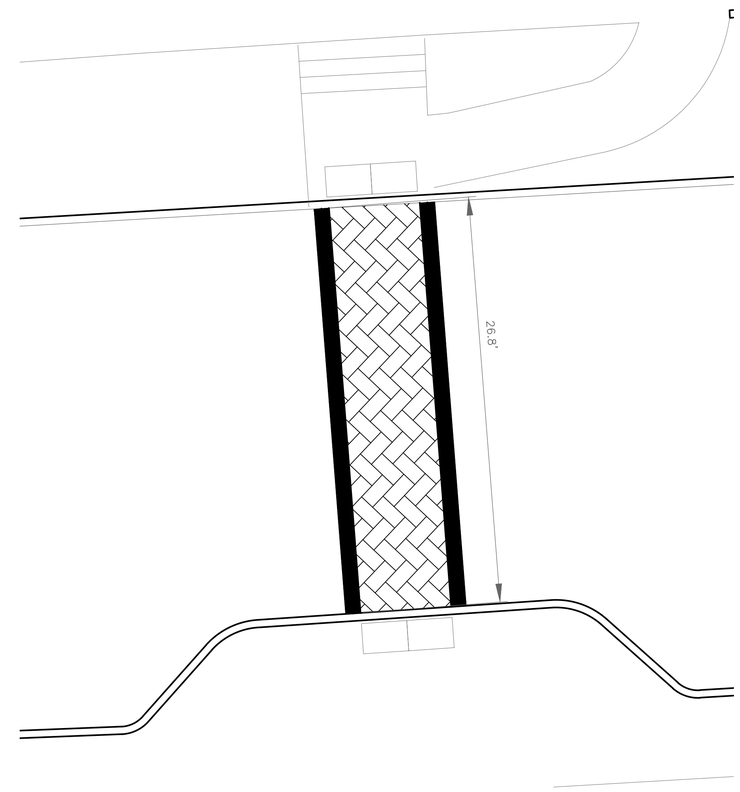
CROSSWALK DETAILS
(SHEET 2 OF 3)

D&K PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
621764L	11	32

D&K FILE	NAME1	DATE	DATE1
DESIGNED BY	NAME2	DATE	DATE2
CHECKED BY	NAME3	DATE	DATE3



STA. 40+65



STA. 43+45

HORIZONTAL GRAPHIC SCALE
0 5 10
1" = 5'

PRELIMINARY DESIGN PLANS - NOT FOR CONSTRUCTION

D&K FILE	NAME1	DATE DATE1
DESIGNED BY	NAME2	DATE DATE2
CHECKED BY	NAME3	DATE DATE3

DuBois & King inc.

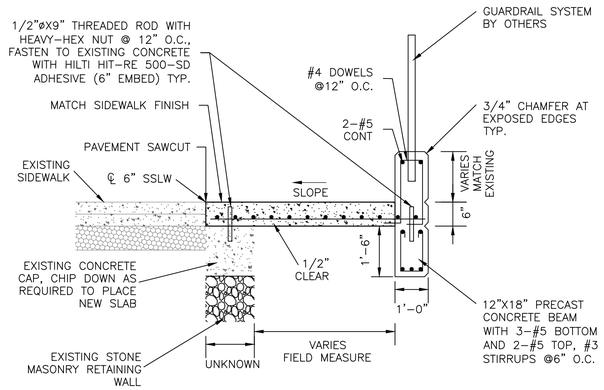
NOT FOR CONSTRUCTION

NEWMARKET, NEW HAMPSHIRE

NHDOT PROJECT NO. 16048 / FHWA PROJECT NO. x-a001(108)

SIDEWALK DETAILS
(SHEET 3 OF 3)

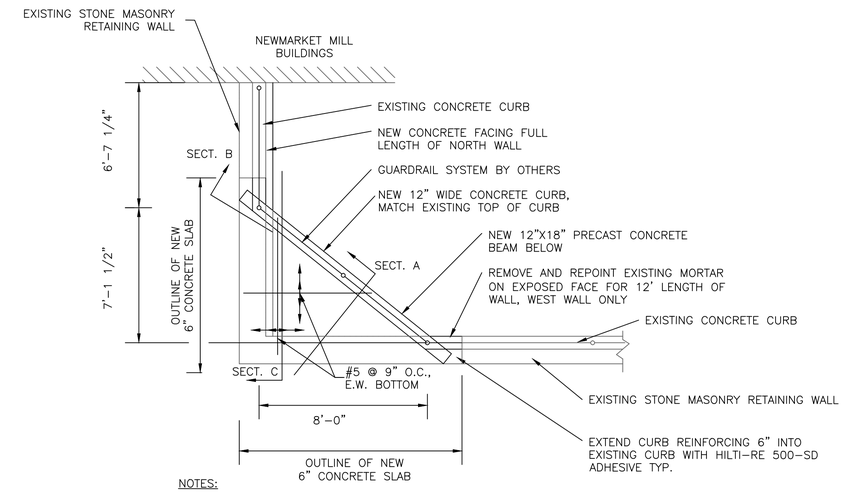
D&K PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
621764L	12	32



NOTE: CONTRACTOR'S OPTION TO CAST BEAM IN PLACE

SECTION A

NOT TO SCALE

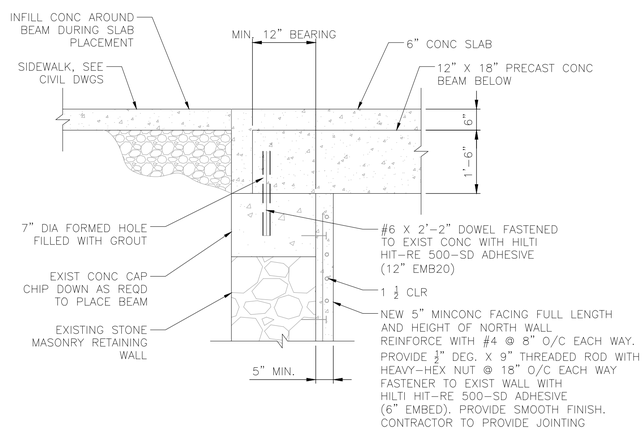


NOTES:

1. REINFORCING TO BE ASTM A615, GRADE 60 EPOXY COATED.
2. CONCRETE f'c = 3,500 psi, AIR ENTRAINED.
3. STRUCTURE DESIGNED FOR MAX. 3,000 LBS WHEEL LOAD.

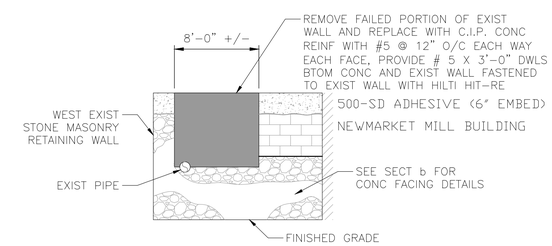
CANTILEVER SIDEWALK PLAN

NOT TO SCALE



SECTION B:

NOT TO SCALE



SECTION C:

NOT TO SCALE

PRELIMINARY DESIGN PLANS - NOT FOR CONSTRUCTION

D&K FILE	NAME1	DATE	DATE1
DESIGNED BY	NAME2	DATE	DATE2
CHECKED BY	NAME3	DATE	DATE3

DuBois & King inc.

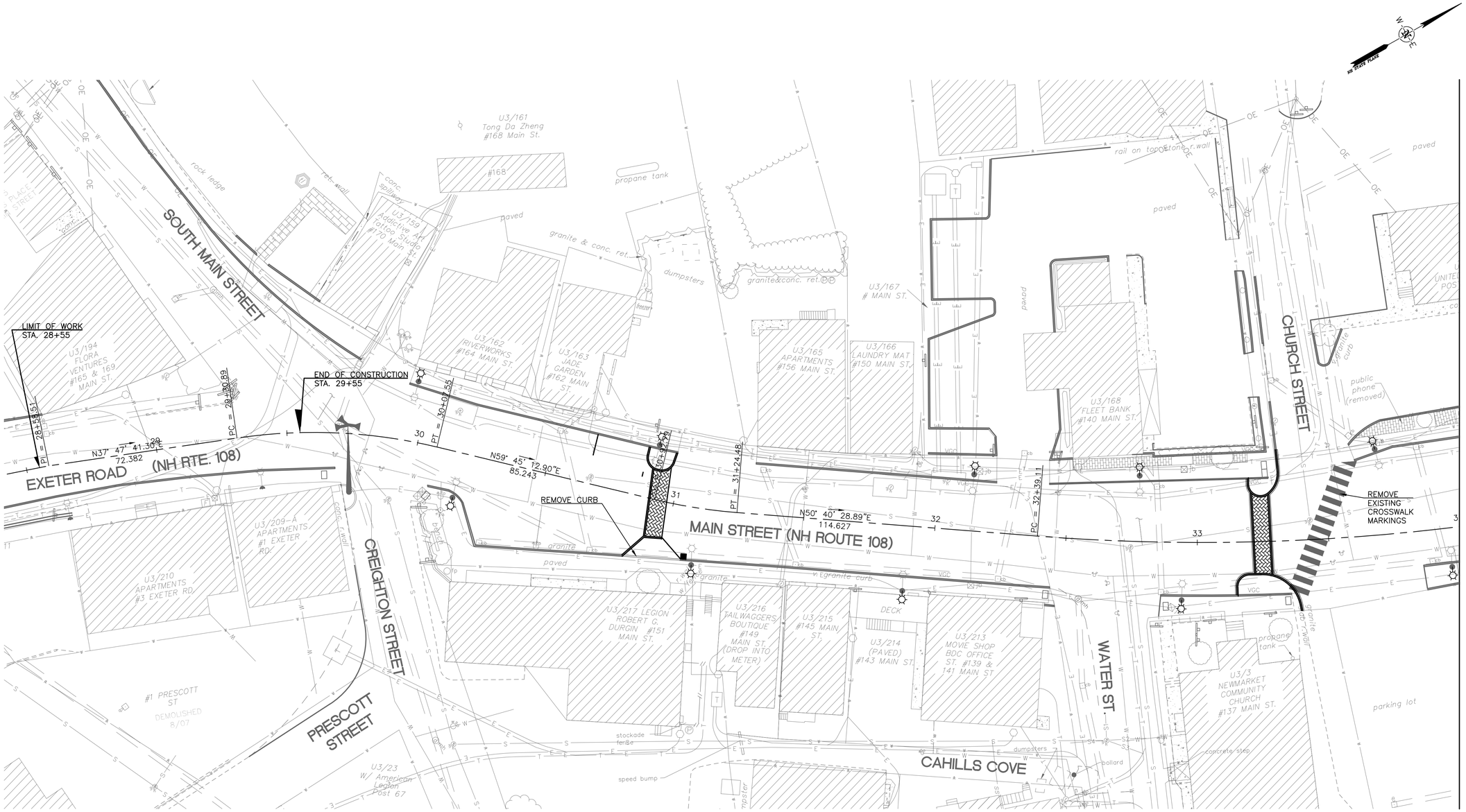
NOT FOR CONSTRUCTION

NEWMARKET, NEW HAMPSHIRE

NHDOT PROJECT NO. 16048 / FHWA PROJECT NO. x-a001(108)

CANTILEVER DECK DETAILS

D&K PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
621764L	13	32



MATCHLINE – STA. 34+00
CONTINUED ON NEXT SHEET

PRELIMINARY DESIGN PLANS - NOT FOR CONSTRUCTION

HORIZONTAL GRAPHIC SCALE

0 10 20 40

1" = 20'

D&K FILE	NAME1	DATE	DATE1
DESIGNED BY	NAME2	DATE	DATE2
CHECKED BY	NAME3	DATE	DATE3

DuBois & King inc.

NOT FOR CONSTRUCTION

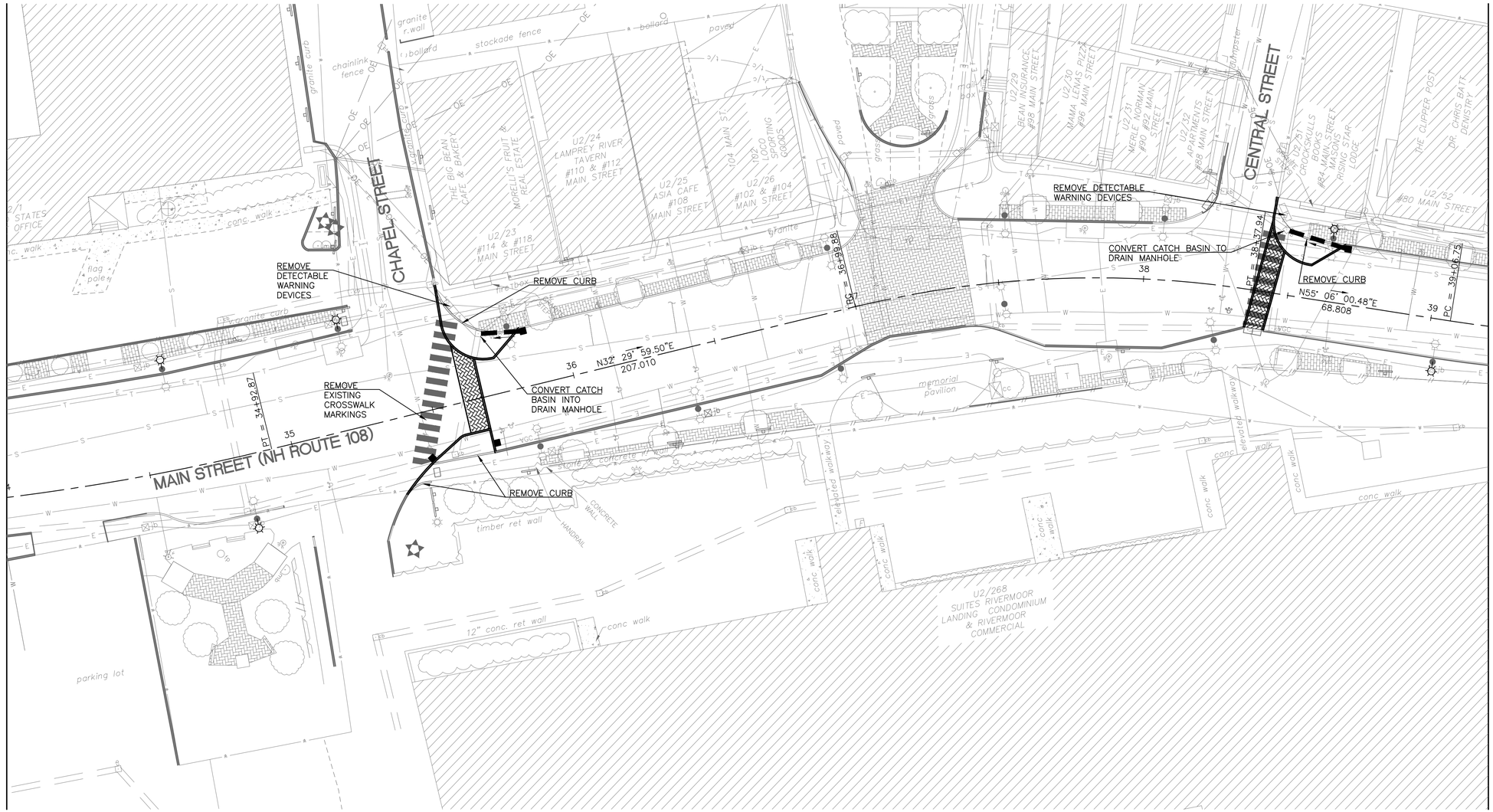
NEWMARKET, NEW HAMPSHIRE

NHDOT PROJECT NO. 16048 / FHWA PROJECT NO. x-a001(108)

GENERAL PLANS
(SHEET 1 OF 4)

D&K PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
621764L	14	32

MATCHLINE – STA. 34+00
CONTINUED ON PREVIOUS SHEET



MATCHLINE – STA. 39+20
CONTINUED ON NEXT SHEET

PRELIMINARY DESIGN PLANS - NOT FOR CONSTRUCTION

D&K FILE	NAME1	DATE DATE1
DESIGNED BY	NAME2	DATE DATE2
CHECKED BY	NAME3	DATE DATE3

DuBois & King inc.

NOT FOR CONSTRUCTION

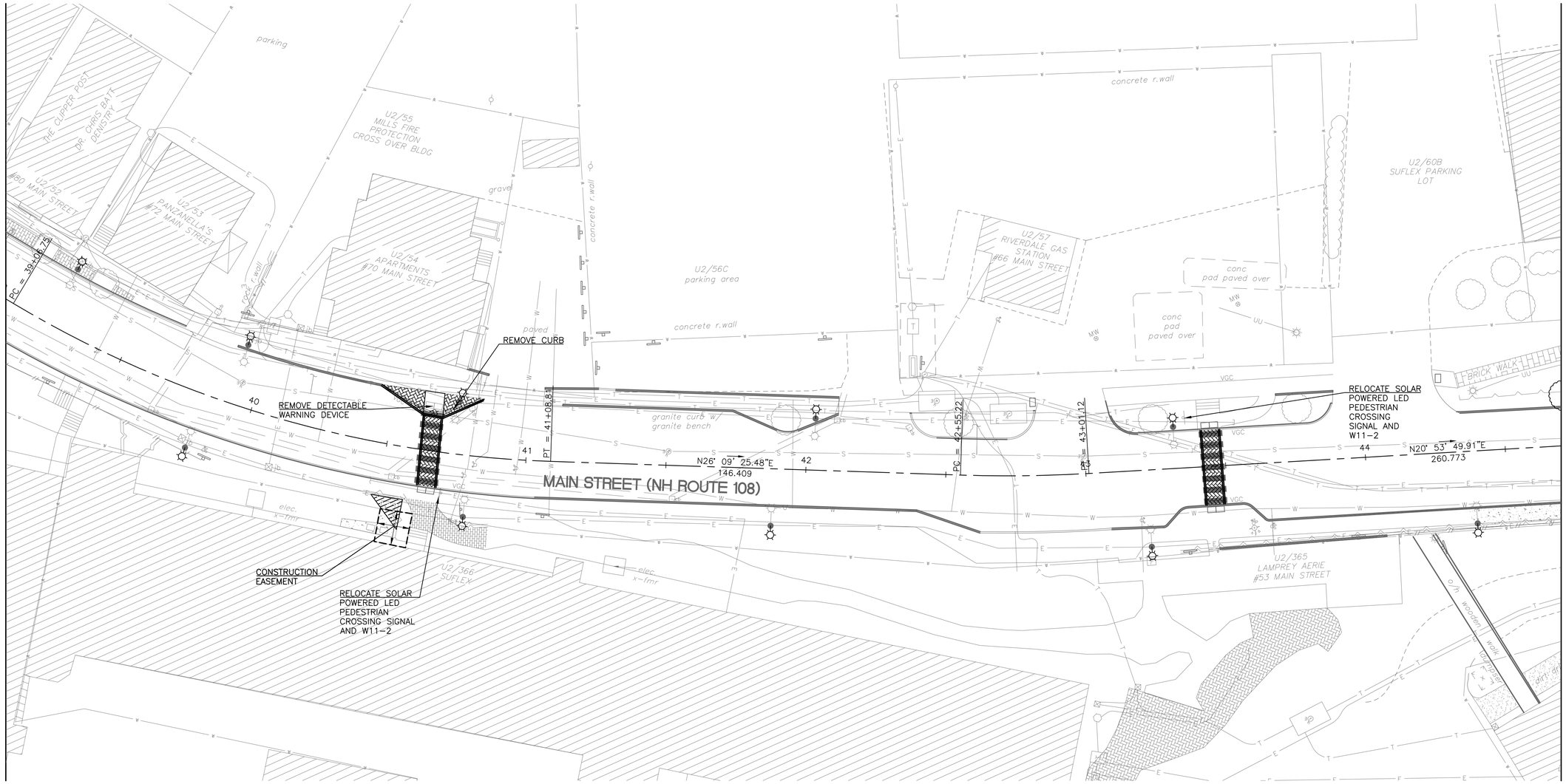
NEWMARKET, NEW HAMPSHIRE

NHDOT PROJECT NO. 16048 / FHWA PROJECT NO. x-a001(108)

GENERAL PLANS
(SHEET 2 OF 4)

D&K PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
621764L	15	32

MATCHLINE – STA. 39+20
CONTINUED ON PREVIOUS SHEET



MATCHLINE – STA. 44+70
CONTINUED ON NEXT SHEET

PRELIMINARY DESIGN PLANS - NOT FOR CONSTRUCTION

HORIZONTAL GRAPHIC SCALE
0 10 20 40
1" = 20'

D&K FILE	NAME1	DATE	DATE1
DESIGNED BY	NAME2	DATE	DATE2
CHECKED BY	NAME3	DATE	DATE3

DuBois & King inc.

NOT FOR CONSTRUCTION

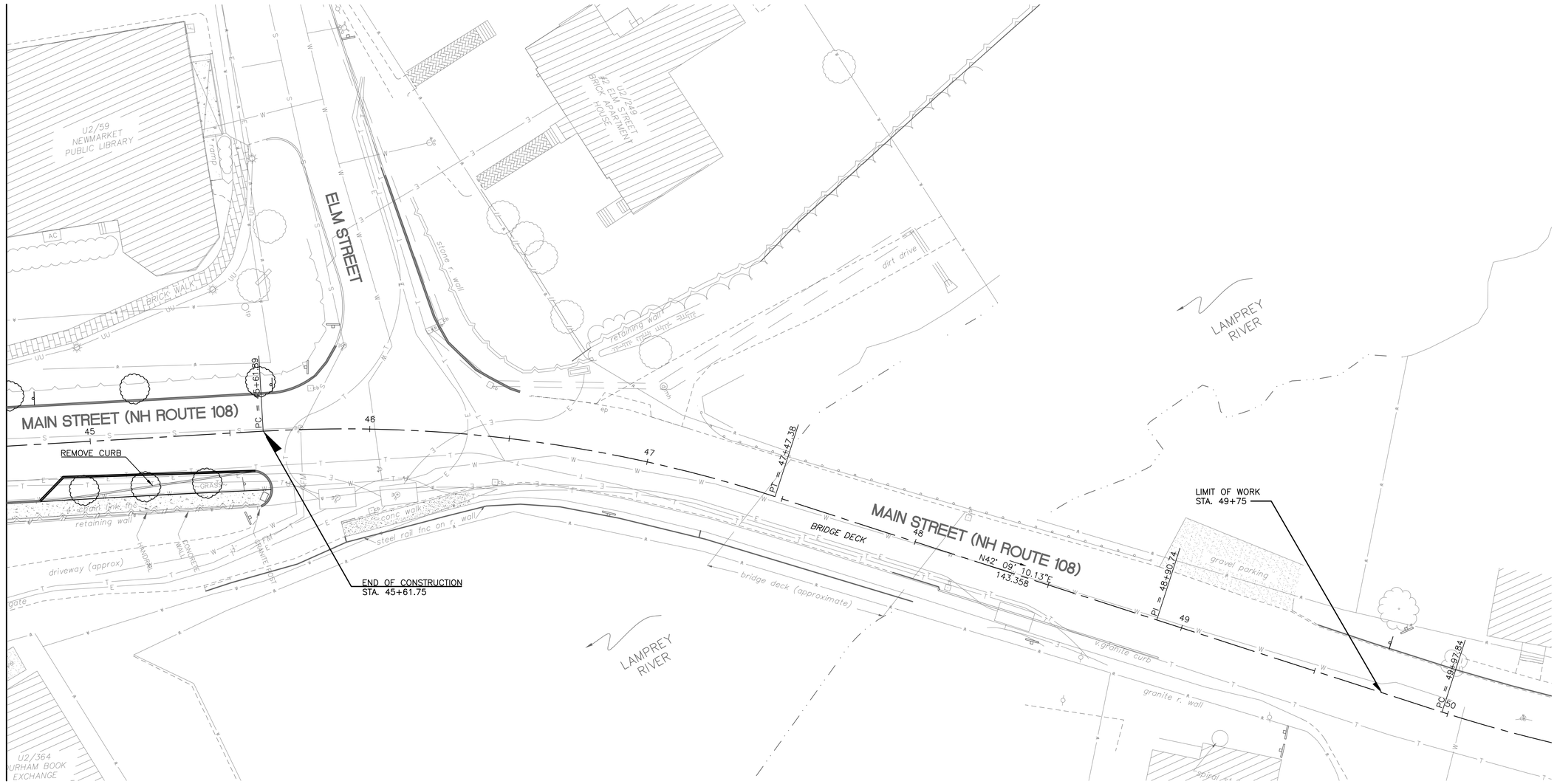
NEWMARKET, NEW HAMPSHIRE

NHDOT PROJECT NO. 16048 / FHWA PROJECT NO. x-a001(108)

GENERAL PLANS
(SHEET 3 OF 4)

D&K PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
621764L	16	32

MATCHLINE – STA. 44+70
CONTINUED ON PREVIOUS SHEET



HORIZONTAL GRAPHIC SCALE
0 10 20 40
1" = 20'

PRELIMINARY DESIGN PLANS - NOT FOR CONSTRUCTION

D&K FILE	NAME1	DATE DATE1
DESIGNED BY	NAME2	DATE DATE2
CHECKED BY	NAME3	DATE DATE3

DuBois & King inc.

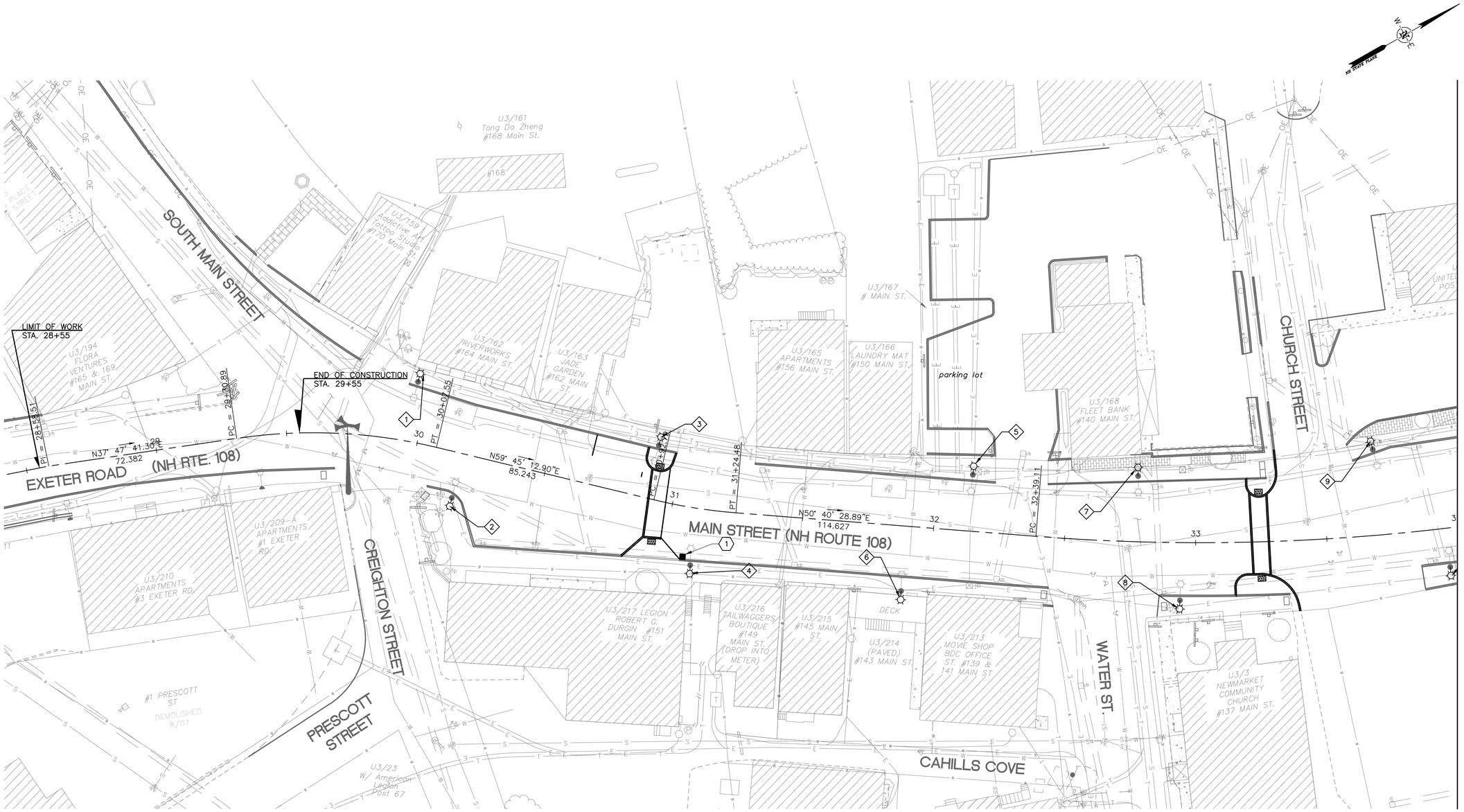
NOT FOR CONSTRUCTION

NEWMARKET, NEW HAMPSHIRE

NHDOT PROJECT NO. 16048 / FHWA PROJECT NO. x-a001(108)

GENERAL PLANS
(SHEET 4 OF 4)

D&K PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
621764L	17	32



1. STA. 31+07.0, RT. 19.1'
CONST. DOGHOUSE MANHOLE
GRATE ELEV. = 27.70

HORIZONTAL GRAPHIC SCALE
0 10 20 40
1" = 20'

PRELIMINARY DESIGN PLANS - NOT FOR CONSTRUCTION

D&K FILE	NAME1	DATE	DATE1
DESIGNED BY	NAME2	DATE	DATE2
CHECKED BY	NAME3	DATE	DATE3

DuBois & King inc.

NOT FOR CONSTRUCTION

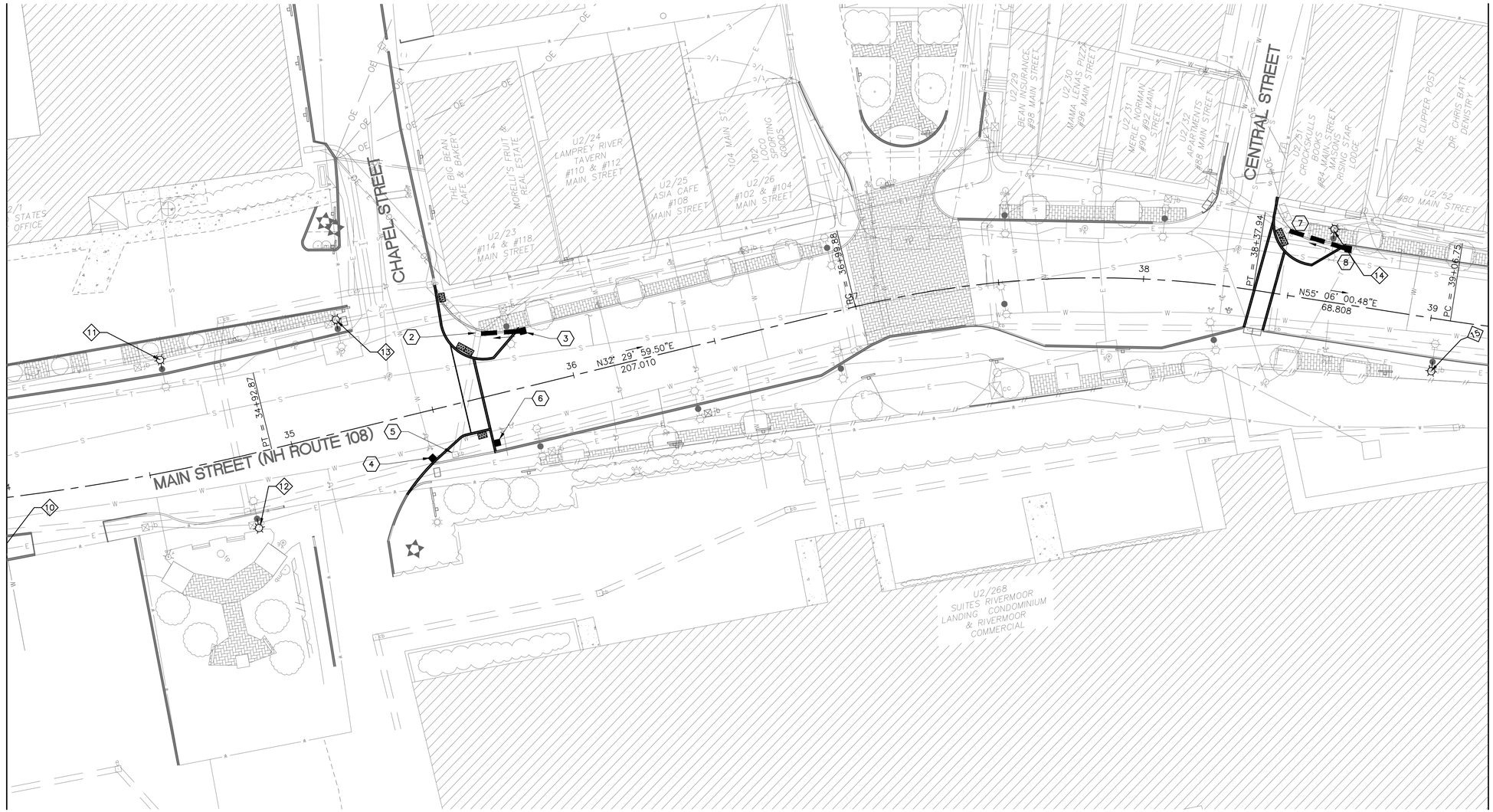
NEWMARKET, NEW HAMPSHIRE

NHDOT PROJECT NO. 16048 / FHWA PROJECT NO. x-a001(108)

DRAINAGE AND UTILITY PLANS
(SHEET 1 OF 3)

D&K PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
621764L	18	32

MATCHLINE – STA. 34+00
CONTINUED ON PREVIOUS SHEET



MATCHLINE – STA. 39+20
CONTINUED ON NEXT SHEET

PRELIMINARY DESIGN PLANS - NOT FOR CONSTRUCTION

2. STA. 35+71.5, LT. 21.7'
   REMOVE EXIST. CB GRATE & FRAME @71.5, LT 21.7'
   & CONST. DMH COVER & FRAME
   FIELD CORE FOR 12" RCP
   INV. IN = 21.32

3. STA. 35+71.5, LT. 21.7' TO 35+86.5, LT. 19.0'
   CONST. 10.5' X 12" RCP
   CONST. CB–B
   INV. OUT = 21.42
   GRATE ELEV. = 24.30

4. STA. 35+46.0, RT. 16.3'
   CONST. DOGHOUSE MANHOLE
   GRATE ELEV. = 23.9

5. STA. 35+53.9, RT. 16.9'
   REMOVE EXIST. CB GRATE & FRAME @53.9, RT 16.9'
   & CONST. DMH COVER & FRAME

6. STA. 35+68.9, RT. 16.4'
   CONST. DOGHOUSE MANHOLE
   GRATE ELEV. = 24.1

7. STA. 38+46.2, LT. 22.3'
   REMOVE EXIST. CB GRATE & FRAME @46.2, LT 22.3'
   & CONST. DMH COVER & FRAME
   FIELD CORE FOR 12" RCP
   INV. IN = 23.72

8. STA. 38+46.2, LT. 22.3' TO 38+68.3, LT. 19.0'
   CONST. 18' X 12" RCP
   CONST. CB–B
   INV. OUT = 24.10
   GRATE ELEV. = 28.10

HORIZONTAL GRAPHIC SCALE
0 10 20 40
1" = 20'

DuBois & King inc.

NOT FOR CONSTRUCTION

NEWMARKET, NEW HAMPSHIRE

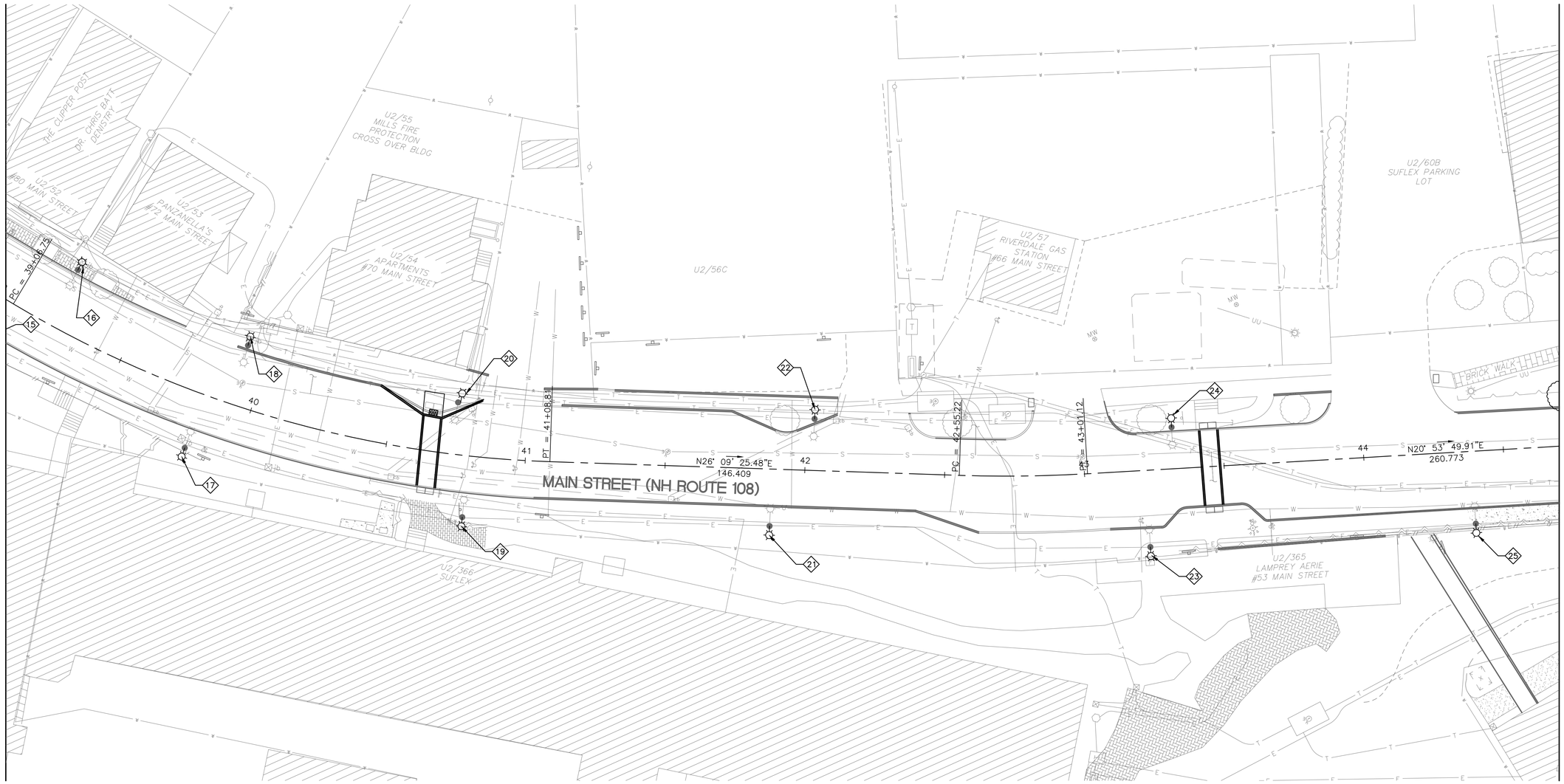
NHDOT PROJECT NO. 16048 / FHWA PROJECT NO. x–a001(108)

DRAINAGE AND UTILITY PLANS (SHEET 2 OF 3)

D&K PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
621764L	19	32

D&K FILE	NAME1	DATE DATE1
DESIGNED BY	NAME2	DATE DATE2
CHECKED BY	NAME3	DATE DATE3

MATCHLINE – STA. 39+20
CONTINUED ON PREVIOUS SHEET



MATCHLINE – STA. 44+70
CONTINUED ON NEXT SHEET

HORIZONTAL GRAPHIC SCALE
0 10 20 40
1" = 20'

PRELIMINARY DESIGN PLANS - NOT FOR CONSTRUCTION

D&K FILE	NAME1	DATE	DATE1
DESIGNED BY	NAME2	DATE	DATE2
CHECKED BY	NAME3	DATE	DATE3

DuBois & King inc.

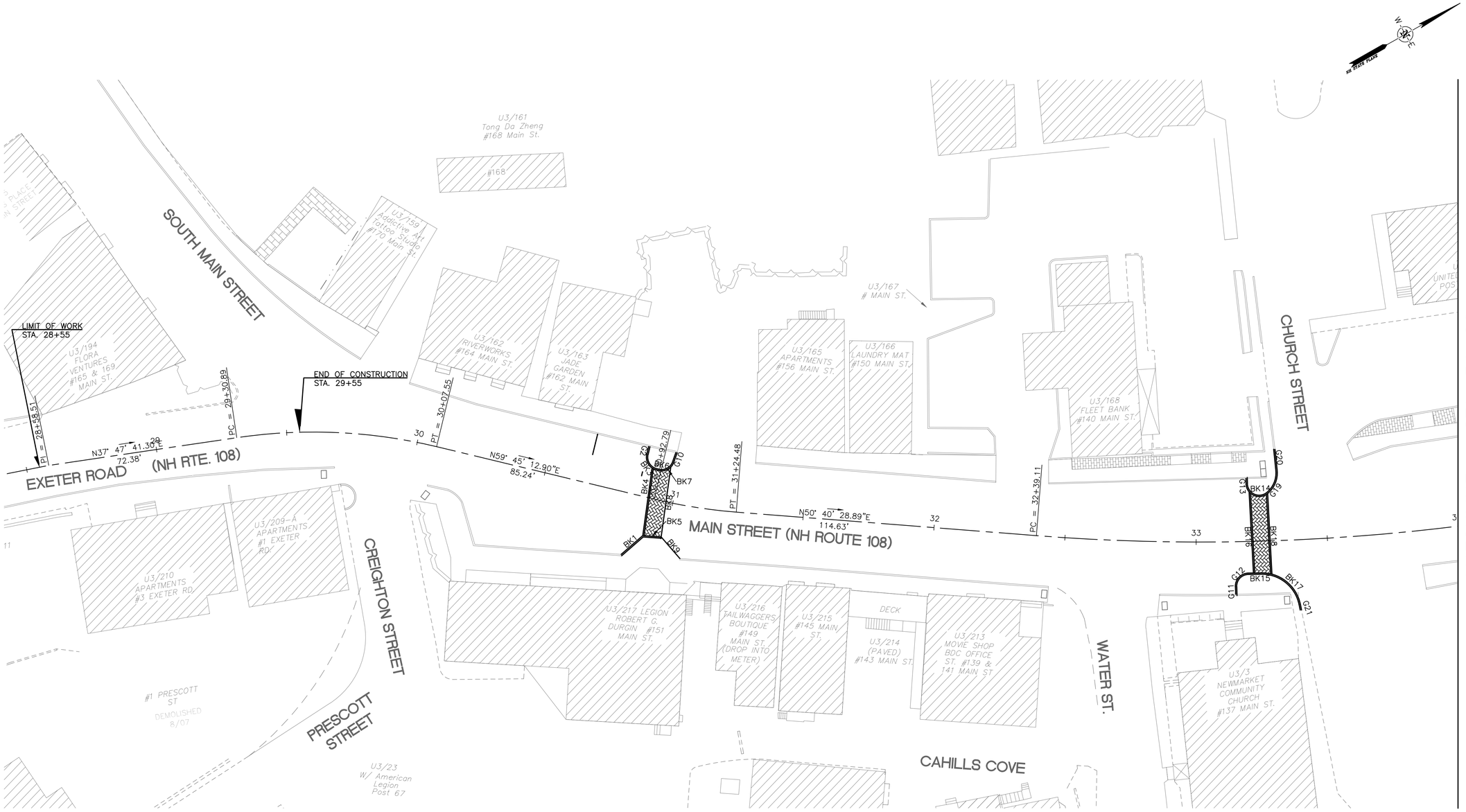
NOT FOR CONSTRUCTION

NEWMARKET, NEW HAMPSHIRE

NHDOT PROJECT NO. 16048 / FHWA PROJECT NO. x-a001(108)

DRAINAGE AND UTILITY PLANS
(SHEET 3 OF 3)

D&K PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
621764L	20	32



MATCHLINE – STA. 34+00
CONTINUED ON NEXT SHEET

HORIZONTAL GRAPHIC SCALE
0 10 20 40
1" = 20'

PRELIMINARY DESIGN PLANS - NOT FOR CONSTRUCTION

D&K FILE	NAME1	DATE	DATE1
DESIGNED BY	NAME2	DATE	DATE2
CHECKED BY	NAME3	DATE	DATE3

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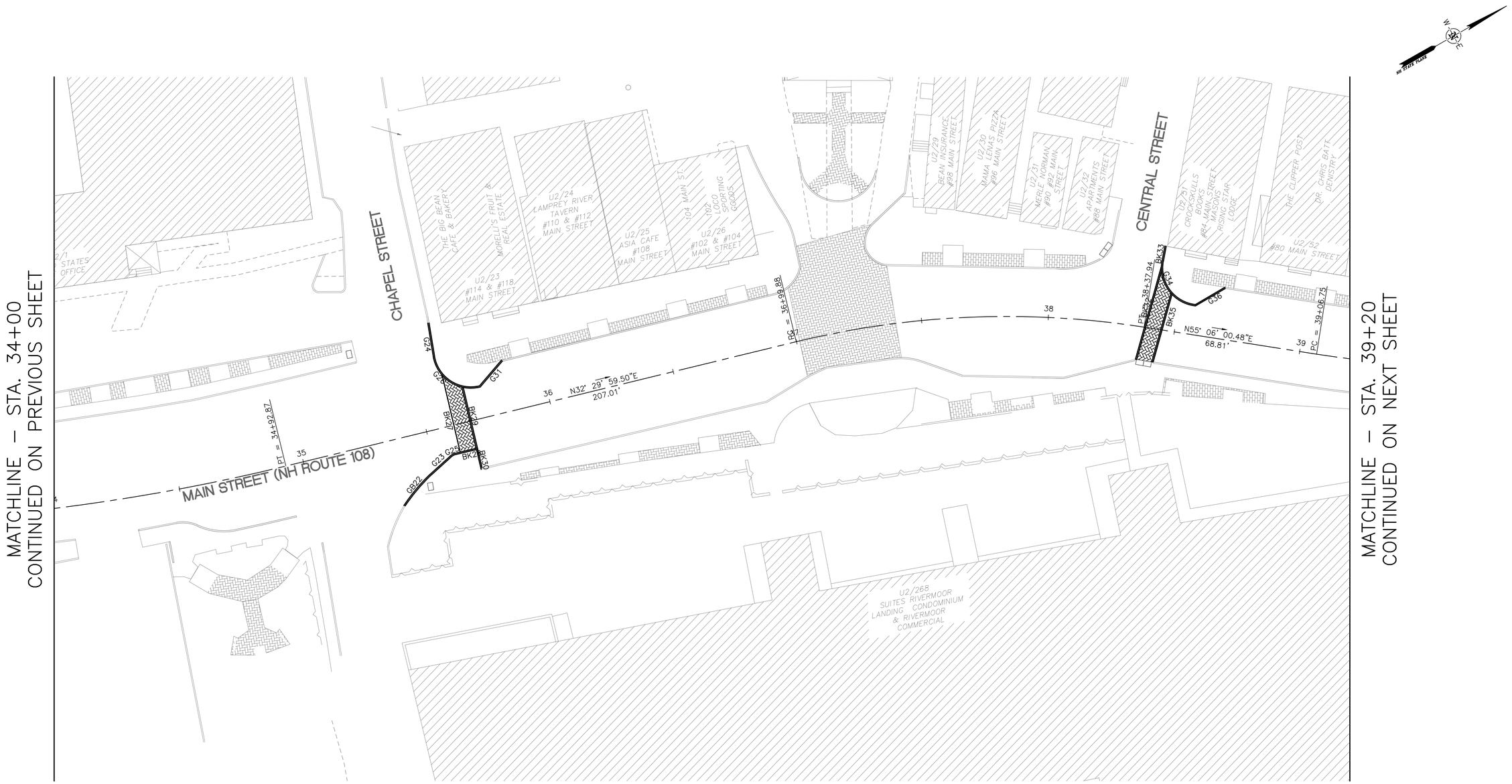
NEWMARKET, NEW HAMPSHIRE

NHDOT PROJECT NO. 16048 / FHWA PROJECT NO. x-a001(108)

CURBING AND PAVEMENT LAYOUT
(SHEET 1 OF 4)

D&K PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
621764L	21	32



PRELIMINARY DESIGN PLANS - NOT FOR CONSTRUCTION

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DESIGNED BY	NAME2	DATE DATE2
CHECKED BY	NAME3	DATE DATE3

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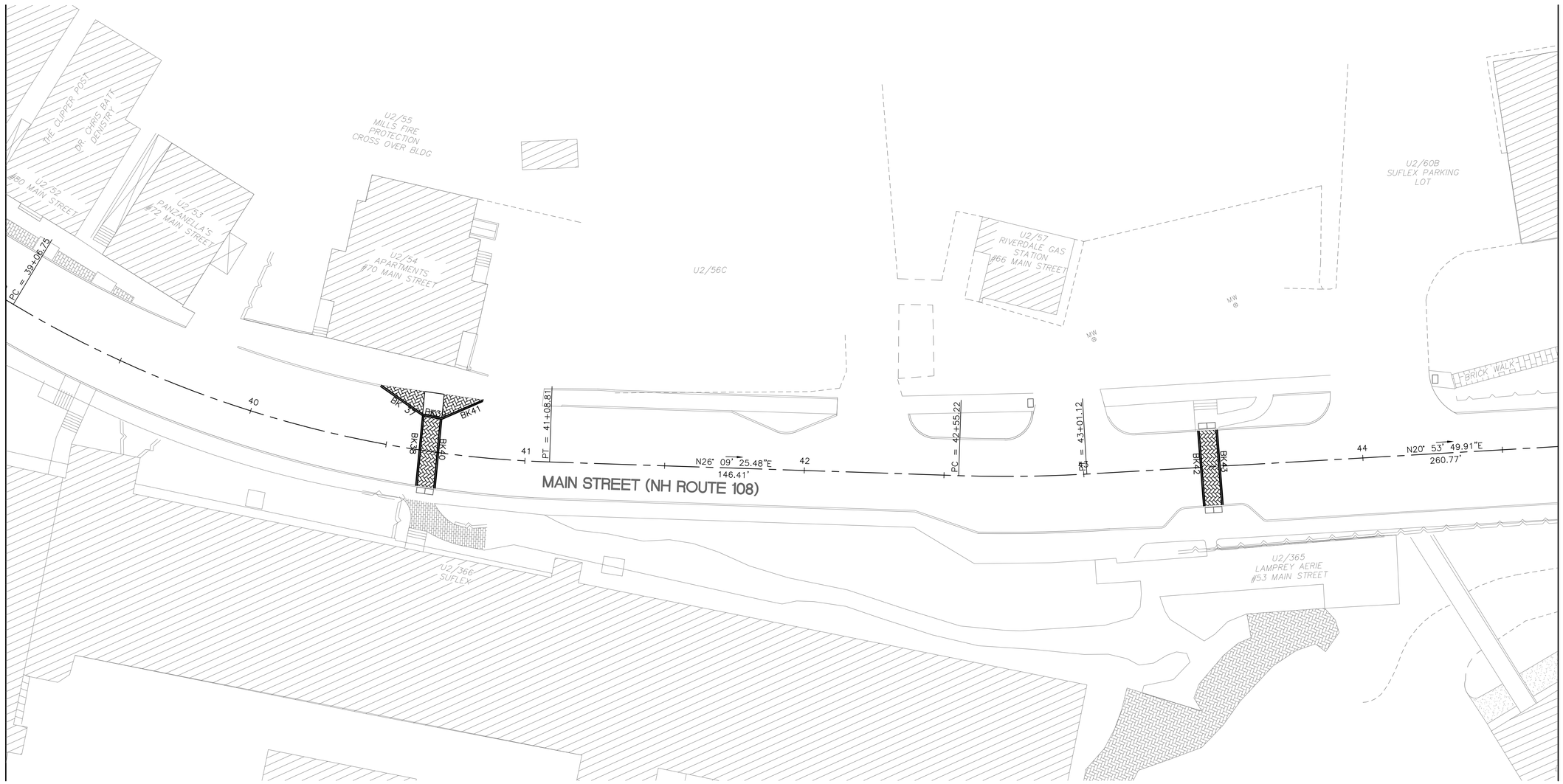
NEWMARKET, NEW HAMPSHIRE

NHDOT PROJECT NO. 16048 / FHWA PROJECT NO. x-a001(108)

CURBING AND PAVEMENT LAYOUT
(SHEET 2 OF 4)

D&K PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
621764L	22	32

MATCHLINE – STA. 39+20
CONTINUED ON PREVIOUS SHEET



MATCHLINE – STA. 44+70
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HORIZONTAL GRAPHIC SCALE
0 10 20 40
1" = 20'

PRELIMINARY DESIGN PLANS - NOT FOR CONSTRUCTION

D&K FILE	NAME1	DATE DATE1
DESIGNED BY	NAME2	DATE DATE2
CHECKED BY	NAME3	DATE DATE3

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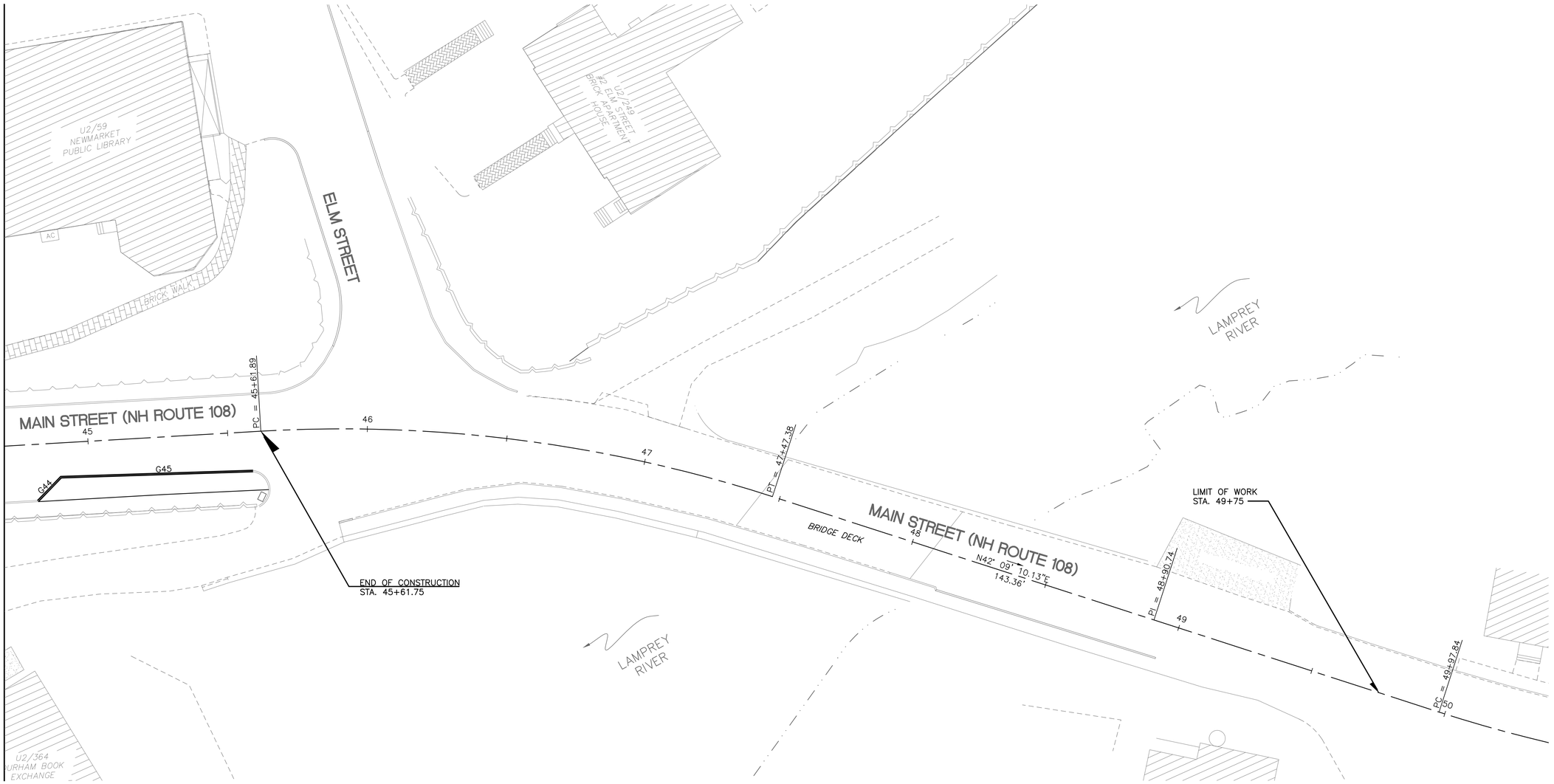
NHDOT PROJECT NO. 16048 / FHWA PROJECT NO. x-a001(108)

CURBING AND PAVEMENT LAYOUT
(SHEET 3 OF 4)

D&K PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
621764L	23	32

MATCHLINE – STA. 44+70
CONTINUED ON PREVIOUS SHEET



HORIZONTAL GRAPHIC SCALE
0 10 20 40
1" = 20'

PRELIMINARY DESIGN PLANS - NOT FOR CONSTRUCTION

D&K FILE	NAME1	DATE DATE1
DESIGNED BY	NAME2	DATE DATE2
CHECKED BY	NAME3	DATE DATE3

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NEWMARKET, NEW HAMPSHIRE

NHDOT PROJECT NO. 16048 / FHWA PROJECT NO. x-a001(108)

CURBING AND PAVEMENT LAYOUT
(SHEET 4 OF 4)

D&K PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
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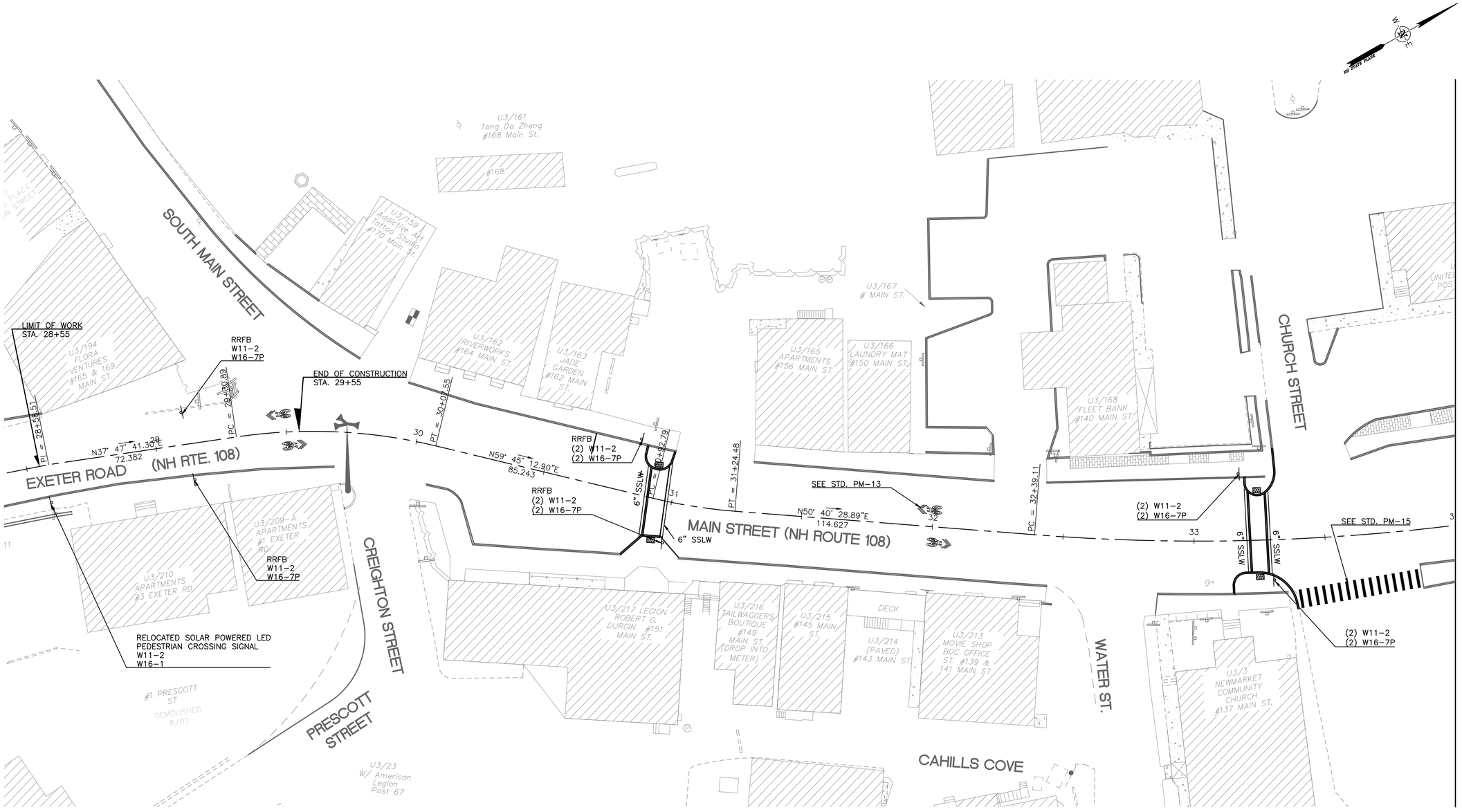

HORIZONTAL GRAPHIC SCALE
0 10 20 40
1" = 20'

PRELIMINARY DESIGN PLANS - NOT FOR CONSTRUCTION

D&K FILE	NAME1	DATE DATE1
DESIGNED BY	NAME2	DATE DATE2
CHECKED BY	NAME3	DATE DATE3

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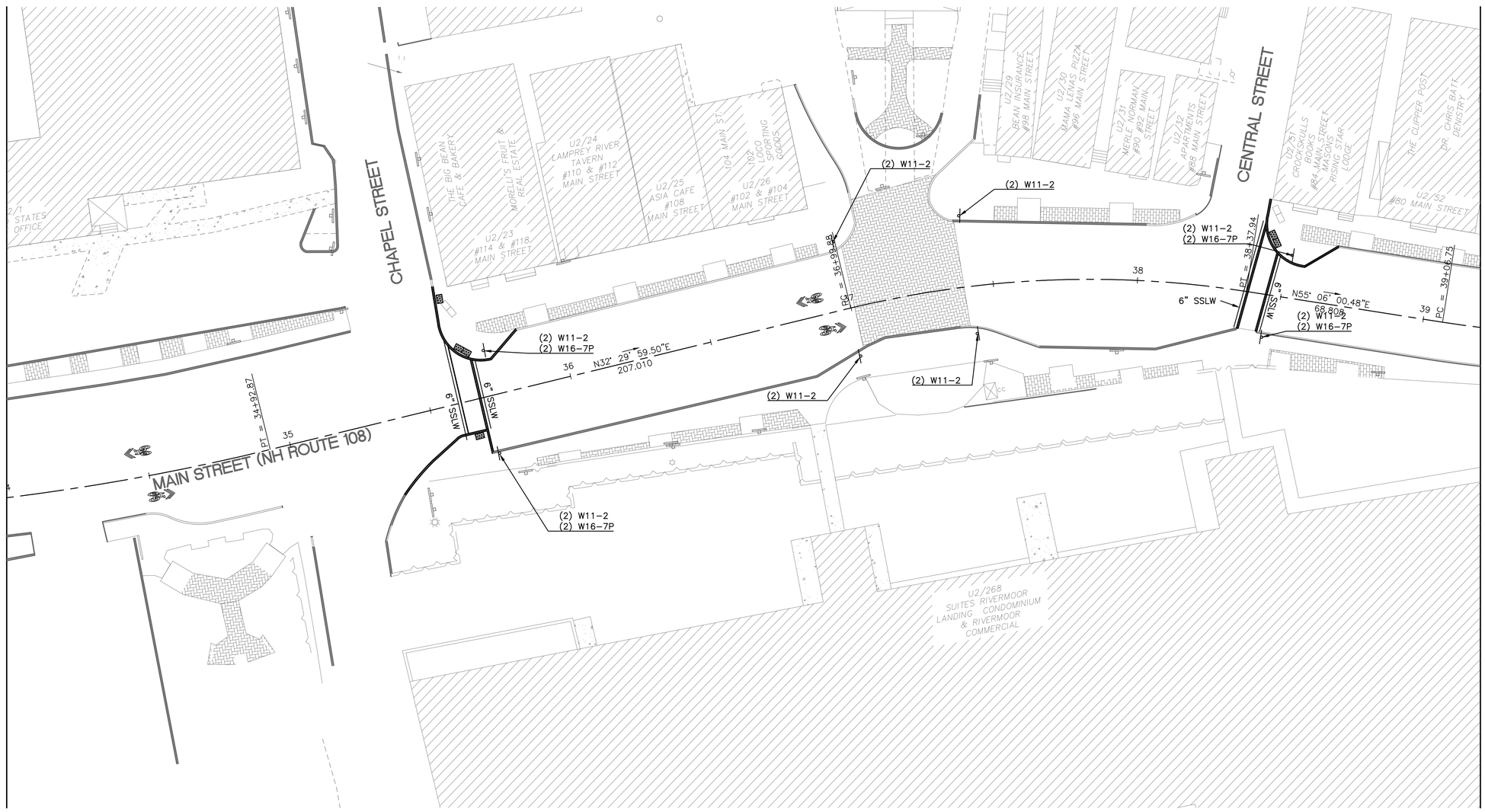
NEWMARKET, NEW HAMPSHIRE

NHDOT PROJECT NO. 16048 / FHWA PROJECT NO. x-a001(108)

PAVEMENT MARKING AND SIGNING
(SHEET 1 OF 4)

D&K PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
621764L	25	32

MATCHLINE – STA. 34+00
CONTINUED ON PREVIOUS SHEET



MATCHLINE – STA. 39+20
CONTINUED ON NEXT SHEET

HORIZONTAL GRAPHIC SCALE
0 10 20 40
1" = 20'

PRELIMINARY DESIGN PLANS - NOT FOR CONSTRUCTION

D&K FILE	NAME1	DATE	DATE1
DESIGNED BY	NAME2	DATE	DATE2
CHECKED BY	NAME3	DATE	DATE3

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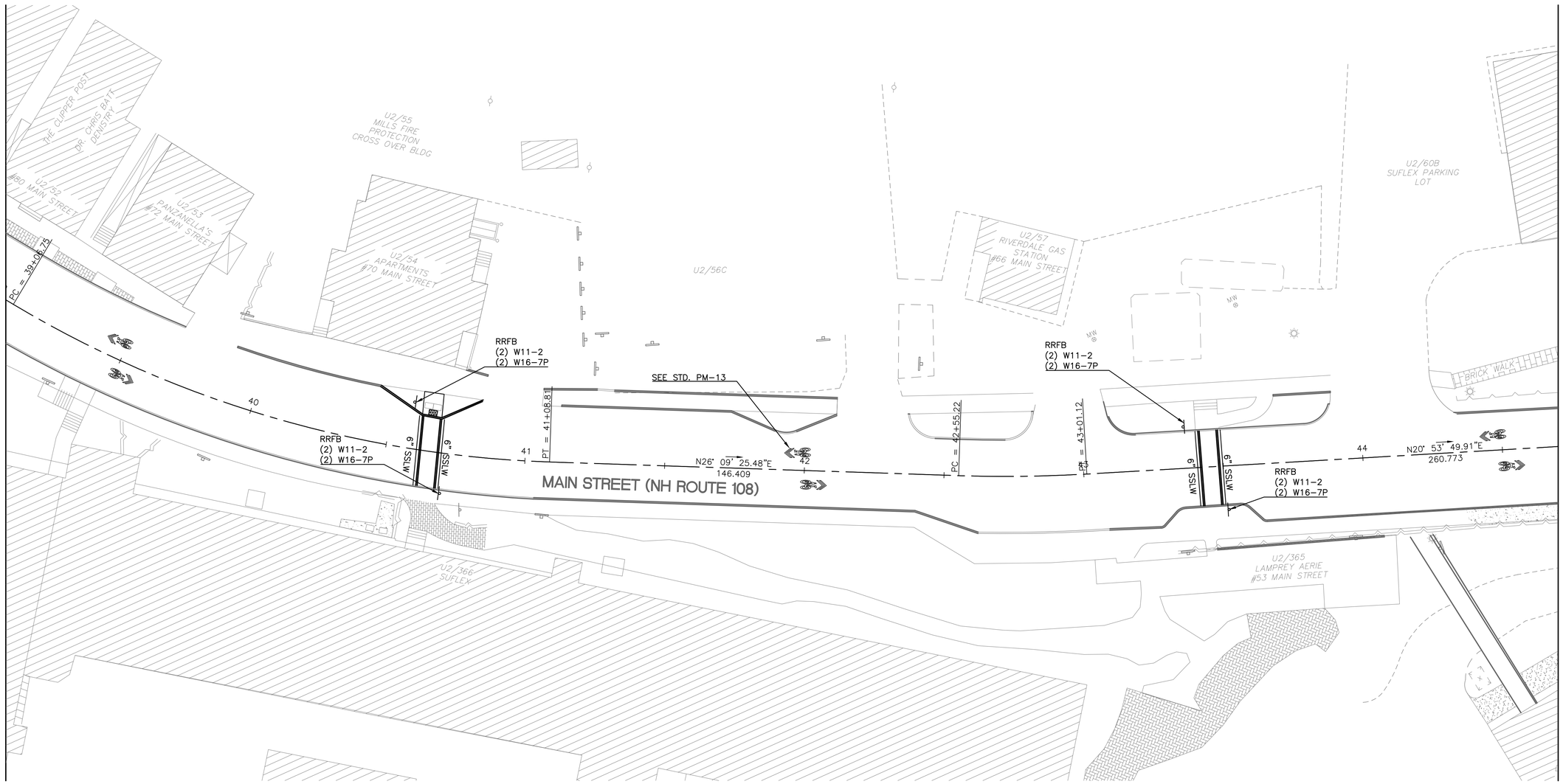
NEWMARKET, NEW HAMPSHIRE

NHDOT PROJECT NO. 16048 / FHWA PROJECT NO. x-a001(108)

PAVEMENT MARKING AND SIGNING
(SHEET 2 OF 4)

D&K PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
621764L	26	32

MATCHLINE – STA. 39+20
CONTINUED ON PREVIOUS SHEET



MATCHLINE – STA. 44+70
CONTINUED ON NEXT SHEET

HORIZONTAL GRAPHIC SCALE
0 10 20 40
1" = 20'

PRELIMINARY DESIGN PLANS - NOT FOR CONSTRUCTION

D&K FILE	NAME1	DATE	DATE1
DESIGNED BY	NAME2	DATE	DATE2
CHECKED BY	NAME3	DATE	DATE3

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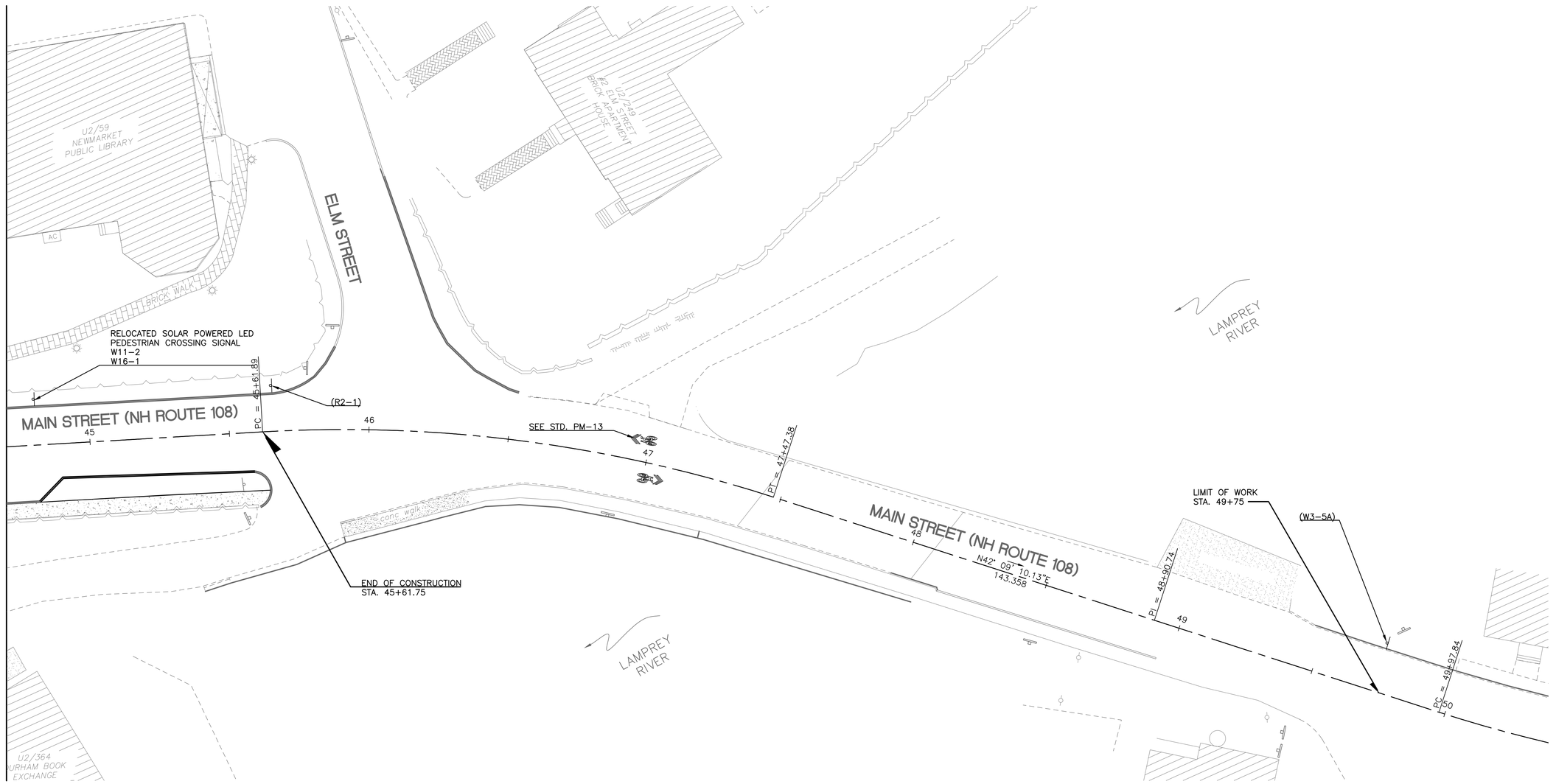
NEWMARKET, NEW HAMPSHIRE

NHDOT PROJECT NO. 16048 / FHWA PROJECT NO. x-a001(108)

PAVEMENT MARKING AND SIGNING (SHEET 3 OF 4)

D&K PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
621764L	27	32

MATCHLINE – STA. 44+70
CONTINUED ON PREVIOUS SHEET



HORIZONTAL GRAPHIC SCALE
0 10 20 40
1" = 20'

PRELIMINARY DESIGN PLANS - NOT FOR CONSTRUCTION

D&K FILE	NAME1	DATE	DATE1
DESIGNED BY	NAME2	DATE	DATE2
CHECKED BY	NAME3	DATE	DATE3

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NEWMARKET, NEW HAMPSHIRE

NHDOT PROJECT NO. 16048 / FHWA PROJECT NO. x-a001(108)

PAVEMENT MARKING AND SIGNING
(SHEET 4 OF 4)

D&K PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
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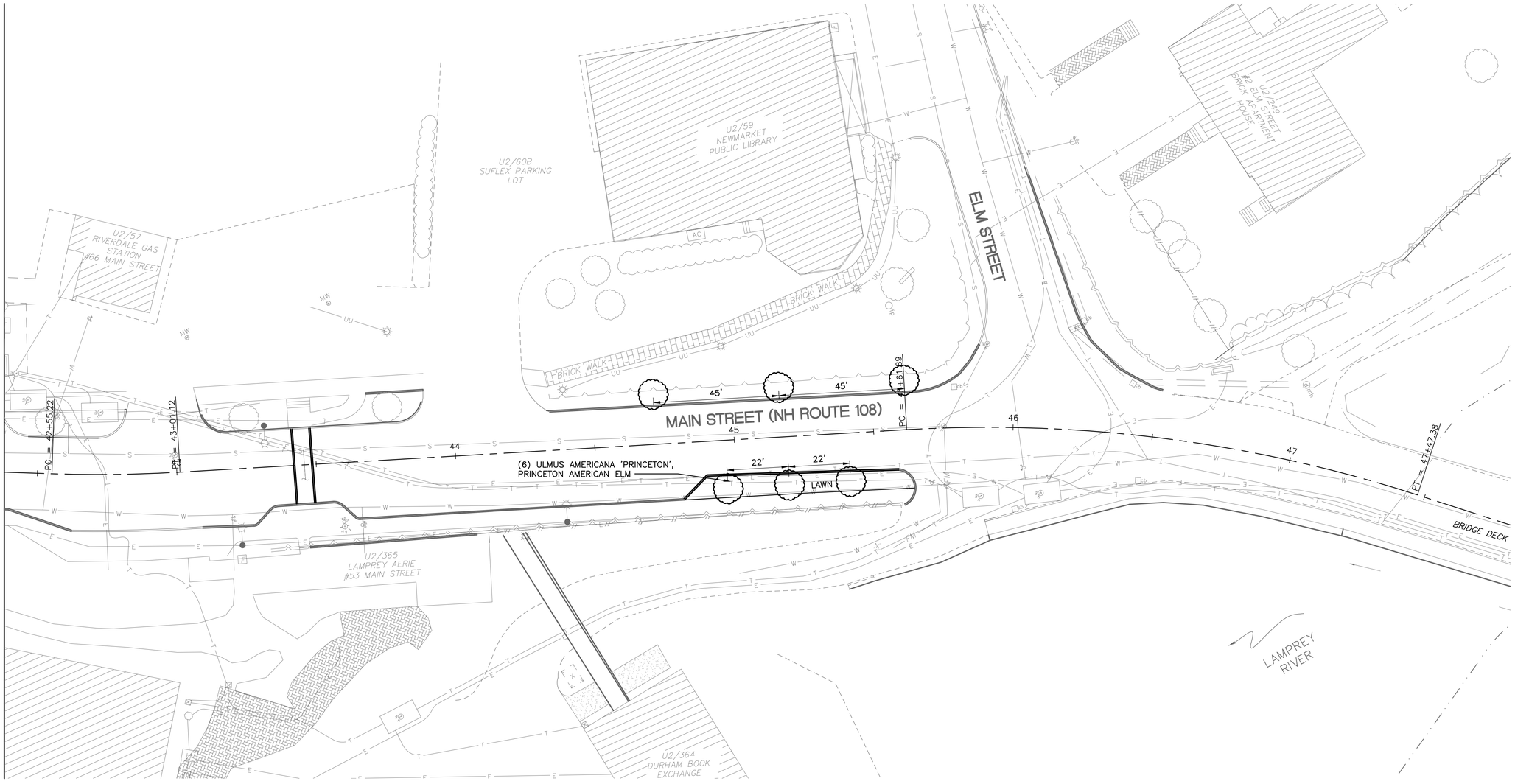

HORIZONTAL GRAPHIC SCALE
0 10 20 40
1" = 20'

PRELIMINARY DESIGN PLANS - NOT FOR CONSTRUCTION

D&K FILE	NAME1	DATE	DATE1
DESIGNED BY	NAME2	DATE	DATE2
CHECKED BY	NAME3	DATE	DATE3

DuBois & King inc.

NOT FOR CONSTRUCTION

NEWMARKET, NEW HAMPSHIRE

NHDOT PROJECT NO. 16048 / FHWA PROJECT NO. x-a001(108)

LANDSCAPING PLAN

D&K PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
621764L	29	32

TRAFFIC CONTROL NOTES:

1. TRAFFIC CONTROL DEVICES NOT DETAILED IN THE NEW HAMPSHIRE AGENCY OF TRANSPORTATION (NHDOT) "STANDARD DRAWINGS" OR THE PROJECT PLANS SHALL BE IN ACCORDANCE WITH THE "MANUAL ON TRAFFIC CONTROL DEVICES" (MUTCD) AND THE "STANDARD HIGHWAY SIGNS AND MARKINGS" BOOK (SHSM) PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION (FHWA).

2. CONSTRUCTION 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 ERECTED IN A NEAT AND WORKMANLIKE MANNER.

3. CONSTRUCTION SIGN COVERS SHALL CONSIST OF A PANEL, PAINTED FLAT BLACK, THE SAME SIZE AS THE SIGN IT COVERS. THE PANEL SHALL BE OF WOOD, PLYWOOD, HARDBOARD OR ANY MATERIAL SATISFACTORY TO THE ENGINEER. NO MATERIAL WILL BE APPROVED THAT WILL DETERIORATE BY EXPOSURE TO THE WEATHER DURING THE PROJECT. MOUNTING OF THE PANEL SHALL BE DONE IN SUCH A WAY AS NOT TO DAMAGE THE SIGN FACE MATERIAL.

4. SIGNS SHALL BE MAINTAINED IN A CLEAN AND LEGIBLE CONDITION SATISFACTORY TO THE ENGINEER. THEY SHALL BE KEPT PLUMB AND LEVEL, AND ALWAYS PRESENT A NEAT APPEARANCE. DAMAGED, DEFACED OR DIRTY SIGNS SHALL BE REPAIRED, CLEANED OR REPLACED AS ORDERED BY THE ENGINEER.

5. NO CROSS-BRACING OR BACK-BRACING TO KEEP POSTS PLUMB WILL BE ALLOWED. CONCRETE FOUNDATIONS, COLLARS OR SOIL BEARING PLATES ARE NOT PERMITTED. CONSTRUCTION SIGNS SHALL BE PLACED ON TWO POSTS.

6. CONSTRUCTION SIGNS INSTALLED ON POSTS SHALL BE SET SECURELY IN THE GROUND. THE BOTTOM OF A SIGN SHALL BE AT LEAST FIVE FEET ABOVE THE EDGE OF PAVEMENT AND THE NEAREST EDGE OF A SIGN SHALL BE AT LEAST SIX FEET OUTSIDE THE SHOULDER POINT, FOUR FEET OUTSIDE GUARDRAIL, OR TWO FEET OUTSIDE CURBING OR SIDEWALK. THE INSTALLATION OF SIGNS SHALL BE SUBJECT TO APPROVAL OF THE ENGINEER. IN URBAN AREAS, THE BOTTOM OF THE SIGN SHALL BE AT LEAST SEVEN FEET ABOVE THE SIDEWALK OR EDGE OF PAVEMENT, WHICHEVER IS HIGHER.

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

8. SIGNS SHALL BE REMOVED UPON COMPLETION OF THE WORK AT THE DISCRETION OF THE ENGINEER.

9. ROLL UP CONSTRUCTION SIGNS SHALL HAVE RETROREFLECTIVE SHEETING EQUAL TO OR EXCEEDING THE "AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS" (AASHTO) M 268 ["AMERICAN SOCIETY FOR TESTING AND MATERIALS" (ASTM) D 4956] TYPE VI AND TYPE VI I UNLESS OTHERWISE NOTED.

10. SOLID SUBSTRATE CONSTRUCTION SIGNS SHALL HAVE RETROREFLECTIVE SHEETING EQUAL TO OR EXCEEDING THE "AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS" (AASHTO) M 268 ["AMERICAN SOCIETY FOR TESTING AND MATERIALS" (ASTM) D 4956] TYPE VI I I OR IX REQUIREMENTS UNLESS OTHERWISE NOTED.

11. WHERE CONSTRUCTION SIGN INSTALLATIONS ARE NOT PROTECTED BY GUARDRAIL OR OTHER APPROVED TRAFFIC BARRIERS, ALL SIGN STANDS AND POST INSTALLATIONS SHALL MEET "NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM" (NCHRP) REPORT 350 OR THE AASHTO "MANUAL FOR ASSESSING SAFETY HARDWARE" (MASH). THE APPROPRIATE RESOURCE SHALL BE DETERMINED AS DESCRIBED IN THE MASH PUBLICATION. NO SIGN POSTS SHALL EXTEND OVER THE TOP OF THE SIGN INSTALLED ON SAID POSTS. WHEN ANCHORS ARE INSTALLED, STUBS SHALL NOT BE GREATER THAN FOUR INCHES ABOVE EXISTING GROUND.

12. ROADWAY AND SHOULDER WIDTHS DEPICTED ON THE STANDARD DRAWINGS MAY VARY.

13. THESE STANDARD DRAWINGS ARE INTENDED TO SERVE AS NHDOT STANDARD OPERATING PROCEDURE. IT IS NOTED THAT COMPONENT PARTS OF A TEMPORARY TRAFFIC CONTROL WORK ZONE MAY BE MODIFIED DUE TO FIELD CONDITIONS, AT THE DISCRETION OF THE ENGINEER.

14. THE CONTRACTOR SHALL PROVIDE ACCESS THROUGH THE WORK ZONE FOR EMERGENCY VEHICLES AT ALL TIMES.

15. A MINIMUM LANE WIDTH OF 10 FT. SHALL BE MAINTAINED.

16. WHEN COLD PLANED BITUMINOUS PAVEMENT IS OPEN TO TRAFFIC, A "MOTORCYCLES USE CAUTION" SIGN SHALL BE PROVIDED.

17. THE CONTRACTOR SHOULD LEAVE NO LONGITUDINAL DROP-OFFS DURING THE OVERNIGHT HOURS. THEREFORE, THE FULL ROADWAY WIDTH SHOULD BE COLD PLANED OR PAVED DURING THE DAILY WORK PERIOD.

18. MAINTAIN ACCESS TO ALL PROPERTIES AT ALL TIMES FOR EMERGENCY VEHICLES. MAINTAIN ACCESS TO ALL COMMERCIAL AND MUNICIPAL PROPERTIES DURING BUSINESS HOURS. ACCESS TO RESIDENTIAL PROPERTIES MAY BE RESTRICTED FOR A SHORT DURATION (A FEW HOURS). THIS WORK WILL BE COORDINATED WITH THE OWNER. COORDINATE MAJOR WORK ON COMMERCIAL OR MUNICIPAL ACCESSES WITH THE OWNER AT LEAST ONE WEEK PRIOR TO STARTING THE WORK. ALL ACCESSES SHALL ALSO BE KEPT FREE OF WORK AND TRAFFIC CONTROLLED BY UNIFORMED TRAFFIC OFFICERS OR FLAGGERS AS REQUIRED BY THE ENGINEER.

19. TRAFFIC SHALL NOT BE CHANGED FROM ONE TRAFFIC PATTERN TO THE NEXT TRAFFIC PATTERN UNTIL ALL TEMPORARY MARKINGS, SIGNING AND SIGNAL WORK ARE COMPLETED. ANY CONFLICTING MARKINGS SHALL BE REMOVED.

20. ALL PERMANENT SIGNS WHICH CONFLICT WITH TEMPORARY TRAFFIC CONTROL MUST BE COMPLETELY COVERED.

21. ALL REASONABLE EFFORTS SHALL BE MADE TO ACCOMMODATE PEDESTRIAN TRAVEL AT ALL TIMES. THIS CAN INCLUDE, BUT IS NOT LIMITED TO A DEDICATED PEDESTRIAN ESCORT, SIGNAGE AND CONED OFF WALKING AREAS WITHIN CLOSED LANES. FLAGGERS SHALL NOT BE USED AS PEDESTRIAN ESCORTS. WHEN EXISTING PEDESTRIAN FACILITIES ARE DISRUPTED, CLOSED, OR RELOCATED IN A TEMPORARY TRAFFIC CONTROL ZONE, THE TEMPORARY FACILITIES SHALL BE DETECTABLE AND SHALL INCLUDE ACCESSIBILITY FEATURES CONSISTENT WITH THE FEATURES PRESENT IN THE EXISTING PEDESTRIAN FACILITY. PAYMENT WILL BE INCLUDED IN THE UNIT PRICE FOR ITEM 641.10 TRAFFIC CONTROL.

22. PLEASE NOTE THAT THE UTO (UNIFORMED TRAFFIC OFFICER), UNDER AUTHORITY GRANTED BY LAW (TITLE 23 VSA) MAY DIRECT AND CONTROL TRAFFIC. SUITABLE EXAMPLES IN WORK MIGHT INCLUDE THE DIRECTION AND CONTROLS OF TRAFFIC AT INTERSECTIONS WHERE SIGNALS ARE NOT FUNCTIONING OR ARE MALFUNCTIONING. IN THESE CASES, THE PRESENCE OF THE BLUE LIGHT MAY NOT BE SUITABLE OR NECESSARY. THE WEARING OF DEPARTMENTALLY REQUIRED AND APPROVED REFLECTIVE GARMENTS IS REQUIRED.

D&K FILE	NAME1	DATE DATE1
DESIGNED BY	NAME2	DATE DATE2
CHECKED BY	NAME3	DATE DATE3

PRELIMINARY DESIGN PLANS - NOT FOR CONSTRUCTION

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NEWMARKET, NEW HAMPSHIRE

NHDOT PROJECT NO. 16048 / FHWA PROJECT NO. x-a001(108)

TRAFFIC CONTROL NOTES (SHEET 1 OF 2)

D&K PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
621764L	30	32

TC-1

AMENDMENTS TO PART VI OF THE MUTCD (2003 EDITION)

TC-1

NOTE: TC-1 through TC-8 amend Part VI of the 2003 Edition of the MUTCD by superseding or supplementing certain Sections. They shall be used in conjunction with the MUTCD and the Specifications for work zone traffic control on all projects.

1. Section 6C.04, Tables 6C–1 and 6H–3. "Urban (low speed)" shall be defined as those roadways with regulatory speed limits of 30 mph or less; "Urban (high speed)" shall be defined as those roadways with regulatory speed limits of 35 mph and greater.

2. Section 6F.03, Sign Placement. Add the following paragraph as a "Standard" heading:

   Actual placement of construction signs shall be carefully considered to avoid obstructing existing signs or allowing existing signs, vegetation or other physical features to obstruct or limit visibility to construction signs. Construction signs shall also be placed at locations that avoid overwhelming motorists with information when combined with existing signs.

3. Section 6F.59, Cones. Replace the second paragraph under the heading "Standard" with the following:

   Cones shall not be used for either long–term stationary or intermediate–term stationary work applications (as defined in Section 6G.02–Work Duration). Cones, regardless of size, shall not be used at night as the primary channelization device, except during work hours. Cones may, however, be used to supplement other channelizing devices such as drums and barricades in place at night. For nighttime use, cones shall be retroreflectorized or equipped with lighting devices for maximum visibility. Retroreflectorization of 700 mm (28 in.) or larger cones shall be provided by a white band 150 mm (6 in.) wide located 75 to 100 mm (3 to 4 in.) from the top of the cone and an additional 100 mm (4 in.) wide band approximately 50 mm (2 in.) below the 150 mm (6 in.) band.

4. Section 6F.60, Tubular Markers. Replace the "Standard" section with the following:

   Tubular markers (see Figure 6F–7) shall be predominately orange and shall be not less than 1050 mm (42 in.) high and 75 mm (3 in.) wide when facing road users. They shall be made of a material that can be struck without causing damage to the impacting vehicle.

   For nighttime use, tubular markers shall be retroreflectorized. Retroreflectorization of tubular markers shall be provided by three 100 mm (4 in.) wide white bands placed a maximum of 50 mm (2 in.) from the top, with a minimum of 50 mm (2 in.) and maximum 150 mm (6 in.) between the bands.

5. Section 6F.62, Drums. Replace the first sentence of the "Standard" section with the following:

   Drums (see Figure 6F–7) used for road user warning or channelization shall be predominately orange and shall be constructed of lightweight, deformable materials.

6. Section 6F.72 – Temporary Pavement Markings. Replace the paragraphs under the headings "Guidance" and "Standard" with the following "Standard" heading paragraphs:

   (a) Temporary pavement markings shall not be in place for more than 2 weeks, except for temporary raised pavement markers on divided highways, which shall not be in place for more than 1 week (see note (b) under Temporary Raised Pavement Markers, Section 6F.73).

   (b) Temporary yellow centerline pavement markings shall be retroreflectorized paint or tape or removable raised pavement markers (see note (a) under Temporary Raised Pavement Markers, Section 6F.73).

   (c) All temporary white broken–line pavement markings for traffic moving in the same direction shall be retroreflectorized paint or tape (see note (b) under Temporary Raised Pavement Markers, Section 6F.73). Temporary paint or tape markings shall use the same cycle length (N) as permanent markings, i.e., 12 m (40 ft.) and be at least 1.2 m. (4 ft.) long, except that half–cycle lengths (N/2) with a minimum of 0.6 m (2 ft.) stripes should be used for roadways with severe curvature (see Section 3A.05).

   (d) Edgelines, channelizing lines, lane reduction transitions, gore markings, and non–longitudinal lines (e.g., stop lines, railroad crossings, crosswalks, words, symbols, etc.) are usually not required for temporary situations. Their use should be evaluated on a project by project basis based on field conditions, relative traffic speeds and volumes, and the use of other traffic control devices. When used, temporary markings for these types of longitudinal and non–longitudinal lines shall be retroreflectorized paint or tape and conform to MUTCD Part 3 Chapters 3A and 3B.

7. Section 6F.73 – Raised Pavement Markers. Change Section title to Temporary Raised Pavement Markers and replace the entire Section with the following paragraphs:

   (a) Temporary raised pavement markers may be used for double yellow centerline pavement markings on two–way roadways prior to placement of full MUTCD standard pavement markings. They shall be removable yellow retroreflectorized double–face temporary raised pavement markers and shall be placed in pairs, separated by a lateral space of approximately 75 mm (3 in.), using a maximum cycle length of N, i.e., 12 m (40 ft.). On sections of roadway with severe curvature (horizontal and/or vertical), lesser cycle lengths should be used so that at least 3 pairs of markers are visible to approaching traffic at all times. Whenever temporary raised pavement markers are used for centerline pavement markings, "DO NOT PASS" (R4–1) signs may be installed for added emphasis.

   (b) Temporary raised pavement markers may also be used for up to 1 week to delineate lane separation on divided highways prior to placement of full MUTCD standard pavement markings. They shall be removable white retroreflectorized single face temporary raised pavement markers placed individually using a maximum cycle length of N, i.e., 12 m (40 ft.)

8. Section 6H.01, Typical Applications. Add the following paragraph as a "Standard" heading:

   Many diagrams show ROAD WORK (W20–1), ROAD WORK NEXT XX MILES (G20–1), and END ROAD WORK (G20–2a) signs being used for the activities. These signs may be omitted if the activity is being performed within the limits of a larger project and the signs are in place as part of the Advance Warning Area or Termination Area for the larger project (see NHDOT Work Zone Traffic Control Standard Plan TC–2).

9. Section 6H.01, Figure 6H–12. Add to the diagram a distance of 15 m (50 ft.) for the minimum distance between the stop line and the portable barrier.

10. Section 6H.01, Figure 6H–14. The diagram for the unsignalized crossing shows interim tape and a NO PASSING ZONE (W14–3) sign to deter passing maneuvers. In lieu of this method, cones may be placed along the centerline, using a maximum spacing of 12 m (40 ft.).

    In both diagrams, add a TRUCK CROSSING (W8–6) sign at a distance "B" in advance of the DO NOT PASS (R4–1) sign. Show the ROAD WORK AHEAD (W20–1a) sign at a distance "C" in advance of the TRUCK CROSSING sign. (See Table 6H–3 for distance between signs.)

11. Section 6H.01, Figure 6H–33. Replace this diagram and all associated notes with the Single Lane Closure (Divided Highway) diagram shown on NHDOT Work Zone Traffic Control Standard Plan TC–5.

12. Section 6H.01, Figures 6H–34, 6H–38, 6H–39, 6H–42, and 6H–44. Revise the advance warning signs for the lane closure to agree with those shown on NHDOT Work Zone Traffic Control Standard Plan TC–5.

13. Section 6H.01, Figure 6H–36. Make the following revisions:

    (a) Use REVERSE CURVE (W1–4 series) signs which show side–by–side arrows, one arrow for each open lane, at each location that this sign is shown.

    (b) Revise note 6 to read: If passing is discouraged but not prohibited, solid white lane lines shall be used; if passing is prohibited, then double solid white lane lines shall be used. The STAY IN LANE (R4–9) sign shall be used when passing is prohibited.

14. Section 6H.01, Figure 6H–37. Replace this diagram and all associated notes with NHDOT Work Zone Traffic Control Standard Plan TC–7.

New Hampshire DOT Department of Transportation

WORK ZONE TRAFFIC CONTROL STANDARD PLANS

APPROVED: _____ CHIEF ENGINEER _____ DATE

REVISION DATE	DGN FILENAME
8/3/04	TC–1

New Hampshire DOT Department of Transportation

WORK ZONE TRAFFIC CONTROL STANDARD PLANS

PRELIMINARY DESIGN PLANS - NOT FOR CONSTRUCTION

D&K FILE	NAME1	DATE	DATE1
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NEWMARKET, NEW HAMPSHIRE

NHDOT PROJECT NO. 16048 / FHWA PROJECT NO. x–a001(108)

TRAFFIC CONTROL NOTES (SHEET 2 OF 2)

D&K PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
621764L	31	32