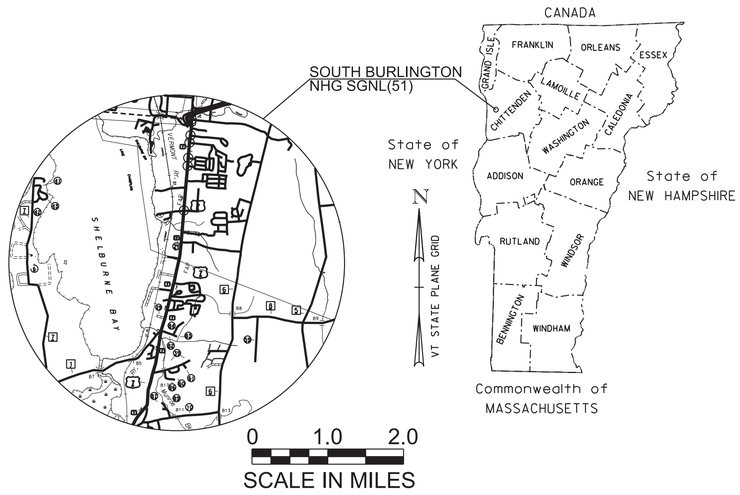
SOUTH BURLINGTON
MS-516: US-7 - GREEN MT DR
MS-518: US-7 - MCINTOSH AVE
MS-519: US-7 - BALDWIN AVE
MS-524: US-7 - LAUREL HILL DR - HANNAFORDS DR
MS-520: US-7 - BREWER PKWY
MS-521: US-7 - QUEEN CITY PARK RD
MS-522: US-7 - SWIFT ST

STATE OF VERMONT
AGENCY OF TRANSPORTATION

PROPOSED IMPROVEMENT
TRAFFIC SIGNAL PROJECT
CITY OF SOUTH BURLINGTON
COUNTY OF CHITTENDEN
US ROUTE 7



BEGINNING AT A POINT ON US ROUTE 7 IN SOUTH BURLINGTON AT GREEN MT DR (TH #139) INTERSECTION (MM 0.526) AND EXTENDING NORTHERLY ALONG US ROUTE 7 TO THE SWIFT STREET INTERSECTION (MM 1.738) IN SOUTH BURLINGTON.

TOTAL LENGTH OF PROJECT: 1.212 MILES

WORK SHALL CONSIST OF:

REPLACEMENT OF EXISTING TRAFFIC SIGNAL SYSTEMS AT THE INTERSECTIONS OF US ROUTE 7 AND; GREEN MOUNTAIN DRIVE, MCINTOSH AVENUE, BALDWIN AVENUE, LAUREL HILL DRIVE, BREWER PARKWAY, QUEEN CITY PARK ROAD, AND SWIFT STREET. REPLACEMENT SHALL INCLUDE REPLACEMENT OF EXISTING TRAFFIC SIGNAL SPAN WIRES WITH MAST ARM POLES, INSTALLATION OF NEW TRAFFIC SIGNAL HEADS, TRAFFIC SIGNAL CABINET AND CONTROLLERS, PREEMPTION SYSTEMS, STOP BAR AND ADVANCED VEHICLE DETECTION, PEDESTRIAN SIGNAL EQUIPMENT, LUMINAIRES, BRACKET ARMS, SIGNAGE, AND OTHER RELATED TRAFFIC SIGNAL EQUIPMENT.

CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2018, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON APRIL 13, 2018 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

QUALITY ASSURANCE PROGRAM : LEVEL 1

SURVEYED BY : VHB
SURVEYED DATE : MARCH, 2018

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (2011)

CONTRACT
C02284

HIGHWAY DIVISION, CHIEF ENGINEER
APPROVED Wayne Symonds, PE DATE Oct 21, 2020

PROJECT MANAGER : TAYLOR SISSON, P.E.

PROJECT NAME : SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER : NHG SGNL(51) C/2

SHEET 1 OF 74 SHEETS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

PRELIMINARY INFORMATION SHEET

INDEX OF SHEETS

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T-11	CONSTRUCTION APPROACH SIGNING DIVIDED HIGHWAY ONE LANE CLOSED	8/6/2012
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GENERAL NOTES

1. ANY DISCREPANCIES BETWEEN THESE DRAWINGS AND ACTUAL FIELD CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH ANY WORK.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE EXISTING UTILITIES WITHIN AND ADJACENT TO THE LIMITS OF WORK. IN THE EVENT OF DAMAGE TO THESE SYSTEMS AS A RESULT OF THE CONTRACTORS OPERATION, THE REPAIRS OR REPLACEMENT SHALL BE COMPLETED AT THE CONTRACTOR'S EXPENSE AS APPROVED BY THE ENGINEER.
3. TURF ESTABLISHMENT MAY BE NECESSARY AT DISTURBED LOCATIONS AS DIRECTED BY THE ENGINEER. TURF ESTABLISHMENT ITEMS INCLUDING SEED, FERTILIZER, AGRICULTURAL LIMESTONE AND HAY MULCH SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.

SEEDING FORMULA

VAOT URBAN LAWN MIX

WEIGHT	LBS/AC BROADCAST	LBS/AC HYDROSEED	NAME	LATIN NAME	GERM	PURITY
42.50%	34	68	CREEPING RYE FESCUE	FESTUCA RUBRA X RUBRA	85%	98%
20.00%	16	32	PERENNIAL RYE FESCUE	LOLIUM PERENNE	90%	95%
32.50%	26	52	KENTUCKY BLUE GRASS	POA PRATENSIS	85%	85%
5.00%	4	8	ANNUAL RYE GRASS	LOLIUM MULTIFLORUM	85%	95%
100.00%	80	160				

GENERAL AMENDMENT GUIDANCE

FERTILIZER	LIME	
10/20/10	AG LIME	PELLITIZED
500 LBS/AC	2 TONS/AC	1 TONS/AC

CONSTRUCTION GUIDANCE

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

PROJECT NAME: SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER: NHG SGNL(51) C/2

FILE NAME: pi.dgn
PROJECT LEADER: T. SISSON
DESIGNED BY: K. RECORD
PRELIMINARY INFORMATION SHEET

PLOT DATE: 10/28/2020
DRAWN BY: K. RECORD
CHECKED BY: T. SISSON
SHEET 2 OF 74

CONVENTIONAL SYMBOLS

GENERAL INFORMATION

SYMBOLOGY LEGEND NOTE

THE SYMBOLOGY ON THIS SHEET IS INTENDED TO COVER STANDARD CONVENTIONAL SYMBOLOGY. THE SYMBOLOGY IS USED FOR EXISTING & PROPOSED FEATURES WITH HEAVIER LINEWEIGHT, IN COMBINATION WITH PROJECT ANNOTATION, AS NOTED ON PROJECT PLAN SHEETS. THIS LEGEND SHEET COVERS THE BASICS. SYMBOLOGY ON PLANS MAY VARY, PLAN ANNOTATIONS AND NOTES SHOULD BE USED TO CLARIFY AS NEEDED.

R.O.W. ABBREVIATIONS (CODES) & SYMBOLS

POINT	CODE	DESCRIPTION
	BF	BARRIER FENCE
	CH	CHANNEL EASEMENT
	CONST	CONSTRUCTION EASEMENT
	CUL	CULVERT EASEMENT
	D&C	DISCONNECT & CONNECT
	DIT	DITCH EASEMENT
	DR	DRAINAGE EASEMENT
	DRIVE	DRIVEWAY EASEMENT
	EC	EROSION CONTROL
	HWY	HIGHWAY EASEMENT
	I&M	INSTALL & MAINTAIN EASEMENT
	LAND	LANDSCAPE EASEMENT
	PDF	PROJECT DEMARCATION FENCE
	R&RES	REMOVE & RESET
	R&REP	REMOVE & REPLACE
	R.T. & I.	RIGHT, TITLE, AND INTEREST
	SR	SLOPE RIGHT
	UE	UTILITY EASEMENT
	(P)	PERMANENT EASEMENT
	(T)	TEMPORARY EASEMENT
■	BNDNS	BOUND SET
⧈	BNDNS	BOUND TO BE SET
◎	IPNF	IRON PIN FOUND
●	IPNS	IRON PIN TO BE SET
☒	CALC	EXISTING ROW POINT
○	PROW	PROPOSED ROW POINT
[LENGTH]		LENGTH CARRIED ON NEXT SHEET

COMMON TOPOGRAPHIC POINT SYMBOLS

POINT	CODE	DESCRIPTION
	APL	BOUND APPARENT LOCATION
	BM	BENCHMARK
	BND	BOUND
	CB	CATCH BASIN
	COMB	COMBINATION POLE
	DITHR	DROP INLET THROATED DNC
	EL	ELECTRIC POWER POLE
	FPOLE	FLAGPOLE
	GASFIL	GAS FILLER
	GP	GUIDE POST
	GSO	GAS SHUT OFF
	GUY	GUY POLE
	GUYW	GUY WIRE
	GV	GATE VALVE
	H	TREE HARDWOOD
	HCTRL	CONTROL HORIZONTAL
	HVCTRL	CONTROL HORIZ. & VERTICAL
	HYD	HYDRANT
	IP	IRON PIN
	IPIPE	IRON PIPE
	LI	LIGHT - STREET OR YARD
	MB	MAILBOX
	MH	MANHOLE (MH)
	MM	MILE MARKER
	PM	PARKING METER
	PMK	PROJECT MARKER
	POST	POST STONE/WOOD
	RRSIG	RAILROAD SIGNAL
	RRSL	RAILROAD SWITCH LEVER
	S	TREE SOFTWOOD
	SAT	SATELLITE DISH
	SHRUB	SHRUB
	SIGN	SIGN
	STUMP	STUMP
	TEL	TELEPHONE POLE
	TIE	TIE
	TSIGN	SIGN W/DOUBLE POST
	VCTRL	CONTROL VERTICAL
	WELL	WELL
	WSO	WATER SHUT OFF

THESE ARE COMMON VAOT SURVEY POINT SYMBOLS FOR EXISTING FEATURES, ALSO USED FOR PROPOSED FEATURES WITH HEAVIER LINEWEIGHT, IN COMBINATION WITH PROPOSED ANNOTATION.

PROPOSED GEOMETRY CODES

CODE	DESCRIPTION
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
CC	CENTER OF CURVE
PT	POINT OF TANGENCY
PCC	POINT OF COMPOUND CURVE
PRC	POINT OF REVERSE CURVE
POB	POINT OF BEGINNING
POE	POINT OF ENDING
STA	STATION PREFIX
AH	AHEAD STATION SUFFIX
BK	BACK STATION SUFFIX
D	CURVE DEGREE OF (100FT)
R	CURVE RADIUS OF
T	CURVE TANGENT LENGTH
L	CURVE LENGTH OF
E	CURVE EXTERNAL DISTANCE
CB	CHORD BEARING

UTILITY SYMBOLOGY

UNDERGROUND UTILITIES

- UGU — UTILITY (GENERIC-UNKNOWN)
- UT — TELEPHONE
- UE — ELECTRIC
- UC — CABLE (TV)
- UEC — ELECTRIC+CABLE
- UET — ELECTRIC+TELEPHONE
- UCT — CABLE+TELEPHONE
- UECT — ELECTRIC+CABLE+TELEPHONE
- G — GAS LINE
- W — WATER LINE
- S — SANITARY SEWER (SEPTIC)

ABOVE GROUND UTILITIES (AERIAL)

- AGU — UTILITY (GENERIC-UNKNOWN)
- T — TELEPHONE
- E — ELECTRIC
- C — CABLE (TV)
- EC — ELECTRIC+CABLE
- ET — ELECTRIC+TELEPHONE
- AER E&T — ELECTRIC+TELEPHONE
- CT — CABLE+TELEPHONE
- ECT — ELECTRIC+CABLE+TELEPHONE
- UTILITY POLE GUY WIRE

PROJECT CONSTRUCTION SYMBOLOGY

PROJECT DESIGN & LAYOUT SYMBOLOGY

- CZ — CLEAR ZONE
- PLAN LAYOUT MATCHLINE

PROJECT CONSTRUCTION FEATURES

- TOP OF CUT SLOPE
- TOE OF FILL SLOPE
- STONE FILL
- BOTTOM OF DITCH L C
- CULVERT PROPOSED
- STRUCTURE SUBSURFACE
- PDF — PDF — PROJECT DEMARCATION FENCE
- BF — BF — BARRIER FENCE
- TREE PROTECTION ZONE (TPZ)
- STRIPING LINE REMOVAL
- SHEET PILES

CONVENTIONAL BOUNDARY SYMBOLOGY

BOUNDARY LINES

- TOWN LINE — TOWN BOUNDARY LINE
- COUNTY LINE — COUNTY BOUNDARY LINE
- STATE LINE — STATE BOUNDARY LINE
- PROPOSED STATE R.O.W. (LIMITED ACCESS)
- PROPOSED STATE R.O.W.
- STATE ROW (LIMITED ACCESS)
- STATE ROW
- TOWN ROW
- PERMANENT EASEMENT LINE (P)
- TEMPORARY EASEMENT LINE (T)
- SURVEY LINE
- P/L — PROPERTY LINE (P/L)
- SR SR SR — SLOPE RIGHTS
- 6f — 6f — 6F PROPERTY BOUNDARY
- 4f — 4f — 4F PROPERTY BOUNDARY
- HAZ — HAZ — HAZARDOUS WASTE

EPSC LAYOUT PLAN SYMBOLOGY

EPSC MEASURES

- FILTER CURTAIN
- SILT FENCE
- SILT FENCE WOVEN WIRE
- CHECK DAM
- DISTURBED AREAS REQUIRING RE-VEGETATION
- EROSION MATTING

SEE EPSC DETAIL SHEETS FOR ADDITIONAL SYMBOLOGY

ENVIRONMENTAL RESOURCES

- WETLAND BOUNDARY
- RIPARIAN BUFFER ZONE
- WETLAND BUFFER ZONE
- SOIL TYPE BOUNDARY
- T&E — THREATENED & ENDANGERED SPECIES
- HAZ — HAZ — HAZARDOUS WASTE AREA
- AG — AGRICULTURAL LAND
- HABITAT — FISH & WILDLIFE HABITAT
- FLOOD PLAIN — FLOOD PLAIN
- OHW — ORDINARY HIGH WATER (OHW)
- STORM WATER
- USDA FOREST SERVICE LANDS
- WILDLIFE HABITAT SUIT/CONN

ARCHEOLOGICAL & HISTORIC

- ARCH — ARCHEOLOGICAL BOUNDARY
- HISTORIC DIST — HISTORIC DISTRICT BOUNDARY
- HISTORIC — HISTORIC AREA
- (H) — HISTORIC STRUCTURE

CONVENTIONAL TOPOGRAPHIC SYMBOLOGY

EXISTING FEATURES

- ROAD EDGE PAVEMENT
- ROAD EDGE GRAVEL
- DRIVEWAY EDGE
- DITCH
- FOUNDATION
- FENCE (EXISTING)
- FENCE WOOD POST
- FENCE STEEL POST
- GARDEN
- ROAD GUARDRAIL
- RAILROAD TRACKS
- CULVERT (EXISTING)
- STONE WALL
- WALL
- WOOD LINE
- BRUSH LINE
- HEDGE
- BODY OF WATER EDGE
- LEDGE EXPOSED

PROJECT NAME:	SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER:	NHG SGNL(51) C/2

FILE NAME:	Symbology Sheet.dgn	PLOT DATE:	10/28/2020
PROJECT LEADER:	T. SISSON	DRAWN BY:	K. RECORD
DESIGNED BY:	K. RECORD	CHECKED BY:	T. SISSON
CONVENTIONAL SYMBOLOGY LEGEND SHEET		SHEET	3 OF 74

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 1

SUMMARY OF ESTIMATED QUANTITIES			TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
ROADWAY	FULL C.E. ITEMS	ATSPM	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
50			50		CY	COMMON EXCAVATION	203.15	--			
1			1		CY	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	204.22	--			
43			43		CY	SUBBASE OF CRUSHED GRAVEL, FINE GRADED	301.26	5			
416			416		CY	SUBBASE OF DENSE GRADED CRUSHED STONE	301.35	6			
70			70		CWT	EMULSIFIED ASPHALT	404.65	0.7			
1			1		LU	PRICE ADJUSTMENT, ASPHALT CEMENT (N.A.B.I.)	406.50	EST			
350			350		LF	CAST-IN-PLACE CONCRETE CURB, TYPE B	616.28	10			
500			500		LF	REMOVING AND RESETTING CURB	616.40	EST			
316			316		SY	PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH	618.10	6.3			
104			104		SF	DETECTABLE WARNING SURFACE	618.30	8			
23			23		LF	REMOVAL AND DISPOSAL OF GUARDRAIL	621.80	1			
4			4		EACH	REMOVAL AND DISPOSAL OF GUIDE POSTS	621.81	--			
1350			1350		HR	UNIFORMED TRAFFIC OFFICERS	630.10	140			
2500			2500		HR	FLAGGERS	630.15	80			
	1		1		LS	FIELD OFFICE, ENGINEERS	631.10	--			
	1		1		LS	TESTING EQUIPMENT, CONCRETE	631.16	--			
	1		1		LS	TESTING EQUIPMENT, BITUMINOUS	631.17	--			
	3000		3000		DL	FIELD OFFICE COMMUNICATIONS (N.A.B.I.)	631.26	--			
1			1		LS	MOBILIZATION/DEMOBILIZATION	635.11	--			
1			1		LS	TRAFFIC CONTROL, ALL-INCLUSIVE	641.11	--			
5			5		EACH	PORTABLE CHANGEABLE MESSAGE SIGN	641.15	--			
400			400		LF	6 INCH WHITE LINE, WATERBORNE PAINT	646.2141	EST			
235			235		LF	6 INCH YELLOW LINE, WATERBORNE PAINT	646.2151	EST			
655			655		LF	24 INCH STOP BAR, WATERBORNE PAINT	646.261	EST			
15			15		EACH	LETTER OR SYMBOL, WATERBORNE PAINT	646.301	EST			
800			800		LF	CROSSWALK MARKING, WATERBORNE PAINT	646.311	EST			
583.75			583.75		SF	TRAFFIC SIGN, TYPE A	675.20	--			
106			106		LF	SQUARE TUBE SIGN POST AND ANCHOR	675.341	1			
23			23		EACH	REMOVING SIGNS	675.50	--			
1			1		EACH	RESETTING SIGNS	675.60	--			
		1	1		EACH	TRAFFIC CONTROL SIGNAL SYSTEM, INTERSECTION (US ROUTE 7 & BALDWIN AVENUE)(ATSPM)	678.15	--			
1			1		EACH	TRAFFIC CONTROL SIGNAL SYSTEM, INTERSECTION (US ROUTE 7 & BALDWIN AVENUE)	678.15	--			
		1	1		EACH	TRAFFIC CONTROL SIGNAL SYSTEM, INTERSECTION (US ROUTE 7 & BREWER PARKWAY)(ATSPM)	678.15	--			
1			1		EACH	TRAFFIC CONTROL SIGNAL SYSTEM, INTERSECTION (US ROUTE 7 & BREWER PARKWAY)	678.15	--			
1			1		EACH	TRAFFIC CONTROL SIGNAL SYSTEM, INTERSECTION (US ROUTE 7 & GREEN MOUNTAIN DRIVE)	678.15	--			
1			1		EACH	TRAFFIC CONTROL SIGNAL SYSTEM, INTERSECTION (US ROUTE 7 & LAUREL HILL DRIVE)	678.15	--			
		1	1		EACH	TRAFFIC CONTROL SIGNAL SYSTEM, INTERSECTION (US ROUTE 7 & LAUREL HILL ROAD)(ATSPM)	678.15	--			

PROJECT NAME: SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER: NHG SGNL(51) C/2

FILE NAME: quant.dgn
PROJECT LEADER: T. SISSON
DESIGNED BY: K. RECORD
QUANTITY SHEET

PLOT DATE: 10/28/2020
DRAWN BY: K. RECORD
CHECKED BY: T. SISSON
SHEET 4 OF 74

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 2

SUMMARY OF ESTIMATED QUANTITIES									TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
							ROADWAY	FULL C.E. ITEMS	ATSPM	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
							1			1		EACH	TRAFFIC CONTROL SIGNAL SYSTEM, INTERSECTION (US ROUTE 7 & MCINSTOSH AVENUE)	678.15	--			
									1	1		EACH	TRAFFIC CONTROL SIGNAL SYSTEM, INTERSECTION (US ROUTE 7 & MCINTOSH AVENUE)(ATSPM)	678.15	--			
									1	1		EACH	TRAFFIC CONTROL SIGNAL SYSTEM, INTERSECTION (US ROUTE 7 & QUEEN CITY PARK ROAD)(ATSPM)	678.15	--			
							1			1		EACH	TRAFFIC CONTROL SIGNAL SYSTEM, INTERSECTION (US ROUTE 7 & QUEEN CITY PARK ROAD)	678.15	--			
									1	1		EACH	TRAFFIC CONTROL SIGNAL SYSTEM, INTERSECTION (US ROUTE 7 & SWIFT STREET)(ATSPM)	678.15	--			
							1			1		EACH	TRAFFIC CONTROL SIGNAL SYSTEM, INTERSECTION (US ROUTE 7 & SWIFT STREET)	678.15	--			
							1935			1935		LF	WIRED CONDUIT (2") (PVC) (SCH. 80)	678.23	118			
							380			380		LF	WIRED CONDUIT (2.5") (PVC) (SCH. 80)	678.23	35			
							1730			1730		LF	WIRED CONDUIT (3") (PVC) (SCH. 80)	678.23	94			
							1130			1130		LF	ELECTRICAL CONDUIT SLEEVE (12" HDPE CASING)	678.30	14			
							1			1		EACH	TEMPORARY TRAFFIC SIGNAL SYSTEM (US ROUTE 7 & BREWER PARKWAY)	678.40	--			
							1			1		EACH	REMOVAL OF EXISTING TRAFFIC CONTROL SIGNAL SYSTEM (US ROUTE 7 & BALDWIN AVENUE)	678.45	--			
							1			1		EACH	REMOVAL OF EXISTING TRAFFIC CONTROL SIGNAL SYSTEM (US ROUTE 7 & BREWER PARKWAY)	678.45	--			
							1			1		EACH	REMOVAL OF EXISTING TRAFFIC CONTROL SIGNAL SYSTEM (US ROUTE 7 & GREEN MOUNTAIN DRIVE)	678.45	--			
							1			1		EACH	REMOVAL OF EXISTING TRAFFIC CONTROL SIGNAL SYSTEM (US ROUTE 7 & LAUREL HILL DRIVE)	678.45	--			
							1			1		EACH	REMOVAL OF EXISTING TRAFFIC CONTROL SIGNAL SYSTEM (US ROUTE 7 & MCINSTOSH AVENUE)	678.45	--			
							1			1		EACH	REMOVAL OF EXISTING TRAFFIC CONTROL SIGNAL SYSTEM (US ROUTE 7 & QUEEN CITY PARK ROAD)	678.45	--			
							1			1		EACH	REMOVAL OF EXISTING TRAFFIC CONTROL SIGNAL SYSTEM (US ROUTE 7 & SWIFT STREET)	678.45	--			
							2			2		EACH	REMOVE STREET LIGHT ASSEMBLY	679.24	--			
							12			12		EACH	BRACKET ARM	679.47	--			
							12			12		EACH	LUMINAIRE	679.50	--			
							1			1		DL	SPECIAL PROVISION (INCENTIVE/DISINCENTIVE)(N.A.B.I.)	900.615	--			
							30			30		EACH	SPECIAL PROVISION (JUNCTION BOX, HEAVY DUTY)	900.620	--			
							4			4		EACH	SPECIAL PROVISION (LUMINAIRE, LED RETROFIT)	900.620	--			
							1			1		LU	SPECIAL PROVISION (MAT DENSITY PAY ADJUSTMENT, SMALL QUANTITY)(N.A.B.I.)	900.650	--			
							1			1		LU	SPECIAL PROVISION (MIXTURE PAY ADJUSTMENT)(N.A.B.I.)	900.650	--			
							385			385		TON	SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)	900.680	5			

PROJECT NAME: SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER: NHG SGNL(51) C/2

FILE NAME: quant02.dgn
PROJECT LEADER: T. SISSON
DESIGNED BY: K. RECORD
QUANTITY SHEET

PLOT DATE: 10/28/2020
DRAWN BY: K. RECORD
CHECKED BY: T. SISSON
SHEET 5 OF 74

SOIL CLASSIFICATION

	AASHTO
A1	Gravel and Sand
A3	Fine Sand
A2	Silty or Clayey Gravel and Sand
A4	Silty Soil - Low Compressibility
A5	Silty Soil - Highly Compressible
A6	Clayey Soil - Low Compressibility
A7	Clayey Soil - Highly Compressible

ROCK QUALITY DESIGNATION

R.Q.D. (%)	ROCK DESCRIPTION
<25	Very Poor
25 to 50	Poor
51 to 75	Fair
76 to 90	Good
>90	Excellent

SHEAR STRENGTH

UNDRAINED SHEAR STRENGTH IN P.S.F.	CONSISTENCY
<250	Very Soft
250-500	Soft
500-1000	Med. Stiff
1000-2000	Stiff
2000-4000	Very Stiff
>4000	Hard

CORRELATION GUIDE OF "N" TO DENSITY/CONSISTENCY

DENSITY (GRANULAR SOILS)		CONSISTENCY (COHESIVE SOILS)	
N	DESCRIPTIVE TERM	N	DESCRIPTIVE TERM
<5	Very Loose	<2	Very Soft
5-10	Loose	2-4	Soft
11-24	Med. Dense	5-8	Med. Soft
25-50	Dense	9-15	Stiff
>50	Very Dense	16-30	Very Stiff
		31-60	Hard
		>60	Very Hard

COLOR

blk	Black	pnk	Pink
bl	Blue	pu	Purple
brn	Brown	rd	Red
dk	Dark	tn	Tan
gry	Gray	wh	White
gn	Green	yel	Yellow
lt	Light	mltc	Multicolored
or	Orange		

COMMONLY USED SYMBOLS

▼	Water Elevation
	Standard Penetration Boring
⊕	Auger Boring
⊙	Rod Sounding
S	Sample
N	Standard Penetration Test Blow Count Per Foot For: 2" O. D. Sampler 1 ⅜" I. D. Sampler Hammer Weight Of 140 Lbs. Hammer Fall Of 30"
VS	Field Vane Shear Test
US	Undisturbed Soil Sample
B	Blast
DC	Diamond Core
MD	Mud Drill
WA	Wash Ahead
HSA	Hollow Stem Auger
AX	Core Size 1 1/8"
BX	Core Size 1 5/8"
NX	Core Size 2 1/8"
M	Double Tube Core Barrel Used
LL	Liquid Limit
PL	Plastic Limit
PI	Plasticity Index
NP	Non Plastic
w	Moisture Content (Dry Wgt. Basis)
D	Dry
M	Moist
MTW	Moist To Wet
W	Wet
Sat	Saturated
Bo	Boulder
Gr	Gravel
Sa	Sand
Si	Silt
Cl	Clay
HP	Hardpan
Le	Ledge
NLTD	No Ledge To Depth
CNPF	Can Not Penetrate Further
TLOB	Top of Ledge Or Boulder
NR	No Recovery
Rec.	Recovery
%Rec.	Percent Recovery
RQD	Rock Quality Designation
CBR	California Bearing Ratio
<	Less Than
>	Greater Than
R	Refusal (N > 100)
VTSPG	NAD83 - See Note 7

DEFINITIONS (AASHTO)

BEDROCK (LEDGE) - Rock in its native location of indefinite thickness.
BOULDER - A rock fragment with an average dimension of > 12 inches.
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HARDPAN - Extremely dense soil, cemented layer, not softened when wet.
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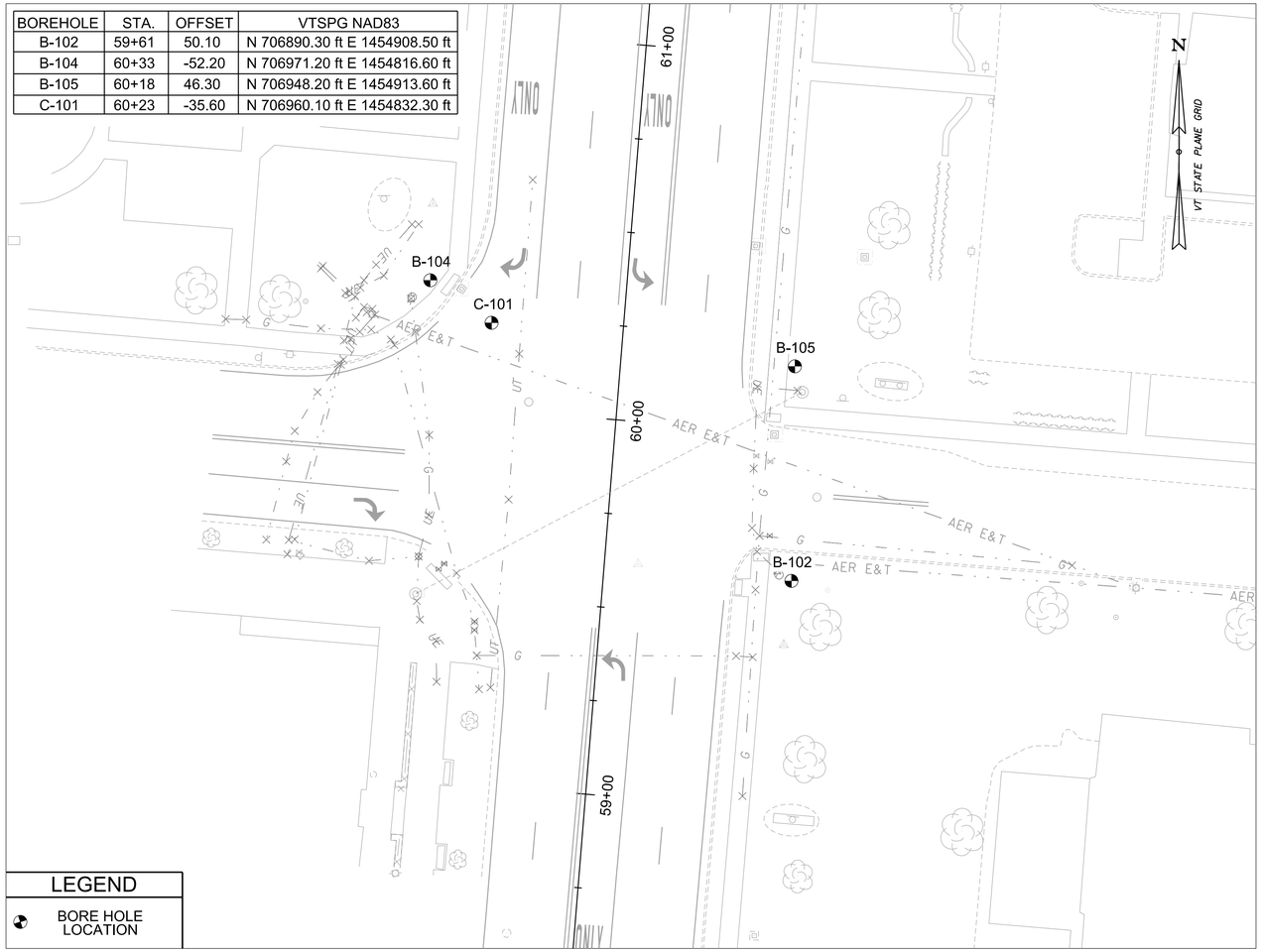
FLOWING SAND - Granular soil so saturated (loose) that it flows into drill casing during extraction of wash rod.
STRIKE - Angle from magnetic north to line of intersection of bed with a horizontal plane.
DIP - Inclination of bed with a horizontal plane.

BOREHOLE	STA.	OFFSET	VTSPG NAD83
B-102	59+61	50.10	N 706890.30 ft E 1454908.50 ft
B-104	60+33	-52.20	N 706971.20 ft E 1454816.60 ft
B-105	60+18	46.30	N 706948.20 ft E 1454913.60 ft
C-101	60+23	-35.60	N 706960.10 ft E 1454832.30 ft



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PROJECT NAME: SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER: NHG SGNL(51) C/2

FILE NAME: boring layout 1.dgn
PROJECT LEADER: T. SISSON
DESIGNED BY: K. RECORD
BORING LAYOUT SHEET 1

PLOT DATE: 10/28/2020
DRAWN BY: K. RECORD
CHECKED BY: T. SISSON
SHEET 6 OF 74

SOIL CLASSIFICATION

AASHTO	
A1	Gravel and Sand
A3	Fine Sand
A2	Silty or Clayey Gravel and Sand
A4	Silty Soil - Low Compressibility
A5	Silty Soil - Highly Compressible
A6	Clayey Soil - Low Compressibility
A7	Clayey Soil - Highly Compressible

ROCK QUALITY DESIGNATION

R.Q.D. (%)	ROCK DESCRIPTION
<25	Very Poor
25 to 50	Poor
51 to 75	Fair
76 to 90	Good
>90	Excellent

SHEAR STRENGTH

UNDRAINED SHEAR STRENGTH IN P.S.F.	CONSISTENCY
<250	Very Soft
250-500	Soft
500-1000	Med. Stiff
1000-2000	Stiff
2000-4000	Very Stiff
>4000	Hard

CORRELATION GUIDE OF "N" TO DENSITY/CONSISTENCY

DENSITY (GRANULAR SOILS)		CONSISTENCY (COHESIVE SOILS)	
N	DESCRIPTIVE TERM	N	DESCRIPTIVE TERM
<5	Very Loose	<2	Very Soft
5-10	Loose	2-4	Soft
11-24	Med. Dense	5-8	Med. Soft
25-50	Dense	9-15	Stiff
>50	Very Dense	16-30	Very Stiff
		31-60	Hard
		>60	Very Hard

COLOR

blk	Black	pnk	Pink
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gn	Green	yel	Yellow
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STRIKE - Angle from magnetic north to line of intersection of bed with a horizontal plane.
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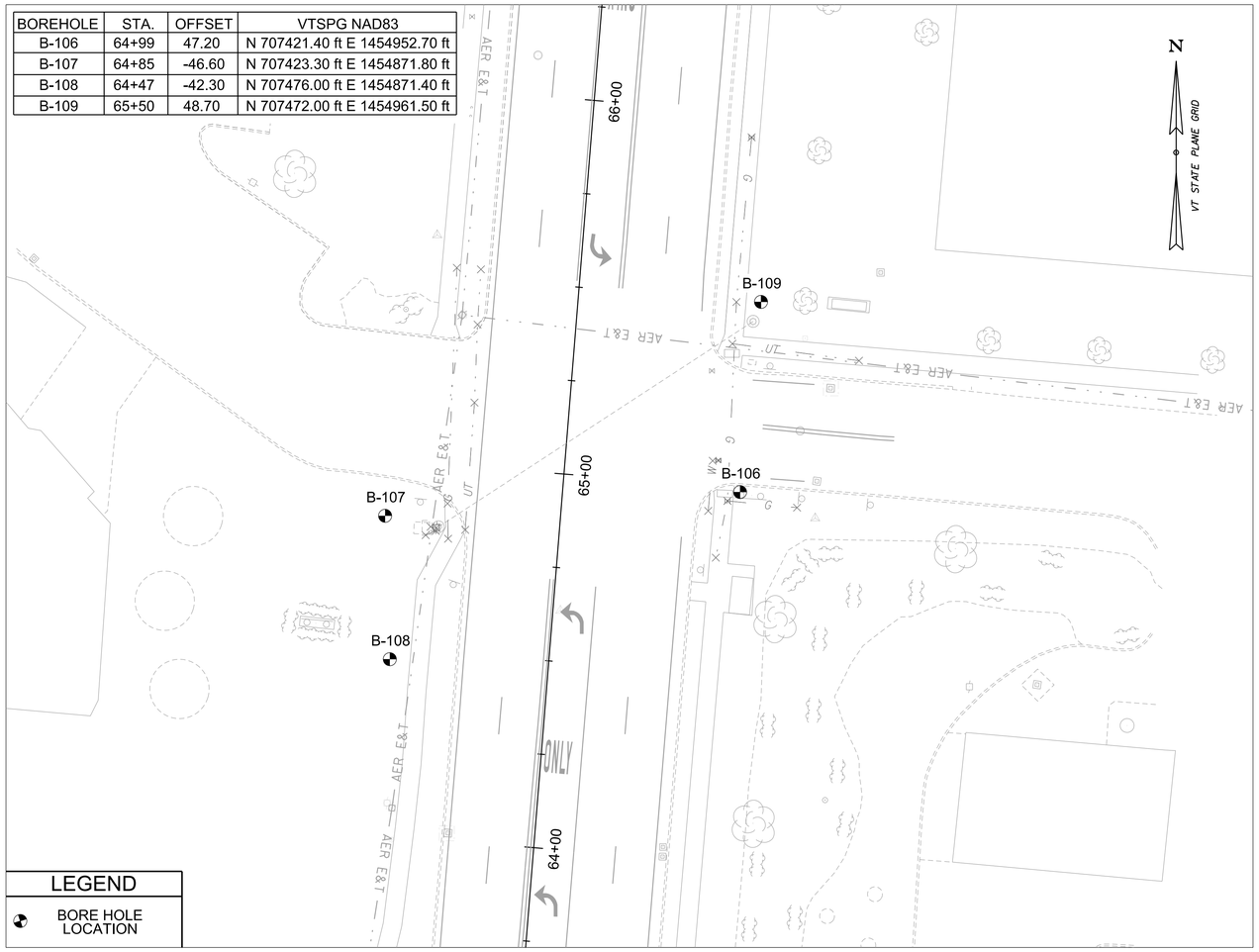
BOREHOLE	STA.	OFFSET	VTSPG NAD83
B-106	64+99	47.20	N 707421.40 ft E 1454952.70 ft
B-107	64+85	-46.60	N 707423.30 ft E 1454871.80 ft
B-108	64+47	-42.30	N 707476.00 ft E 1454871.40 ft
B-109	65+50	48.70	N 707472.00 ft E 1454961.50 ft



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PROJECT NAME: SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER: NHG SGNL(51) C/2

FILE NAME: boring layout 2.dgn
PROJECT LEADER: T. SISSON
DESIGNED BY: K. RECORD
BORING LAYOUT SHEET 2

PLOT DATE: 10/28/2020
DRAWN BY: K. RECORD
CHECKED BY: T. SISSON
SHEET 7 OF 74

SOIL CLASSIFICATION

AASHTO	
A1	Gravel and Sand
A3	Fine Sand
A2	Silty or Clayey Gravel and Sand
A4	Silty Soil - Low Compressibility
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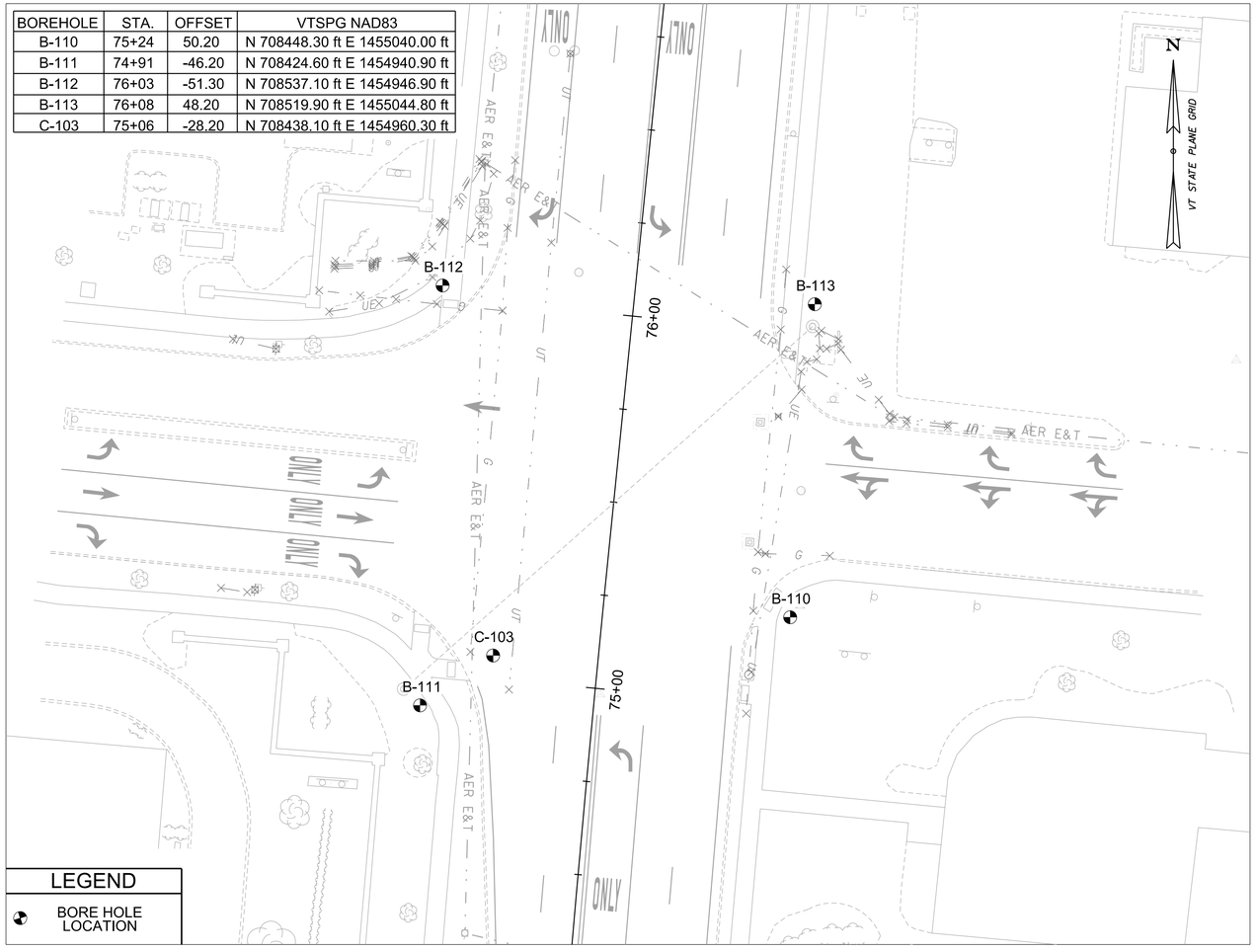
BOREHOLE	STA.	OFFSET	VTSPG NAD83
B-110	75+24	50.20	N 708448.30 ft E 1455040.00 ft
B-111	74+91	-46.20	N 708424.60 ft E 1454940.90 ft
B-112	76+03	-51.30	N 708537.10 ft E 1454946.90 ft
B-113	76+08	48.20	N 708519.90 ft E 1455044.80 ft
C-103	75+06	-28.20	N 708438.10 ft E 1454960.30 ft



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PROJECT NUMBER: NHG SGNL(51) C/2

FILE NAME: boring layout 3.dgn
PROJECT LEADER: T. SISSON
DESIGNED BY: K. RECORD
BORING LAYOUT SHEET 3

PLOT DATE: 10/28/2020
DRAWN BY: K. RECORD
CHECKED BY: T. SISSON
SHEET 8 OF 74

SOIL CLASSIFICATION

AASHTO	
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COLOR

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BOREHOLE	STA.	OFFSET	VTSPG NAD83
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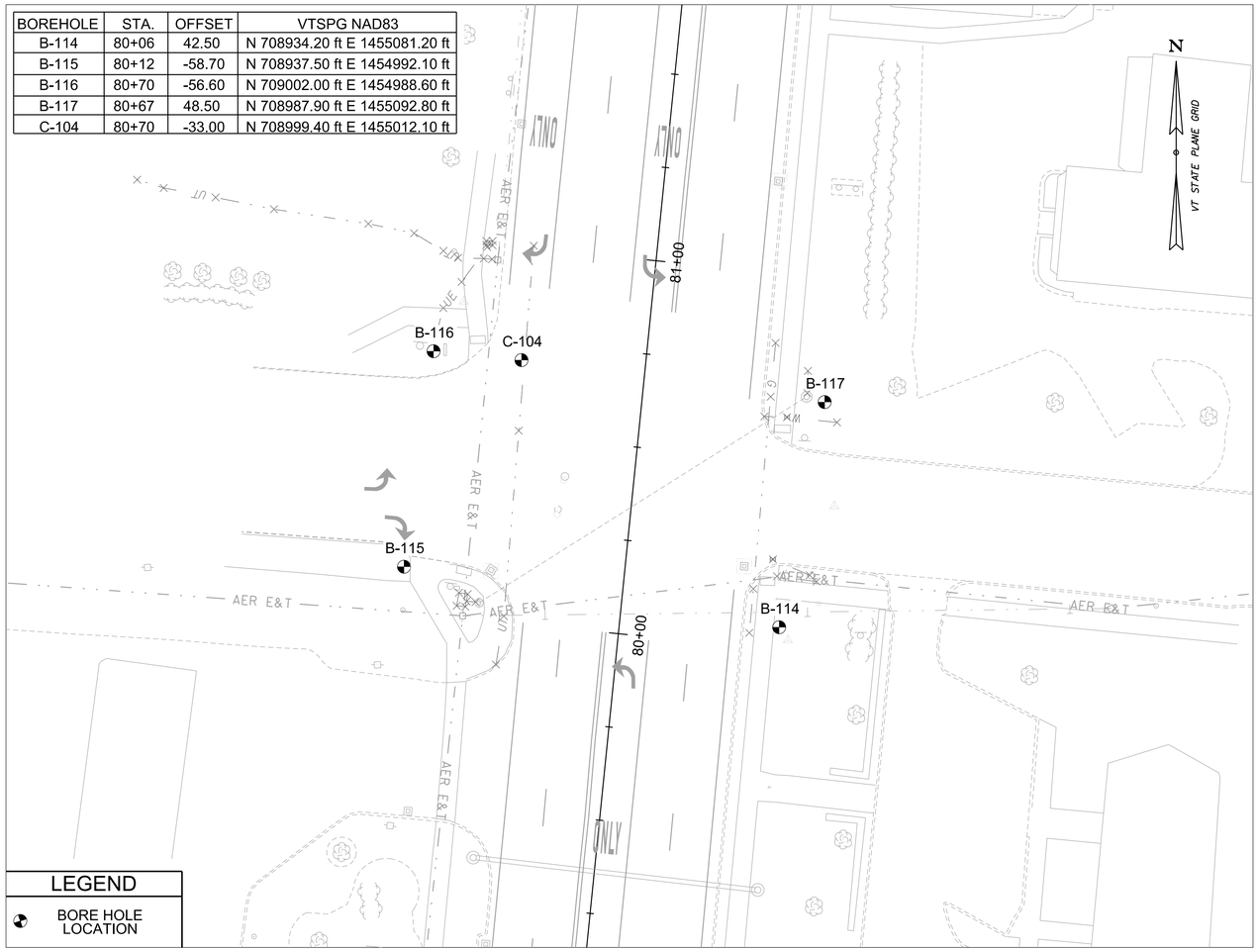
B-115	80+12	-58.70	N 708937.50 ft E 1454992.10 ft
B-116	80+70	-56.60	N 709002.00 ft E 1454988.60 ft
B-117	80+67	48.50	N 708987.90 ft E 1455092.80 ft
C-104	80+70	-33.00	N 708999.40 ft E 1455012.10 ft



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PROJECT NUMBER: NHG SGNL(51) C/2

FILE NAME: boring layout 4.dgn
PROJECT LEADER: T. SISSON
DESIGNED BY: K. RECORD
BORING LAYOUT SHEET 4
PLOT DATE: 10/28/2020
DRAWN BY: K. RECORD
CHECKED BY: T. SISSON
SHEET 9 OF 74

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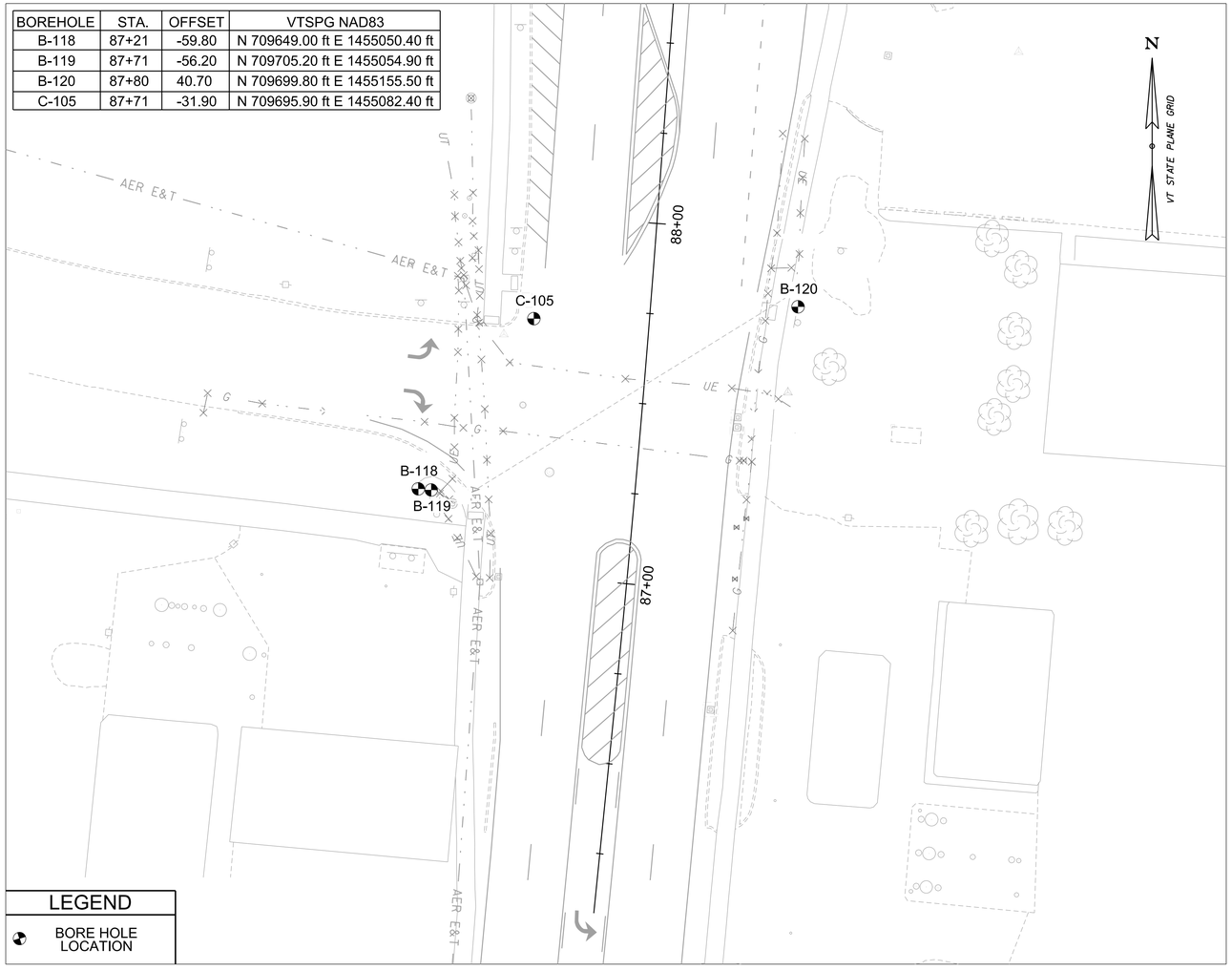
R	Refusal (N > 100)
VTSPG	NAD83 - See Note 7

DEFINITIONS (AASHTO)

BEDROCK (LEDGE) - Rock in its native location of indefinite thickness.
BOULDER - A rock fragment with an average dimension of > 12 inches.
COBBLE - Rock fragments with an average dimension between 3 and 12 inches.
GRAVEL - Rounded particles of rock <3" and > 0.0787" (#10 sieve).
SAND - Particles of rock < 0.0787" (#10 sieve) and ? 0.0029" (#200 sieve).
SILT - Soil < 0.0029" (#200 sieve), non or slightly plastic and exhibits no strength when air-dried.
CLAY - Fine graded soil, exhibits plasticity when moist and considerable strength when air-dried.
VARVED - Alternate layers of silt and clay.
HARDPAN - Extremely dense soil, cemented layer, not softened when wet.
MUCK - Soft organic soil (containing > 10% organic material).
MOISTURE CONTENT - Weight of water divided by dry weight of soil.
FLOWING SAND - Granular soil so saturated (loose) that it flows into drill casing during extraction of wash rod.
STRIKE - Angle from magnetic north to line of intersection of bed with a horizontal plane.
DIP - Inclination of bed with a horizontal plane.

BOREHOLE	STA.	OFFSET	VTSPG NAD83
B-118	87+21	-59.80	N 709649.00 ft E 1455050.40 ft
B-119	87+71	-56.20	N 709705.20 ft E 1455054.90 ft
B-120	87+80	40.70	N 709699.80 ft E 1455155.50 ft
C-105	87+71	-31.90	N 709695.90 ft E 1455082.40 ft



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5. Pictorial structure details shown on the boring plan layout or soils profiles are for illustrative purposes only and may not accurately portray final contract details.
6. Terminology used on the boring logs to describe the hardness, degree of weathering, and spacing of fractures, joints and other discontinuities in the bedrock is defined in the AASHTO Manual on Subsurface Investigations, 1988.
7. Northing and Easting coordinates are shown in Vermont State Plan Grid North American Datum 1983 in meters and survey feet

PROJECT NAME: SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER: NHG SGNL(51) C/2

FILE NAME: boring layout 5.dgn
PROJECT LEADER: T. SISSON
DESIGNED BY: K. RECORD
BORING LAYOUT SHEET 5

PLOT DATE: 10/28/2020
DRAWN BY: K. RECORD
CHECKED BY: T. SISSON
SHEET 10 OF 74

SOIL CLASSIFICATION

AASHTO	
A1	Gravel and Sand
A3	Fine Sand
A2	Silty or Clayey Gravel and Sand
A4	Silty Soil - Low Compressibility
A5	Silty Soil - Highly Compressible
A6	Clayey Soil - Low Compressibility
A7	Clayey Soil - Highly Compressible

ROCK QUALITY DESIGNATION

R.Q.D. (%)	ROCK DESCRIPTION
<25	Very Poor
25 to 50	Poor
51 to 75	Fair
76 to 90	Good
>90	Excellent

SHEAR STRENGTH

UNDRAINED SHEAR STRENGTH IN P.S.F.	CONSISTENCY
<250	Very Soft
250-500	Soft
500-1000	Med. Stiff
1000-2000	Stiff
2000-4000	Very Stiff
>4000	Hard

CORRELATION GUIDE OF "N" TO DENSITY/CONSISTENCY

DENSITY (GRANULAR SOILS)		CONSISTENCY (COHESIVE SOILS)	
N	DESCRIPTIVE TERM	N	DESCRIPTIVE TERM
<5	Very Loose	<2	Very Soft
5-10	Loose	2-4	Soft
11-24	Med. Dense	5-8	Med. Soft
25-50	Dense	9-15	Stiff
>50	Very Dense	16-30	Very Stiff
		31-60	Hard
		>60	Very Hard

COLOR

blk	Black	pnk	Pink
bl	Blue	pu	Purple
brn	Brown	rd	Red
dk	Dark	tn	Tan
gry	Gray	wh	White
gn	Green	yel	Yellow
lt	Light	mltc	Multicolored
or	Orange		

COMMONLY USED SYMBOLS

▼	Water Elevation
	Standard Penetration Boring
⊕	Auger Boring
⊙	Rod Sounding
S	Sample
N	Standard Penetration Test Blow Count Per Foot For: 2" O. D. Sampler 1 ⅜" I. D. Sampler Hammer Weight Of 140 Lbs. Hammer Fall Of 30"
VS	Field Vane Shear Test
US	Undisturbed Soil Sample
B	Blast
DC	Diamond Core
MD	Mud Drill
WA	Wash Ahead
HSA	Hollow Stem Auger
AX	Core Size 1 1/8"
BX	Core Size 1 5/8"
NX	Core Size 2 1/8"
M	Double Tube Core Barrel Used
LL	Liquid Limit
PL	Plastic Limit
PI	Plasticity Index
NP	Non Plastic
w	Moisture Content (Dry Wgt. Basis)
D	Dry
M	Moist
MTW	Moist To Wet
W	Wet
Sat	Saturated
Bo	Boulder
Gr	Gravel
Sa	Sand
Si	Silt
Cl	Clay
HP	Hardpan
Le	Ledge
NLTD	No Ledge To Depth
CNPF	Can Not Penetrate Further
TLOB	Top of Ledge Or Boulder
NR	No Recovery
Rec.	Recovery
%Rec.	Percent Recovery
RQD	Rock Quality Designation
CBR	California Bearing Ratio
<	Less Than
>	Greater Than
R	Refusal (N > 100)
VTSPG	NAD83 - See Note 7

DEFINITIONS (AASHTO)

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MUCK - Soft organic soil (containing > 10% organic material).
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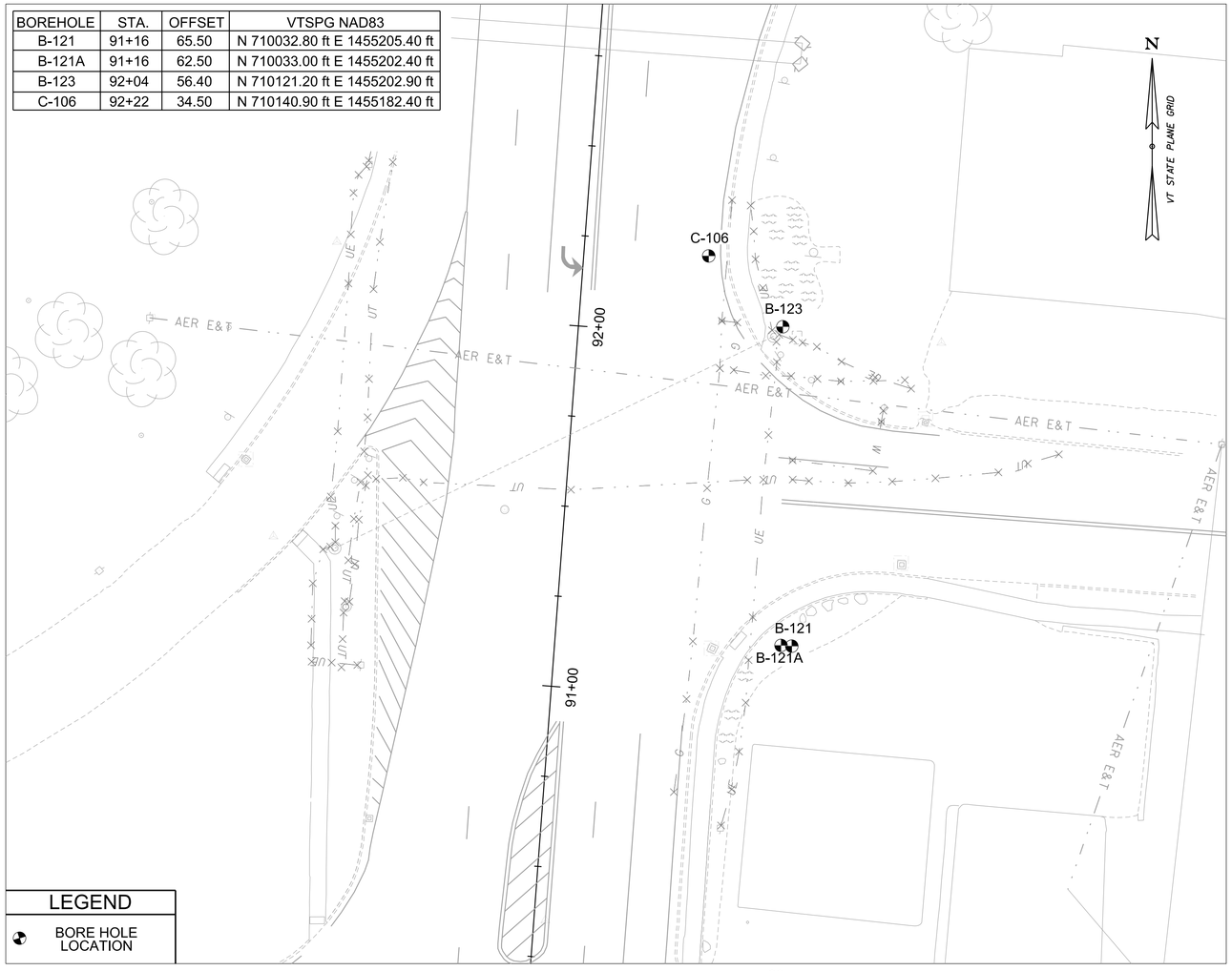
FLOWING SAND - Granular soil so saturated (loose) that it flows into drill casing during extraction of wash rod.
STRIKE - Angle from magnetic north to line of intersection of bed with a horizontal plane.
DIP - Inclination of bed with a horizontal plane.

BOREHOLE	STA.	OFFSET	VTSPG NAD83
B-121	91+16	65.50	N 710032.80 ft E 1455205.40 ft
B-121A	91+16	62.50	N 710033.00 ft E 1455202.40 ft
B-123	92+04	56.40	N 710121.20 ft E 1455202.90 ft
C-106	92+22	34.50	N 710140.90 ft E 1455182.40 ft



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PROJECT NAME: SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER: NHG SGNL(51) C/2

FILE NAME: boring layout 6.dgn
PROJECT LEADER: T. SISSON
DESIGNED BY: K. RECORD
BORING LAYOUT SHEET 6

PLOT DATE: 10/28/2020
DRAWN BY: K. RECORD
CHECKED BY: T. SISSON
SHEET 11 OF 74

SOIL CLASSIFICATION

AASHTO	
A1	Gravel and Sand
A3	Fine Sand
A2	Silty or Clayey Gravel and Sand
A4	Silty Soil - Low Compressibility
A5	Silty Soil - Highly Compressible
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US	Undisturbed Soil Sample
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Sa	Sand
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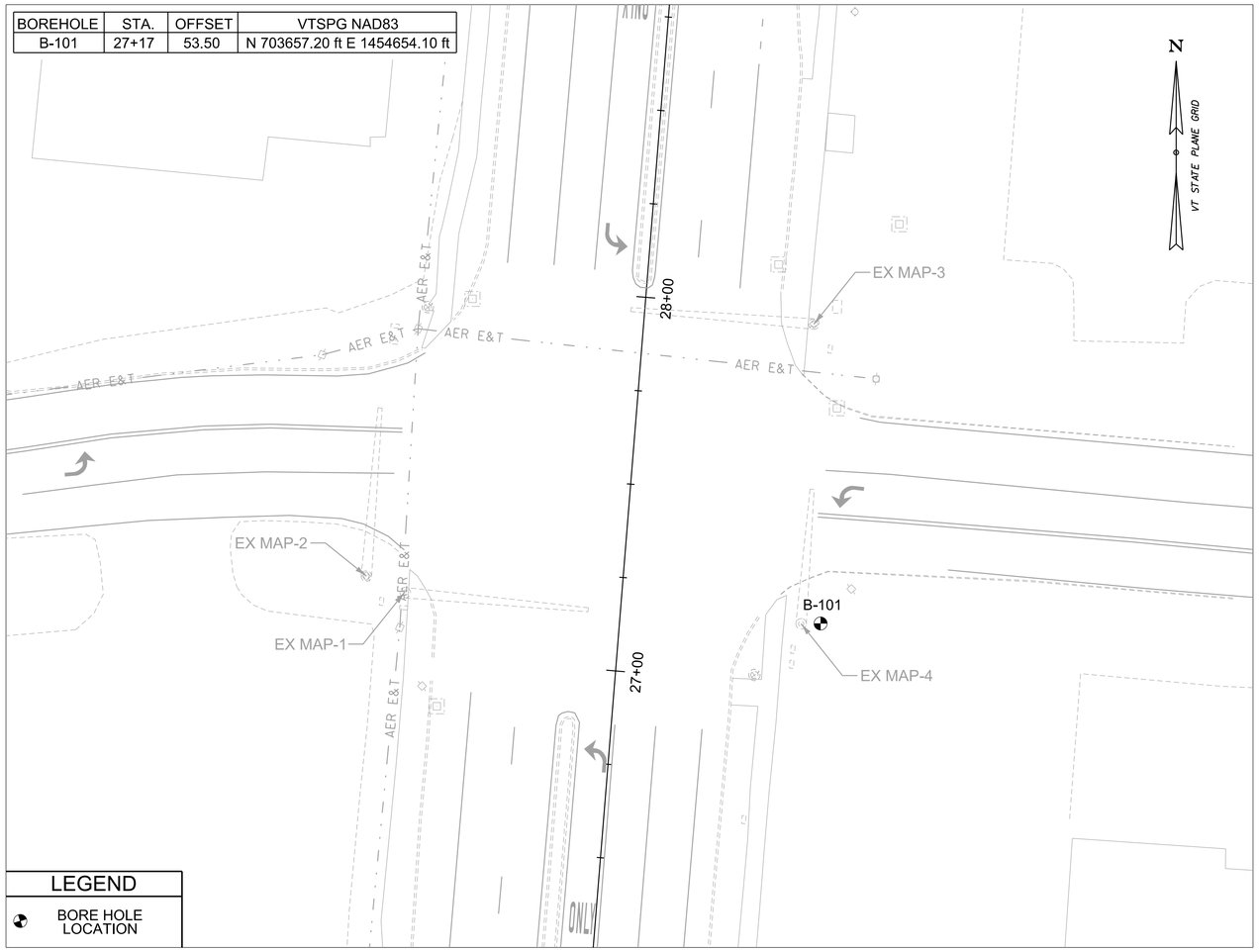
DIP - Inclination of bed with a horizontal plane.

BOREHOLE	STA.	OFFSET	VTSPG NAD83
B-101	27+17	53.50	N 703657.20 ft E 1454654.10 ft



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PROJECT NAME: SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER: NHG SGNL(51) C/2

FILE NAME: boring layout 7.dgn
PROJECT LEADER: T. SISSON
DESIGNED BY: K. RECORD
BORING LAYOUT SHEET 7

PLOT DATE: 10/28/2020
DRAWN BY: K. RECORD
CHECKED BY: T. SISSON
SHEET 12 OF 74

STATE OF VERMONT
AGENCY OF TRANSPORTATION
CONSTRUCTION AND
MATERIALS BUREAU
CENTRAL LABORATORY

BORING LOG

SHELBURNE–SOUTH BURLINGTON
NHG SGNL(51)
US-7 MAST ARMS

Boring No.: B-101
Page No.: 1 of 1
Pin No.: 19I398
Checked By: END

Boring Crew: Gonyaw, Emerson, Brochu
Date Started: 3/12/20 Date Finished: 3/12/20
VTSPG NAD83: N 703657.20 ft E 1454654.10 ft
Station: 27+17.00 Offset: 53.50
Ground Elevation: 151.3 ft

	Casing	Sampler
Type:	H.S.A.	SS
I.D.:	4 in	1.5 in
Hammer Wt:	N.A.	140 lb.
Hammer Fall:	N.A.	30 in.
Hammer/Rod Type:	Auto/AWJ	
Rig:	CME 55 TRACK	CE = 1.52

Groundwater Observations

Date	Depth (ft)	Notes
03/12/20	16.8	WT after drilling

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		A-2-4, GrSiSa, brn, Moist, Rec. = 0.6 ft	1-2-6-7 (8)	14.5	25.7	47.4	26.9
		A-1-B, SaGr, gry, Moist, Rec. = 0.5 ft	4-12-10-10 (22)	2.7	68.1	23.4	8.5
5		A-1-B, SaGr, gry, Moist, Rec. = 1.0 ft	8-8-8-5 (16)	3.7	49.5	36.7	13.8
		A-4, SaSi, gry, Moist, Rec. = 0.8 ft	3-2-2-3 (4)	20.0	17.7	35.1	47.2
		Field Note:, No Recovery, gry, Moist, Rock in end of sampler	3-6-5-4 (11)				
10		A-7-6, Cl, gry, Moist, Rec. = 0.7 ft, Similar to material from B-102 12-14'	2-5-3-3 (8)	23.7	5.9	2.5	91.6
15		A-7-6, Cl, gry, Moist, Rec. = 1.3 ft	3-9-11-13 (20)	20.6	4.6	2.3	93.1
20		A-7-6, Cl, gry, Moist, Rec. = 1.7 ft	5-9-12-15 (21)	24.6	0.1	3.8	96.1
25		A-7-6, Cl, gry, Moist, Rec. = 1.7 ft	7-13-15-21 (28)	24.8		1.8	98.2
		Hole stopped @ 27.0 ft					

Remarks:
Hole collapsed at 2.9 ft.

Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor.
3. Water level readings have been made at times and under conditions stated. Fluctuations may occur due to other factors than those present at the time measurements were made.

2010 COPY SHELBURNE - SOUTH BURLINGTON NHG SGNL(51)C2 NEW.GPJ VERMONT AOT.GDT 10/16/20

STATE OF VERMONT
AGENCY OF TRANSPORTATION
CONSTRUCTION AND
MATERIALS BUREAU
CENTRAL LABORATORY

BORING LOG

SHELBURNE–SOUTH BURLINGTON
NHG SGNL(51)
US-7 MAST ARMS

Boring No.: B-102
Page No.: 1 of 1
Pin No.: 19I398
Checked By: END

Boring Crew: Gonyaw, Emerson, Brochu
Date Started: 3/16/20 Date Finished: 3/16/20
VTSPG NAD83: N 706890.30 ft E 1454908.50 ft
Station: 59+61.00 Offset: 50.10
Ground Elevation: 200.8 ft

	Casing	Sampler
Type:	H.S.A.	SS
I.D.:	4 in	1.5 in
Hammer Wt:	N.A.	140 lb.
Hammer Fall:	N.A.	30 in.
Hammer/Rod Type:	Auto/AWJ	
Rig:	CME 55 TRACK	CE = 1.52

Groundwater Observations

Date	Depth (ft)	Notes
03/16/20		No WT to depth

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %	LL %	PI %
		A-4, SaSi, brn, Moist, Rec. = 0.3 ft	2-7-6-6 (13)	31.1	7.8	29.7	62.5		
		A-4, Si, gry, Moist, Rec. = 1.5 ft	6-4-5-7 (9)	23.6	0.2	4.2	95.6		
5		A-4, Si, gry, Moist, Rec. = 1.4 ft	5-5-8-9 (13)	27.8	1.0	10.2	88.8		
		A-7-6, Cl, gry, Moist, Rec. = 1.0 ft	7-7-8-8 (15)	28.1	0.4	6.5	93.1		
		A-7-6, Cl, gry, Wet, Rec. = 2.0 ft	2-3-2-6 (5)	37.5	0.9	9.0	90.1		
10		A-7-6, Cl, brn, Wet, Rec. = 2.0 ft	WH-WH-1-2 (1)	47.5	0.7	4.1	95.2		
		A-7-6, Cl, gry, Wet, Rec. = 2.0 ft	WH-WH-WH-WH (WH)	45.1	0.2	3.9	95.9	49	26
15		A-7-6, Cl, gry, Wet, Rec. = 2.0 ft	WH-WH-WH-WH (WH)	49.1	0.6		99.4		
20		A-7-6, Cl, gry, Wet, Rec. = 2.0 ft	WH-WH-WH-WH (WH)	65.0	1.2	1.4	97.4		
25		A-7-6, Cl, gry, Wet, Rec. = 2.0 ft	WH-WH-WH-WH (WH)	53.7					
		Hole stopped @ 27.0 ft							

Remarks:
Hole collapsed at 1.0 ft.

Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor.
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2010 COPY SHELBURNE - SOUTH BURLINGTON NHG SGNL(51)C2 NEW.GPJ VERMONT AOT.GDT 10/16/20

PROJECT NAME: SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER: NHG SGNL(51) C/2

FILE NAME: boring logs.dgn
PROJECT LEADER: T. SISSON
DESIGNED BY: K. RECORD
BORING LOG SHEET 1

PLOT DATE: 10/28/2020
DRAWN BY: K. RECORD
CHECKED BY: T. SISSON
SHEET 13 OF 74

STATE OF VERMONT
AGENCY OF TRANSPORTATION
CONSTRUCTION AND
MATERIALS BUREAU
CENTRAL LABORATORY

BORING LOG

SHELBURNE–SOUTH BURLINGTON
NHG SGNL(51)
US-7 MAST ARMS

Boring No.: B-104
Page No.: 1 of 1
Pin No.: 19t398
Checked By: END

Boring Crew: Gonyaw, Emerson, Hook
Date Started: 3/13/20 Date Finished: 3/13/20
VTSPG NAD83: N 706971.20 ft E 1454816.60 ft
Station: 60+33.00 Offset: -52.20
Ground Elevation: 200.6 ft

	Casing	Sampler
Type:	H.S.A.	SS
I.D.:	4 in	1.5 in
Hammer Wt:	N.A.	140 lb.
Hammer Fall:	N.A.	30 in.
Hammer/Rod Type:		Auto/AWJ
Rig:	CME 55 TRACK	CE = 1.52

Groundwater Observations

Date	Depth (ft)	Notes
03/13/20	10.6	WT after drilling

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %	LL %	PI %
		A-2-4, GrSa, brn, Moist, Rec. = 1.6 ft	2-5-5-2 (10)	12.6	33.2	52.0	14.8		
		A-4, Si, Lt/brn, Moist, Rec. = 1.7 ft	4-3-5-7 (8)	25.6	0.1	11.5	88.4		
5		A-4, Si, gry, Moist, Rec. = 1.4 ft	8-9-10-10 (19)	25.2		1.8	98.2		
		A-7-6, Cl, gry, Moist, Rec. = 1.0 ft	4-10-10-10 (20)	32.8	0.2	7.3	92.5		
		A-7-6, Cl, gry, Moist, Rec. = 2.0 ft	1-2-1-2 (3)	46.4	0.5	1.5	98.0		
10		Field Note:, Pushed 3"x30" Shelby tube 10-12', Rec. = 2.0 ft							
		Field Note:, Pushed 3"x30" Shelby tube 12-14', Rec. = 2.2 ft							
15		A-7-6, Cl, gry, Wet, Rec. = 2.0 ft	WH-WH-WH-WH (WH)	55.5	0.1	0.7	99.2	67	39
20		A-4, SaSi, gry, Wet, Rec. = 1.1 ft	4-5-6-6 (11)	8.8	19.4	36.2	44.4		
25		A-4, SaSi, gray, Wet, Rec. = 0.6 ft	22-R@4" (R)	8.9	18.2	41.4	40.4		
		Hole stopped @ 25.8 ft							

Remarks:
Hole collapsed at 1.0 ft.

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2010 COPY SHELBURNE - SOUTH BURLINGTON NHG SGNL(51)C2 NEW.GPJ VERMONT AOT.GDT 10/16/20

STATE OF VERMONT
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CONSTRUCTION AND
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BORING LOG

SHELBURNE–SOUTH BURLINGTON
NHG SGNL(51)
US-7 MAST ARMS

Boring No.: B-105
Page No.: 1 of 1
Pin No.: 19t398
Checked By: END

Boring Crew: Gonyaw, Emerson, Brochu
Date Started: 3/17/20 Date Finished: 3/17/20
VTSPG NAD83: N 706948.20 ft E 1454913.60 ft
Station: 60+18.00 Offset: 46.30
Ground Elevation: 201.5 ft

	Casing	Sampler
Type:	H.S.A.	SS
I.D.:	4 in	1.5 in
Hammer Wt:	N.A.	140 lb.
Hammer Fall:	N.A.	30 in.
Hammer/Rod Type:		Auto/AWJ
Rig:	CME 55 TRACK	CE = 1.52

Groundwater Observations

Date	Depth (ft)	Notes
03/17/20		No WT to depth

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %	LL %	PI %
		A-2-4, SiSa, brn, Moist, Rec. = 1.0 ft	1-1-1-2 (2)	16.8	11.4	57.9	30.7		
		A-4, Si, brn, Moist, Rec. = 1.4 ft	1-1-2-5 (3)	24.7	0.1	6.4	93.5		
5		A-4, Si, brn, Wet, Rec. = 1.7 ft	3-5-4-6 (9)	25.8		5.5	94.5		
		Gry, Wet, Rec. = 1.6 ft, 6.0 ft - 8.0 ft	5-7-7-6 (14)	24.3		3.5	96.5		
		A-7-6, Cl, gry, Wet, Rec. = 2.0 ft	2-4-4-5 (8)	35.5	0.3	4.9	94.8		
10		A-7-6, Cl, gry, Wet, Rec. = 2.0 ft	1-1-1-2 (2)	49.4	0.2	2.1	97.7		
		A-7-6, Cl, gry, Wet, Rec. = 2.0 ft	WH-WH-WH-WH (WH)	54.3	1.6	2.1	96.3		
15		A-7-6, Cl, gry, Wet, Rec. = 2.0 ft	WH-WH-WH-WH (WH)	60.6		1.2	98.8		
20		A-7-6, Cl, gry, Wet, Rec. = 2.0 ft	WH-WH-WH-WH (WH)	45.2	2.0	1.3	96.7	52	28
25		A-7-6, Cl, gry, Wet, Rec. = 2.0 ft	WH-WH-WH-WH (WH)	53.5	0.1	0.8	99.1		
		Hole stopped @ 27.0 ft							

Remarks:
Hole collapsed at 2.0 ft.

Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor.
3. Water level readings have been made at times and under conditions stated. Fluctuations may occur due to other factors than those present at the time measurements were made.

2010 COPY SHELBURNE - SOUTH BURLINGTON NHG SGNL(51)C2 NEW.GPJ VERMONT AOT.GDT 10/16/20

PROJECT NAME: SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER: NHG SGNL(51) C/2

FILE NAME: boring logs.dgn
PROJECT LEADER: T. SISSON
DESIGNED BY: K. RECORD
BORING LOG SHEET 2

PLOT DATE: 10/28/2020
DRAWN BY: K. RECORD
CHECKED BY: T. SISSON
SHEET 14 OF 74

STATE OF VERMONT
AGENCY OF TRANSPORTATION
CONSTRUCTION AND
MATERIALS BUREAU
CENTRAL LABORATORY

BORING LOG

SHELBURNE–SOUTH BURLINGTON
NHG SGNL(51)
US–7 MAST ARMS

Boring No.: B–106
Page No.: 1 of 1
Pin No.: 19t398
Checked By: END

Boring Crew: Gonyaw, Emerson, Brochu
Date Started: 6/01/20 Date Finished: 6/01/20
VTSPG NAD83: N 707421.40 ft E 1454952.70 ft
Station: 64+99.00 Offset: 47.20
Ground Elevation: 203.7 ft

	Casing	Sampler
Type:	H.S.A.	SS
I.D.:	4 in	1.5 in
Hammer Wt:	N.A.	140 lb.
Hammer Fall:	N.A.	30 in.
Hammer/Rod Type:		Auto/AWJ
Rig:	Diedrich D25	CE = 1.45

Groundwater Observations		
Date	Depth (ft)	Notes
06/01/20		No WT to depth

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		Field Class:, Silty Sand, brn, Moist, Rec. = 1.0 ft	2–3–2–3 (5)				
		Field Class:, Sandy Silt, brn, Moist, Rec. = 1.8 ft	4–5–5–7 (10)				
5		Field Class:, Sandy Silt, Lt/brn, Moist, Rec. = 1.8 ft	6–7–8–8 (15)				
		Field Class:, Sandy Silt, Lt/brn, Moist, Rec. = 1.0 ft	4–5–8–8 (13)				
		Field Class:, Clay, gry, Moist, Rec. = 1.8 ft	3–3–3–4 (6)				
10		A–7–6, Cl, gry, MTW, Rec. = 1.8 ft	2–3–2–2 (5)	30.3		0.6	99.4
15		Field Note:, Pushed 3"x30" Shelby tube 15–17', Rec. = 2.0 ft					
20		Field Note:, Pushed 3"x30" Shelby tube 20–22', Rec. = 2.0 ft					
25		Field Class:, Clay, gry, MTW, Rec. = 2.0 ft	WH–WH–WH–WH (WH)				
		Hole stopped @ 27.0 ft					

Remarks:
Hole collapsed at 5.3 ft.

Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor.
3. Water level readings have been made at times and under conditions stated. Fluctuations may occur due to other factors than those present at the time measurements were made.

2010 COPY SHELBURNE - SOUTH BURLINGTON NHG SGNL(51)C2 NEW.GPJ VERMONT AOT.GDT 10/16/20

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BORING LOG

SHELBURNE–SOUTH BURLINGTON
NHG SGNL(51)
US–7 MAST ARMS

Boring No.: B–107
Page No.: 1 of 1
Pin No.: 19t398
Checked By: END

Boring Crew: Gonyaw, Emerson, Whitlock
Date Started: 5/28/20 Date Finished: 5/28/20
VTSPG NAD83: N 707423.30 ft E 1454871.80 ft
Station: 64+85.00 Offset: –46.60
Ground Elevation: 203.5 ft

	Casing	Sampler
Type:	H.S.A.	SS
I.D.:	4 in	1.5 in
Hammer Wt:	N.A.	140 lb.
Hammer Fall:	N.A.	30 in.
Hammer/Rod Type:		Auto/AWJ
Rig:	Diedrich D25	CE = 1.45

Groundwater Observations		
Date	Depth (ft)	Notes
05/28/20		No WT to depth

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %	LL %	PI %
		Field Class:, Gravelly Sand, brn, Moist, Rec. = 1.4 ft	3–6–6–7 (12)	9.5					
		Field Class:, Sandy Silt, brn, Moist, Rec. = 1.2 ft	5–6–6–7 (12)	17.4					
5		Field Class:, Sandy Silt, brn, Moist, Rec. = 1.0 ft	3–5–6–6 (11)	21.6					
		Field Class:, Sandy Silt, brn, Moist, Rec. = 0.3 ft	5–5–6–8 (11)	20.3					
		Field Class:, Sandy Clayey Silt, brn, Moist, Rec. = 1.7 ft	5–5–6–6 (11)	24.5					
10		A–7–6, Cl, brn, Moist, Rec. = 1.8 ft	2–2–3–3 (5)	39.6	0.5	7.5	92.0	59	34
15		Field Class:, Clay, gry, Moist, Rec. = 2.0 ft	1–1–1–2 (2)	45.1					
20		Field Class:, Clay, gry, MTW, Rec. = 2.0 ft	WH–WH–WH–WH (WH)	37.2					
25		Field Class:, Clay, gry, MTW, Rec. = 2.0 ft	WH–WH–WH–WH (WH)	54.7					
		Hole stopped @ 27.0 ft							

Remarks:
Hole collapsed at 2.4 ft.

Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor.
3. Water level readings have been made at times and under conditions stated. Fluctuations may occur due to other factors than those present at the time measurements were made.

2010 COPY SHELBURNE - SOUTH BURLINGTON NHG SGNL(51)C2 NEW.GPJ VERMONT AOT.GDT 10/16/20

PROJECT NAME: SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER: NHG SGNL(51) C/2

FILE NAME: boring logs.dgn
PROJECT LEADER: T. SISSON
DESIGNED BY: K. RECORD
BORING LOG SHEET 3

PLOT DATE: 10/28/2020
DRAWN BY: K. RECORD
CHECKED BY: T. SISSON
SHEET 15 OF 74

STATE OF VERMONT
AGENCY OF TRANSPORTATION
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CENTRAL LABORATORY

BORING LOG

SHELBURNE–SOUTH BURLINGTON
NHG SGNL(51)
US–7 MAST ARMS

Boring No.: B–108
Page No.: 1 of 1
Pin No.: 19t398
Checked By: END

Boring Crew: Gonyaw, Emerson, Whitlock
Date Started: 5/27/20 Date Finished: 5/27/20
VTSPG NAD83: N 707476.00 ft E 1454871.40 ft
Station: 64+47.00 Offset: –42.30
Ground Elevation: 203.9 ft

	Casing	Sampler
Type:	H.S.A.	SS
I.D.:	3.25 in	1.5 in
Hammer Wt:	N.A.	140 lb.
Hammer Fall:	N.A.	30 in.
Hammer/Rod Type:		Auto/AWJ
Rig:	CME 55 TRACK	CE = 1.52

Groundwater Observations

Date	Depth (ft)	Notes
05/07/20		No Wt to depth

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %	LL %	PI %
		Field Class:, Sand, brn, Moist, Rec. = 0.4 ft	2–1–3–26 (4)	9.9					
		Field Class:, Silty Sand, brn, Moist, Rec. = 1.3 ft	43–6–4–4 (10)	17.2					
5		Field Class:, Sandy Silt, brn, Moist, Rec. = 1.7 ft	3–4–5–5 (9)	20.7					
		Field Class:, Silty Clay, gry, Moist, Rec. = 2.0 ft	3–3–4–4 (7)	26.8					
		Field Class:, Silty Clay, gry, Moist, Rec. = 2.0 ft	2–2–2–3 (4)	27.8					
10		Field Note:, Pushed 3"x30" Shelby tube 10–12', Rec. = 2.0 ft							
15		Field Note:, Pushed 3"x30" Shelby tube 15–17', Rec. = 2.0 ft							
20		A–7–6, gry, MTW, Rec. = 2.0 ft	WH–WH–WH–WH (WH)	42.2	1.2	4.9	93.9	57	31
25		A–7–6, gry, MTW, Rec. = 2.0 ft	WH–WH–WH–WH (WH)	59.7					
		Hole stopped @ 27.0 ft							

Remarks:
Hole collapsed at 0.8 ft.

Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor.
3. Water level readings have been made at times and under conditions stated. Fluctuations may occur due to other factors than those present at the time measurements were made.

2010 COPY SHELBURNE – SOUTH BURLINGTON NHG SGNL(51)C2 NEW.GPJ VERMONT AOT.GDT 10/16/20

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CENTRAL LABORATORY

BORING LOG

SHELBURNE–SOUTH BURLINGTON
NHG SGNL(51)
US–7 MAST ARMS

Boring No.: B–109
Page No.: 1 of 1
Pin No.: 19t398
Checked By: END

Boring Crew: Gonyaw, Emerson
Date Started: 5/29/20 Date Finished: 5/29/20
VTSPG NAD83: N 707472.00 ft E 1454961.50 ft
Station: 65+50.00 Offset: 48.70
Ground Elevation: 204.3 ft

	Casing	Sampler
Type:	H.S.A.	SS
I.D.:	4 in	1.5 in
Hammer Wt:	N.A.	140 lb.
Hammer Fall:	N.A.	30 in.
Hammer/Rod Type:		Auto/AWJ
Rig:	Diedrich D25	CE = 1.45

Groundwater Observations

Date	Depth (ft)	Notes
05/29/20		No WT to depth

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %	LL %	PI %
		Field Class:, Gravelly Sand, brn, Moist, Rec. = 0.9 ft	2–3–4–1 (7)						
		Field Class:, Sandy Silt, brn, Moist, Rec. = 1.7 ft	4–4–5–4 (9)						
5		Field Class:, Sandy Clayey Silt, brn, Moist, Rec. = 1.7 ft	2–2–4–5 (6)						
		Field Class:, Clayey Silt, brn, Moist, Rec. = 1.4 ft	4–4–4–6 (8)						
		Field Class:, Clayey Silt, Lt/brn, Moist, Rec. = 1.8 ft	7–5–5–6 (10)						
10		Field Class:, Clay, Lt/brn, Wet, Rec. = 0.4 ft	3–3–2–3 (5)						
15		A–7–6, Cl, gry, Wet, Rec. = 2.0 ft	1–1–1–1 (2)	52.0	0.2	4.8	95.0	59	34
20		Field Class:, Clay, gry, Wet, Rec. = 2.0 ft	WH–WH–WH–WH (WH)						
25		Field Class:, Clay, gry, Wet, Rec. = 2.0 ft	WH–WH–WH–WH (WH)						
		Hole stopped @ 27.0 ft							

Remarks:
Hole collapsed at 3.6 ft.

Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor.
3. Water level readings have been made at times and under conditions stated. Fluctuations may occur due to other factors than those present at the time measurements were made.

2010 COPY SHELBURNE – SOUTH BURLINGTON NHG SGNL(51)C2 NEW.GPJ VERMONT AOT.GDT 10/16/20

PROJECT NAME: SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER: NHG SGNL(51) C/2

FILE NAME: boring logs.dgn
PROJECT LEADER: T. SISSON
DESIGNED BY: K. RECORD
BORING LOG SHEET 4

PLOT DATE: 10/28/2020
DRAWN BY: K. RECORD
CHECKED BY: T. SISSON
SHEET 16 OF 74

STATE OF VERMONT
AGENCY OF TRANSPORTATION
CONSTRUCTION AND
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CENTRAL LABORATORY

BORING LOG

SHELBURNE–SOUTH BURLINGTON
NHG SGNL(51)
US-7 MAST ARMS

Boring No.: B-110
Page No.: 1 of 1
Pin No.: 19t398
Checked By: END

Boring Crew: Gonyaw, Brochu
Date Started: 6/02/20 Date Finished: 6/02/20
VTSPG NAD83: N 708448.30 ft E 1455040.00 ft
Station: 75+24.00 Offset: 50.20
Ground Elevation: 209.8 ft

	Casing	Sampler
Type:	H.S.A.	SS
I.D.:	3.25 in	1.5 in
Hammer Wt:	N.A.	140 lb.
Hammer Fall:	N.A.	30 in.
Hammer/Rod Type:		Auto/AWJ
Rig:	Diedrich D25	CE = 1.45

Groundwater Observations

Date	Depth (ft)	Notes
06/02/20		No Wt to depth

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %	LL %	PI %
		Field Class:, Gravelly Sand, brn, Moist, Rec. = 0.9 ft, Field Note: some organics were present in sample	2-3-3-3 (6)						
		Field Class:, Sand, brn, MTW, Rec. = 1.5 ft	1-2-2-2 (4)						
5		Field Class:, Sandy Silt, brn, MTW, Rec. = 1.6 ft	4-5-4-5 (9)						
		Field Class:, Clayey Silt, gry, MTW, Rec. = 1.9 ft	5-5-4-6 (9)						
		Field Class:, Silt, gry, Moist, Rec. = 1.9 ft	5-6-5-5 (11)						
10		A-4, Si, gry, Moist, Rec. = 1.9 ft	6-4-3-2 (7)	32.8	0.1	2.8	97.1	32	10
15		Field Class:, Clay, gry, MTW, Rec. = 1.5 ft	2-2-1-1 (3)						
20		A-4, SaSi, gry, MTW, Rec. = 1.0 ft	3-3-7-8 (10)		14.5	39.3	46.2		
25		A-4, SaSi, gry, Moist, Rec. = 1.3 ft	31-21-20-25 (41)	7.7	18.8	38.8	42.4		
		Hole stopped @ 27.0 ft							

Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor.
3. Water level readings have been made at times and under conditions stated. Fluctuations may occur due to other factors than those present at the time measurements were made.

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BORING LOG

SHELBURNE–SOUTH BURLINGTON
NHG SGNL(51)
US-7 MAST ARMS

Boring No.: B-111
Page No.: 1 of 1
Pin No.: 19t398
Checked By: END

Boring Crew: Brochu, Emerson, Whitlock
Date Started: 6/05/20 Date Finished: 6/05/20
VTSPG NAD83: N 708424.60 ft E 1454940.90 ft
Station: 74+91.00 Offset: -46.20
Ground Elevation: 208.8 ft

	Casing	Sampler
Type:	H.S.A.	SS
I.D.:	3.25 in	1.5 in
Hammer Wt:	N.A.	140 lb.
Hammer Fall:	N.A.	30 in.
Hammer/Rod Type:		Auto/AWJ
Rig:	Diedrich D25	CE = 1.45

Groundwater Observations

Date	Depth (ft)	Notes
06/05/20		No WT to depth

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %	LL %	PI %
		Field Class:, Sandy Silt, brn, Moist, Rec. = 1.1 ft	2-2-4-5 (6)						
		Field Class:, Sand, brn, Moist, Rec. = 0.95 ft, Field Note: Slit Sample	5-5-5-5 (10)						
		Field Class:, Sandy Silt, brn, Moist, Rec. = 0.55 ft							
5		Field Class:, Silt, brn, Moist, Rec. = 1.5 ft	2-2-5-4 (7)						
		Field Class:, Silt, brn, Moist, Rec. = 1.5 ft	3-3-7-5 (10)						
		Field Class:, Silt, brn, MTW, Rec. = 2.0 ft	5-5-5-4 (10)						
10		A-4, SaSi, gry, MTW, Rec. = 1.1 ft	3-4-3-3 (7)	26.6	0.1	35.2	64.7		
15		A-7-6, Cl, gry, MTW, Rec. = 2.0 ft	WH-WH-WH-WH (WH)	53.0	0.5	3.0	96.5	58	31
20		Field Class:, Clay, gry, MTW, Rec. = 2.0 ft	WH-WH-WH-WH (WH)						
25		Field Class:, Clay, gry, MTW, Rec. = 2.0 ft	WH-WH-WH-WH (WH)						
		Hole stopped @ 27.0 ft							

Remarks:
Hole collapsed at 7.2 ft.

Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor.
3. Water level readings have been made at times and under conditions stated. Fluctuations may occur due to other factors than those present at the time measurements were made.

2010 COPY SHELBURNE - SOUTH BURLINGTON NHG SGNL(51)C2 NEW.GPJ VERMONT AOT.GDT 10/16/20

PROJECT NAME: SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER: NHG SGNL(51) C/2

FILE NAME: boring logs.dgn
PROJECT LEADER: T. SISSON
DESIGNED BY: K. RECORD
BORING LOG SHEET 5

PLOT DATE: 10/28/2020
DRAWN BY: K. RECORD
CHECKED BY: T. SISSON
SHEET 17 OF 74

STATE OF VERMONT
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BORING LOG

SHELBURNE–SOUTH BURLINGTON
NHG SGNL(51)
US-7 MAST ARMS

Boring No.: B-112
Page No.: 1 of 1
Pin No.: 19t398
Checked By: END

Boring Crew: Gonyaw, Emerson, Brochu, Whitlock
Date Started: 6/04/20 Date Finished: 6/04/20
VTSPG NAD83: N 708537.10 ft E 1454946.90 ft
Station: 76+03.00 Offset: -51.30
Ground Elevation: 208.7 ft

	Casing	Sampler
Type:	H.S.A.	SS
I.D.:	3.25 in	1.5 in
Hammer Wt:	N.A.	140 lb.
Hammer Fall:	N.A.	30 in.
Hammer/Rod Type:	Auto/AWJ	
Rig:	Diedrich D25	CE = 1.45

Groundwater Observations

Date	Depth (ft)	Notes
06/04/20		No WT to depth

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		Field Class:, Gravelly Silty Sand, brn, Moist, Rec. = 1.1 ft	2-4-6-3 (10)				
		Field Class:, Sand, brn, Moist, Rec. = 1.1 ft	3-3-1-2 (4)				
5		Field Class:, Sandy Silt, brn, MTW, Rec. = 1.2 ft	2-2-6-5 (8)				
		Field Class:, Sandy Silt, brn/gry, MTW, Rec. = 1.4 ft	4-5-3-5 (8)				
		A-4, SaSi, brn/gry, MTW, Rec. = 0.3 ft	2-1-2-4 (3)	23.0		25.7	74.3
10		Field Class:, Silt, gry, MTW, Rec. = 1.5 ft	5-5-7-7 (12)				
15		A-7-6, Cl, gry, MTW, Rec. = 1.8 ft	1-1-1-1 (2)	28.9		0.9	99.1
20		A-7-6, Cl, gry, MTW, Rec. = 2.0 ft	WH-WH-WH-WH (WH)				
25		A-7-6, Cl, gry, MTW, Rec. = 2.0 ft	WH-WH-WH-WH (WH)				
		Hole stopped @ 27.0 ft					

Remarks:
Hole collapsed at 3.5 ft.

Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor.
3. Water level readings have been made at times and under conditions stated. Fluctuations may occur due to other factors than those present at the time measurements were made.

2010 COPY SHELBURNE – SOUTH BURLINGTON NHG SGNL(51)C2 NEW.GPJ VERMONT AOT.GDT 10/16/20

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BORING LOG

SHELBURNE–SOUTH BURLINGTON
NHG SGNL(51)
US-7 MAST ARMS

Boring No.: B-113
Page No.: 1 of 1
Pin No.: 19t398
Checked By: END

Boring Crew: Gonyaw, Emerson, Brochu, Whitlock
Date Started: 6/03/20 Date Finished: 6/03/20
VTSPG NAD83: N 708519.90 ft E 1455044.80 ft
Station: 76+08.00 Offset: 48.20
Ground Elevation: 210.0 ft

	Casing	Sampler
Type:	H.S.A.	SS
I.D.:	4 in	1.5 in
Hammer Wt:	N.A.	140 lb.
Hammer Fall:	N.A.	30 in.
Hammer/Rod Type:	Auto/AWJ	
Rig:	Diedrich D25	CE = 1.45

Groundwater Observations

Date	Depth (ft)	Notes
06/03/20	26.9	WT after drilling

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		Field Class:, Sand, brn, Moist, Rec. = 1.5 ft	1-1-2-2 (3)				
		Field Class:, Sand, brn, Moist, Rec. = 0.9 ft, Field Note: Split Sample	3-5-2-3 (7)				
		Field Class:, Sandy Silt, gry, Moist, Rec. = 0.5 ft					
5		Field Class:, Silt, gry, Moist, Rec. = 1.5 ft	3-5-6-9 (11)				
		A-7-6, Cl, gry, Moist, Rec. = 1.7 ft	4-5-5-5 (10)	22.6		2.7	97.3
10		Field Note:, Pushed 3"x30" Shelby tube 8-10', Rec. = 2.0 ft					
		Field Note:, Pushed 3"x30" Shelby tube 10-12', Rec. = 1.9 ft					
15		Field Class:, Clay, gry, MTW, Rec. = 2.0 ft	WH-WH-WH-WH (WH)				
20		Field Class:, Clay, gry, MTW, Rec. = 2.0 ft	WH-WH-WH-WH (WH)				
25		Field Class:, Clay, gry, MTW, Rec. = 2.0 ft	WH-WH-WH-WH (WH)				
		Hole stopped @ 27.0 ft					

Remarks:
Hole collapsed at 2.3 ft.

Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor.
3. Water level readings have been made at times and under conditions stated. Fluctuations may occur due to other factors than those present at the time measurements were made.

2010 COPY SHELBURNE – SOUTH BURLINGTON NHG SGNL(51)C2 NEW.GPJ VERMONT AOT.GDT 10/16/20

PROJECT NAME: SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER: NHG SGNL(51) C/2

FILE NAME: boring logs.dgn
PROJECT LEADER: T. SISSON
DESIGNED BY: K. RECORD
BORING LOG SHEET 6

PLOT DATE: 10/28/2020
DRAWN BY: K. RECORD
CHECKED BY: T. SISSON
SHEET 18 OF 74

STATE OF VERMONT
AGENCY OF TRANSPORTATION
CONSTRUCTION AND
MATERIALS BUREAU
CENTRAL LABORATORY

BORING LOG

SHELBURNE–SOUTH BURLINGTON
NHG SGNL(51)
US–7 MAST ARMS

Boring No.: B–114
Page No.: 1 of 1
Pin No.: 19t398
Checked By: END

Boring Crew: Brochu, Gonyaw, Whitlock
Date Started: 6/08/20 Date Finished: 6/08/20
VTSPG NAD83: N 708934.20 ft E 1455081.20 ft
Station: 80+06.00 Offset: 42.50
Ground Elevation: 209.8 ft

	Casing	Sampler
Type:	H.S.A.	SS
I.D.:	3.25 in	1.5 in
Hammer Wt:	N.A.	140 lb.
Hammer Fall:	N.A.	30 in.
Hammer/Rod Type:		Auto/AWJ
Rig:	Diedrich D25	CE = 1.45

Groundwater Observations		
Date	Depth (ft)	Notes
06/08/20		No WT to depth

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %	LL %	PI %
		Field Class:, Silty Sand, brn, Moist, Rec. = 1.1 ft	2-1-2-2 (3)						
		Field Class:, Sand, brn, Moist, Rec. = 1.6 ft	3-2-5-5 (7)						
5		Field Class:, Si, brn, Moist, Rec. = 1.8 ft	4-3-4-6 (7)						
		Field Class:, Silty Clay, gry, MTW, Rec. = 1.4 ft	5-5-5-4 (10)						
		A-4, Si, gry, MTW, Rec. = 1.4 ft	5-2-3-3 (5)	32.5		1.1	98.9	31	8
10		Field Note, Pushed 3" x 30" Shelby Tube 10–12', No Recovery							
15		Field Class:, Clay, gry, MTW, Rec. = 2.0 ft	WH-WH-WH-WH (WH)						
20		Field Class:, Gravelly Sandy Silt, Dk/brn, MTW, Rec. = 0.7 ft	16-19-R@4" (R)						
25									
		Hole stopped @ 27.0 ft							

Remarks:
Hole collapsed at 2.9 ft.

Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor.
3. Water level readings have been made at times and under conditions stated. Fluctuations may occur due to other factors than those present at the time measurements were made.

2010 COPY SHELBURNE – SOUTH BURLINGTON NHG SGNL(51)C2 NEW.GPJ VERMONT AOT.GDT 10/16/20

STATE OF VERMONT
AGENCY OF TRANSPORTATION
CONSTRUCTION AND
MATERIALS BUREAU
CENTRAL LABORATORY

BORING LOG

SHELBURNE–SOUTH BURLINGTON
NHG SGNL(51)
US–7 MAST ARMS

Boring No.: B–115
Page No.: 1 of 1
Pin No.: 19t398
Checked By: END

Boring Crew: Gonyaw, Emerson, Brochu
Date Started: 6/11/20 Date Finished: 6/15/20
VTSPG NAD83: N 708937.50 ft E 1454992.10 ft
Station: 80+12.00 Offset: –58.70
Ground Elevation: 208.7 ft

	Casing	Sampler
Type:	H.S.A.	SS
I.D.:	4 in	1.5 in
Hammer Wt:	N.A.	140 lb.
Hammer Fall:	N.A.	30 in.
Hammer/Rod Type:		Auto/AWJ
Rig:	CME 55 TRACK	CE = 1.52

Groundwater Observations		
Date	Depth (ft)	Notes
06/15/20		No WT to depth

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %	LL %	PI %
		Field Class:, Gravelly Sand, brn, Moist, Rec. = 0.6 ft	4-4-3-1 (7)						
		Field Class:, Gravelly Sand, brn, Moist, Rec. = 0.6 ft	3-3-4-2 (7)						
5		Field Class:, Silty Sandy Gravel, brn, Moist, Rec. = 1.4 ft, Auger refusal at 4.5'	12-8-8-11 (16)						
		Field Class:, Sandy Silt, brn/gry, Moist, Rec. = 1.2 ft	7-8-9-24 (17)						
		Field Class:, Sandy Silt, gry, Moist, Rec. = 1.5 ft	10-17-18-17 (35)						
10		Field Class:, Silt, gry, Moist, Rec. = 0.4 ft, Field Note: split sample	4-3-2-2 (5)						
		Field Class:, Clay, gry, Moist							
15		Field Note, No Recovery, Rec. = 0.4 ft	WH-WH-WH-WH (WH)						
20		A-7-6, Cl, gry, MTW, Rec. = 2.0 ft	WH-WH-WH-WH (WH)	50.3	0.2	1.0	98.8	48	24
25		A-7-6, Cl, gry, MTW, Rec. = 1.0 ft, Field Note: Split Sample	WH-WH-	48.6		3.6	96.4		
		A-4, SaSi, gry, MTW, Rec. = 1.0 ft	WH-WH (WH)	16.5	9.1	37.4	53.5		
		Hole stopped @ 27.0 ft							

Remarks:
Hole collapsed at 4.3 ft.

Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor.
3. Water level readings have been made at times and under conditions stated. Fluctuations may occur due to other factors than those present at the time measurements were made.

2010 COPY SHELBURNE – SOUTH BURLINGTON NHG SGNL(51)C2 NEW.GPJ VERMONT AOT.GDT 10/16/20

PROJECT NAME: SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER: NHG SGNL(51) C/2

FILE NAME: boring logs.dgn
PROJECT LEADER: T. SISSON
DESIGNED BY: K. RECORD
BORING LOG SHEET 7

PLOT DATE: 10/28/2020
DRAWN BY: K. RECORD
CHECKED BY: T. SISSON
SHEET 19 OF 74

STATE OF VERMONT
AGENCY OF TRANSPORTATION
CONSTRUCTION AND
MATERIALS BUREAU
CENTRAL LABORATORY

BORING LOG

SHELBURNE–SOUTH BURLINGTON
NHG SGNL(51)
US–7 MAST ARMS

Boring No.: B–116
Page No.: 1 of 1
Pin No.: 19t398
Checked By: END

Boring Crew: Brochu, Emerson, Whitlock
Date Started: 6/16/20 Date Finished: 6/16/20
VTSPG NAD83: N 709002.00 ft E 1454988.60 ft
Station: 80+70.00 Offset: –56.60
Ground Elevation: 208.5 ft

	Casing	Sampler
Type:	H.S.A.	SS
I.D.:	4 in	1.5 in
Hammer Wt:	N.A.	140 lb.
Hammer Fall:	N.A.	30 in.
Hammer/Rod Type:		Auto/AWJ
Rig:	CME 55 TRACK	CE = 1.52

Groundwater Observations		
Date	Depth (ft)	Notes
06/16/20		No WT to depth

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %	LL %	PI %
		Field Class:, Sand, brn, Moist, Rec. = 1.1 ft	4–2–4–8 (6)						
		Field Class:, Sand, brn, Moist, Rec. = 1.0 ft	3–2–4–6 (6)						
5		Field Class:, Sandy Silt, brn, Moist, Rec. = 1.2 ft	6–6–6–5 (12)						
		A–4, Si, gry, Moist, Rec. = 1.1 ft	3–4–5–4 (9)	25.1	0.1	3.6	96.3		
		Field Class:, Clay, gry, MTW, Rec. = 1.8 ft, Lab Note, Similar to sample from 10–12'	1–2–1–1 (3)						
10		A–4, Si, gry, MTW, Rec. = 2.0 ft	WH–WH–WH–WH (WH)	34.7	0.1	2.5	97.4	29	7
15		Field Class:, Clay, gry, MTW, Rec. = 2.0 ft	WH–WH–WH–WH (WH)						
20		Field Class:, Clay, gry, MTW, Rec. = 2.0 ft	WH–WH–WH–WH (WH)						
25		A–4, SaSi, brn, Wet, Rec. = 1.5 ft	WH–2–6–12 (8)	11.8	18.1	35.0	46.9		
		Hole stopped @ 27.0 ft							

Remarks:
Hole collapsed at 1.8 ft.

Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor.
3. Water level readings have been made at times and under conditions stated. Fluctuations may occur due to other factors than those present at the time measurements were made.

STATE OF VERMONT
AGENCY OF TRANSPORTATION
CONSTRUCTION AND
MATERIALS BUREAU
CENTRAL LABORATORY

BORING LOG

SHELBURNE–SOUTH BURLINGTON
NHG SGNL(51)
US–7 MAST ARMS

Boring No.: B–117
Page No.: 1 of 1
Pin No.: 19t398
Checked By: END

Boring Crew: Brochu, Gonyaw, Whitlock
Date Started: 6/09/20 Date Finished: 6/10/20
VTSPG NAD83: N 708987.90 ft E 1455092.80 ft
Station: 80+67.00 Offset: 48.50
Ground Elevation: 210.4 ft

	Casing	Sampler
Type:	H.S.A.	SS
I.D.:	4 in	1.5 in
Hammer Wt:	N.A.	140 lb.
Hammer Fall:	N.A.	30 in.
Hammer/Rod Type:		Auto/AWJ
Rig:	CME 55 TRACK	CE = 1.52

Groundwater Observations		
Date	Depth (ft)	Notes
06/09/20		No WT to depth

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		Field Class:, Silty Sand, brn, Moist, Rec. = 1.0 ft	2–3–3–2 (6)				
		Field Class:, Sand, brn, Moist, Rec. = 1.2 ft	2–3–3–4 (6)				
5		Field Class:, Silty Sand, brn, Moist, Rec. = 1.4 ft	4–5–4–4 (9)				
		Field Class:, Clayey Silt, gry, Moist, Rec. = 1.9 ft	3–3–3–4 (6)				
		Field Class:, Clay, gry, MTW, Rec. = 1.7 ft	4–3–3–2 (6)	30.9		0.4	99.6
10		Field Note:, Pushed 3"x30" Shelby tube 10–12', gry, MTW, Rec. = 2.0 ft					
15		Field Class:, Clay, gry, MTW, Rec. = 1.4 ft, Unable to push Shelby Tube 15–17'	6–5–16–12 (21)				
		A–1–b, SaSiGr, gry, MTW		8.3	57.4	20.8	21.8
20		Field Class:, Clay, gry, MTW, Rec. = 0.5 ft	WH–2–2–2 (4)				
25		Field Class:, Gravelly Sandy Silt, gry, Moist, Rec. = 0.9 ft	17–9–8–10 (17)				
		Hole stopped @ 27.0 ft					

Remarks:
Hole collapsed at 3.2 ft.

Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor.
3. Water level readings have been made at times and under conditions stated. Fluctuations may occur due to other factors than those present at the time measurements were made.

2010 COPY SHELBURNE – SOUTH BURLINGTON NHG SGNL(51)C2 NEW.GPJ VERMONT AOT.GDT 10/16/20

PROJECT NAME: SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER: NHG SGNL(51) C/2

FILE NAME: boring logs.dgn
PROJECT LEADER: T. SISSON
DESIGNED BY: K. RECORD
BORING LOG SHEET 8

PLOT DATE: 10/28/2020
DRAWN BY: K. RECORD
CHECKED BY: T. SISSON
SHEET 20 OF 74

STATE OF VERMONT
AGENCY OF TRANSPORTATION
CONSTRUCTION AND
MATERIALS BUREAU
CENTRAL LABORATORY

BORING LOG

SHELBURNE–SOUTH BURLINGTON
NHG SGNL(51)
US–7 MAST ARMS

Boring No.: B–118
Page No.: 1 of 1
Pin No.: 19t398
Checked By: END

Boring Crew: Brochu, Emerson, Gonyaw
Date Started: 6/19/20 Date Finished: 6/19/20
VTSPG NAD83: N 709649.00 ft E 1455050.40 ft
Station: 87+21.00 Offset: –59.80
Ground Elevation: 205.9 ft

	Casing	Sampler
Type:	H.S.A.	SS
I.D.:	4 in	1.5 in
Hammer Wt:	N.A.	140 lb.
Hammer Fall:	N.A.	30 in.
Hammer/Rod Type:		Auto/AWJ
Rig:	CME 55 TRACK	CE = 1.52

Groundwater Observations		
Date	Depth (ft)	Notes
06/19/20		No WT to depth

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %	LL %	PI %
		Field Class:, Sandy Gravel, brn, Moist, Rec. = 1.3 ft	5–18–19–12 (37)						
		Field Class:, Sandy Gravel, brn, Moist, Rec. = 0.9 ft	14–12–6–5 (18)						
5		Field Class:, Sandy Silt, brn, Moist, Rec. = 1.1 ft	4–3–3–5 (6)						
		Field Class:, Silty Clay, brn, Moist, Rec. = 1.0 ft	4–5–5–7 (10)						
		A–7–6, Cl, brn, Moist, Rec. = 0.7 ft	6–8–7–9 (15)					59	30
10		Field Class:, Gravelly Sandy Silt, brn, Moist, Rec. = 1.9 ft	8–9–8–11 (17)						
15		Field Note, No Recovery	1–1–3–2 (4)						
20		A–4, GrSaSi, brn, Moist, Rec. = 1.3 ft	10–15–25–26 (40)	7.3	24.7	31.8	43.5		
25		A–4, GrSaSi, brn, Moist, Rec. = 1.8 ft	20–25–36–R@2" (61)	8.4	21.0	30.8	48.2		

Hole stopped @ 26.7 ft

Remarks:
Hole collapsed at 2.7 ft.

Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor.
3. Water level readings have been made at times and under conditions stated. Fluctuations may occur due to other factors than those present at the time measurements were made.

STATE OF VERMONT
AGENCY OF TRANSPORTATION
CONSTRUCTION AND
MATERIALS BUREAU
CENTRAL LABORATORY

BORING LOG

SHELBURNE–SOUTH BURLINGTON
NHG SGNL(51)
US–7 MAST ARMS

Boring No.: B–119
Page No.: 1 of 1
Pin No.: 19t398
Checked By: END

Boring Crew: Brochu, Emerson, Gonyaw
Date Started: 6/18/20 Date Finished: 6/18/20
VTSPG NAD83: N 709705.20 ft E 1455054.90 ft
Station: 87+71.00 Offset: –56.20
Ground Elevation: 206.0 ft

	Casing	Sampler
Type:	H.S.A.	SS
I.D.:	4 in	1.5 in
Hammer Wt:	N.A.	140 lb.
Hammer Fall:	N.A.	30 in.
Hammer/Rod Type:		Auto/AWJ
Rig:	CME 55 TRACK	CE = 1.52

Groundwater Observations		
Date	Depth (ft)	Notes
06/15/20		No WT to depth

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %	LL %	PI %
		Field Class:, Gravelly Sand, brn, Moist, Rec. = 1.0 ft	3–13–14–23 (27)						
		Field Class:, Sandy Gravel, brn, Moist, Rec. = 1.0 ft	18–16–11–5 (27)						
5		Field Class:, Sandy Gravelly Silt, brn, Moist, Rec. = 0.7 ft	5–5–4–5 (9)						
		Field Note, No Recovery	7–6–8–6 (14)						
		Field Class:, Clay, brn, Moist, Rec. = 0.2 ft	3–5–6–7 (11)						
10		Field Class:, Clay, brn, Moist, Rec. = 1.5 ft	3–8–6–7 (14)						
15		A–7–6, Cl, gry, MTW, Rec. = 2.0 ft	WH–WH–WH–WH (WH)	47.3	2.0	2.0	96.0	54	29
20		Field Class:, Silty Gravel, brn, Moist, Rec. = 1.0 ft	6–32–R@5" (R)						
25		Field Class:, Sandy Gravel, brn, Moist, Rec. = 1.4 ft	23–36–40–R@1" (76)						

Hole stopped @ 26.6 ft

Remarks:
Hole collapsed at 4.3 ft.

Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor.
3. Water level readings have been made at times and under conditions stated. Fluctuations may occur due to other factors than those present at the time measurements were made.

2010 COPY SHELBURNE – SOUTH BURLINGTON NHG SGNL(51)C2 NEW.GPJ VERMONT AOT.GDT 10/16/20

PROJECT NAME: SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER: NHG SGNL(51) C/2

FILE NAME: boring logs.dgn
PROJECT LEADER: T. SISSON
DESIGNED BY: K. RECORD
BORING LOG SHEET 9

PLOT DATE: 10/28/2020
DRAWN BY: K. RECORD
CHECKED BY: T. SISSON
SHEET 21 OF 74

STATE OF VERMONT
AGENCY OF TRANSPORTATION
CONSTRUCTION AND
MATERIALS BUREAU
CENTRAL LABORATORY

BORING LOG

SHELBURNE–SOUTH BURLINGTON
NHG SGNL(51)
US-7 MAST ARMS

Boring No.: B-120
Page No.: 1 of 1
Pin No.: 19t398
Checked By: END

Boring Crew: Gonyaw, Brochu, Whitlock
Date Started: 6/17/20 Date Finished: 6/17/20
VTSPG NAD83: N 709699.80 ft E 1455155.50 ft
Station: 87+80.00 Offset: 40.70
Ground Elevation: 207.8 ft

	Casing	Sampler
Type:	H.S.A.	SS
I.D.:	4 in	1.5 in
Hammer Wt:	N.A.	140 lb.
Hammer Fall:	N.A.	30 in.
Hammer/Rod Type:		Auto/AWJ
Rig:	CME 55 TRACK	CE = 1.52

Groundwater Observations		
Date	Depth (ft)	Notes
06/17/20		No WT to depth

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %	LL %	PI %
		Field Class:, Sandy Silt, brn, Dry, Rec. = 1.1 ft	2-2-3-2 (5)						
		Field Class:, Silty Sand w/ Gravel, brn, Moist, Rec. = 0.9 ft	5-6-4-3 (10)						
5		Field Class:, Silty Clay, brn, Moist, Rec. = 1.7 ft	2-3-3-2 (6)						
		Field Class:, Clay, brn, Moist, Rec. = 1.9 ft	4-6-7-7 (13)						
		A-7-6, Cl, brn, Moist, Rec. = 1.9 ft	2-2-4-6 (6)	42.6	0.9	11.0	88.1	65	38
10		Field Class:, Clay, brn, Moist, Rec. = 2.0 ft	4-4-5-4 (9)						
15		Field Class:, Silty Sand w/ Gravel, brn, Moist, Rec. = 1.8 ft	WoH-WoH-2-8 (2)						
20		A-4, GrSaSi, brn, Moist, Rec. = 1.6 ft	11-27-36-R@4" (63)	6.8	24.2	33.1	42.7		
25		Field Note, No Recovery	16-28-33-R@4" (61)						
		Hole stopped @ 26.8 ft							

Remarks:
Hole collapsed at 1.8 ft.

Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor.
3. Water level readings have been made at times and under conditions stated. Fluctuations may occur due to other factors than those present at the time measurements were made.

2010 COPY SHELBURNE - SOUTH BURLINGTON NHG SGNL(51)C2 NEW.GPJ VERMONT AOT.GDT 10/16/20

STATE OF VERMONT
AGENCY OF TRANSPORTATION
CONSTRUCTION AND
MATERIALS BUREAU
CENTRAL LABORATORY

BORING LOG

SHELBURNE–SOUTH BURLINGTON
NHG SGNL(51)
US-7 MAST ARMS

Boring No.: B-121
Page No.: 1 of 1
Pin No.: 19t398
Checked By: END

Boring Crew: Gonyaw, Brochu, Emerson
Date Started: 10/01/20 Date Finished: 10/01/20
VTSPG NAD83: N 710032.80 ft E 1455205.40 ft
Station: 91+16.00 Offset: 65.50
Ground Elevation: 210.7 ft

	Casing	Sampler
Type:	H.S.A.	SS
I.D.:	3.25 in	1.5 in
Hammer Wt:	N.A.	140 lb.
Hammer Fall:	N.A.	30 in.
Hammer/Rod Type:		Auto/AWJ
Rig:	CME 45C SKID	CE = 1.56

Groundwater Observations		
Date	Depth (ft)	Notes

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		Field Note, Asphalt 0-0.6'					
2.5		A-1-b, GrSa, blk, Moist, Rec. = 1.2 ft	5-4-20-10 (24)	11.1	26.2	57.2	16.6
		A-1-b, GrSa, brn, Moist, Rec. = 0.3 ft	3-3-3-3 (6)	12.4	39.9	45.1	15.0
5.0		A-4, Si, brn, Moist, Rec. = 1.3 ft	8-7-9-9 (16)	29.0	5.6	15.0	79.4
7.5		A-4, Si, brn, Moist, Rec. = 1.0 ft, Field Note, Split sample	6-7-9-R@4" (16)	26.1	15.8	17.2	67.0
		A-2-4, Sa, brn, Moist		17.6	6.0	74.3	19.7
		Hole stopped @ 8.8 ft					
10.0							

Remarks:
1. Hole collapsed at 4.0 ft.
2. Encountered auger refusal at 8.8 ft believed to be a boulder.
3. Moved boring 3 ft toward centerline of US 7. Continued as B-121A

Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor.
3. Water level readings have been made at times and under conditions stated. Fluctuations may occur due to other factors than those present at the time measurements were made.

2010 COPY SHELBURNE - SOUTH BURLINGTON NHG SGNL(51)C2 NEW.GPJ VERMONT AOT.GDT 10/16/20

PROJECT NAME: SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER: NHG SGNL(51) C/2

FILE NAME: boring logs.dgn
PROJECT LEADER: T. SISSON
DESIGNED BY: K. RECORD
BORING LOG SHEET 10

PLOT DATE: 10/28/2020
DRAWN BY: K. RECORD
CHECKED BY: T. SISSON

STATE OF VERMONT
AGENCY OF TRANSPORTATION
CONSTRUCTION AND
MATERIALS BUREAU
CENTRAL LABORATORY

BORING LOG

SHELBURNE–SOUTH BURLINGTON
NHG SGNL(51)
US-7 MAST ARMS

Boring No.: B-121A
Page No.: 1 of 1
Pin No.: 19t398
Checked By: END

Boring Crew: Gonyaw, Emerson, Brochu
Date Started: 10/01/20 Date Finished: 10/05/20
VTSPG NAD83: N 710033.00 ft E 1455202.40 ft
Station: 91+16.00 Offset: 62.50
Ground Elevation: 210.6 ft

	Casing	Sampler
Type:	WASH BORE	SS
I.D.:	4 in	1.5 in
Hammer Wt:	N.A.	140 lb.
Hammer Fall:	N.A.	30 in.
Hammer/Rod Type:		Auto/AWJ
Rig:	CME 45C SKID	CE = 1.56

Groundwater Observations		
Date	Depth (ft)	Notes
10/01/20		No WT to depth
10/05/20	2.5	WT after drilling
10/05/20	4.2	WT before drilling

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
10		Field Note, No Recovery, Advanced casing to 8 ft. Refusal at 9.5 ft. NXDC cleanout 8.1–10.0'	(R)				
		Field Note, No Recovery					
		Field Note, Boulder 9.0–14.2', NXDC cleanout 14.2–15.0'	R@1" (R)				
15		A–4, GrSaSi Lab Note: Broken Rock was within sample, brn, Moist, Rec. = 1.4 ft, NXDC cleanout 18.1–20.0'	12–30–35–R@4" (65)	8.4	25.9	31.6	42.5
20		A–4, GrSaSi, brn, Moist, Rec. = 1.3 ft, NXDC cleanout 24.2–25.0'	18–23–20–22 (43)	8.0	23.3	34.5	42.2
25		A–4, GrSaSi, brn, Moist, Rec. = 1.4 ft	12–18–23–21 (45)	7.2	27.5	34.5	38.0
		Hole stopped @ 27.0 ft					
30		Remarks: 1. Hole collapsed at 20.8 ft. 2. Advanced augers to 8 ft. Auger refusal at 9.5 ft. 3. Switched to wash bore drilling after 9.5 ft.					

Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor.
3. Water level readings have been made at times and under conditions stated. Fluctuations may occur due to other factors than those present at the time measurements were made.

2010 COPY SHELBURNE – SOUTH BURLINGTON NHG SGNL(51)C2 NEW.GPJ VERMONT AOT.GDT 10/16/20

STATE OF VERMONT
AGENCY OF TRANSPORTATION
CONSTRUCTION AND
MATERIALS BUREAU
CENTRAL LABORATORY

BORING LOG

SHELBURNE–SOUTH BURLINGTON
NHG SGNL(51)
US-7 MAST ARMS

Boring No.: B-123
Page No.: 1 of 1
Pin No.: 19t398
Checked By: END

Boring Crew: Gonyaw, Emerson, Brochu
Date Started: 10/02/20 Date Finished: 10/02/20
VTSPG NAD83: N 710121.20 ft E 1455202.90 ft
Station: 92+04.00 Offset: 56.40
Ground Elevation: 210.6 ft

	Casing	Sampler
Type:	WASH BORE	SS
I.D.:	4 in	1.5 in
Hammer Wt:	N.A.	140 lb.
Hammer Fall:	N.A.	30 in.
Hammer/Rod Type:		Auto/AWJ
Rig:	CME 45C TRACK	CE = 1.56

Groundwater Observations		
Date	Depth (ft)	Notes
10/02/20	3.7	WT after drilling

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		A–2–4, Sa, brn, Moist, Rec. = 1.0 ft	5–5–7–7 (12)	6.9	11.7	68.3	20.0
		A–2–4, SiSa, brn, Moist, Rec. = 1.4 ft	4–4–3–3 (7)	7.4	18.0	59.4	22.6
5		A–4, SaSi, brn, Moist, Rec. = 1.6 ft	4–5–5–6 (10)	23.3	8.1	30.0	61.9
		A–4, GrSaSi, brn, Moist, Rec. = 1.7 ft, Rollercone cleanout 7.0–8.0'	6–18–17–20 (35)	8.5	22.6	34.0	43.4
		A–4, GrSaSi, brn, Moist, Rec. = 1.6 ft, Rollercone cleanout 9.5–10.0'	16–20–37–R@4" (57)	9.0	29.7	30.5	39.8
10		A–4, GrSaSi, brn, Moist, Rec. = 1.3 ft, NXDC cleanout 14.1–15.0'	23–34–38–R@1" (72)	8.7	22.4	31.4	46.2
15		A–4, GrSaSi, brn, Moist, Rec. = 1.5 ft, NXDC cleanout 19.1–20.0'	11–25–25–23 (50)	9.6	22.3	29.4	48.3
20		A–4, GrSaSi, brn, Moist, Rec. = 1.5 ft, NXDC cleanout 24.2–25.0'	18–17–20–23 (37)	7.8	21.2	36.4	42.4
25		A–4, SaSi, brn, Moist, Rec. = 1.5 ft	8–11–15–12 (26)	10.3	13.3	30.7	56.0
		Hole stopped @ 27.0 ft					
		Remarks: Hole collapsed at 23.4 ft.					

Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor.
3. Water level readings have been made at times and under conditions stated. Fluctuations may occur due to other factors than those present at the time measurements were made.

2010 COPY SHELBURNE – SOUTH BURLINGTON NHG SGNL(51)C2 NEW.GPJ VERMONT AOT.GDT 10/16/20

PROJECT NAME: SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER: NHG SGNL(51) C/2

FILE NAME: boring logs.dgn
PROJECT LEADER: T. SISSON
DESIGNED BY: K. RECORD
BORING LOG SHEET 11

PLOT DATE: 10/28/2020
DRAWN BY: K. RECORD
CHECKED BY: T. SISSON
SHEET 23 OF 74

STATE OF VERMONT
AGENCY OF TRANSPORTATION
CONSTRUCTION AND
MATERIALS BUREAU
CENTRAL LABORATORY

BORING LOG

SHELBURNE–SOUTH BURLINGTON
NHG SGNL(51)
US-7 MAST ARMS

Boring No.: C-101
Page No.: 1 of 1
Pin No.: 19t398
Checked By: END

Boring Crew: Gonyaw, Emerson, Hook
Date Started: 3/13/20 Date Finished: 3/13/20
VTSPG NAD83: N 706960.10 ft E 1454832.30 ft
Station: 60+23.00 Offset: -35.60
Ground Elevation: 200.6 ft

	Casing	Sampler
Type:	H.S.A.	SS
I.D.:	4 in	1.5 in
Hammer Wt:	N.A.	140 lb.
Hammer Fall:	N.A.	30 in.
Hammer/Rod Type:		Auto/AWJ
Rig:	CME 55 TRACK	CE = 1.52

Groundwater Observations

Date	Depth (ft)	Notes

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		Field Note:, Asphalt 0.0–1.0'					
		A-1-b, SaGr, brn, Moist, Rec. = 1.7 ft	13-14-13-13 (27)	4.3	51.8	32.8	15.4
2.5		A-1-b, SaGr, brn, Moist, Rec. = 0.6 ft	3-6-6-4 (12)	5.4	52.5	32.3	15.2
5.0		A-4, Si, brn, Moist, Rec. = 1.3 ft	3-6-6-5 (12)	26.8	0.9	5.0	94.1
		Hole stopped @ 7.0 ft					
7.5		Remarks: Hole collapsed at 1.0 ft.					

Notes:
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3. Water level readings have been made at times and under conditions stated. Fluctuations may occur due to other factors than those present at the time measurements were made.

2010 COPY SHELBURNE - SOUTH BURLINGTON NHG SGNL(51)C2 NEW.GPJ VERMONT AOT.GDT 10/16/20

STATE OF VERMONT
AGENCY OF TRANSPORTATION
CONSTRUCTION AND
MATERIALS BUREAU
CENTRAL LABORATORY

BORING LOG

SHELBURNE–SOUTH BURLINGTON
NHG SGNL(51)
US-7 MAST ARMS

Boring No.: C-103
Page No.: 1 of 1
Pin No.: 19t398
Checked By: END

Boring Crew: Brochu, Emerson, Whitlock
Date Started: 6/05/20 Date Finished: 6/05/20
VTSPG NAD83: N 708438.10 ft E 1454960.30 ft
Station: 75+06.00 Offset: -28.20
Ground Elevation: 208.5 ft

	Casing	Sampler
Type:	H.S.A.	SS
I.D.:	4 in	1.5 in
Hammer Wt:	N.A.	140 lb.
Hammer Fall:	N.A.	30 in.
Hammer/Rod Type:		Auto/AWJ
Rig:	Diedrich D25	CE = 1.45

Groundwater Observations

Date	Depth (ft)	Notes

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		Field Note, Asphalt 0–0.8'					
		A-1-B, Gr, brn, Moist, Rec. = 1.1 ft	13-10-9-7 (19)	5.8	73.7	19.5	6.8
2.5		A-4, SaGrSi, brn, Moist, Rec. = 1.4 ft	6-6-5-4 (11)	12.3	34.5	20.9	44.6
5.0		Hole stopped @ 6.0 ft					
7.5							

Notes:
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2010 COPY SHELBURNE - SOUTH BURLINGTON NHG SGNL(51)C2 NEW.GPJ VERMONT AOT.GDT 10/16/20

PROJECT NAME: SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER: NHG SGNL(51) C/2

FILE NAME: boring logs.dgn
PROJECT LEADER: T. SISSON
DESIGNED BY: K. RECORD
BORING LOG SHEET 12

PLOT DATE: 10/28/2020
DRAWN BY: K. RECORD
CHECKED BY: T. SISSON
SHEET 24 OF 74

STATE OF VERMONT
AGENCY OF TRANSPORTATION
CONSTRUCTION AND
MATERIALS BUREAU
CENTRAL LABORATORY

BORING LOG

SHELBURNE–SOUTH BURLINGTON
NHG SGNL(51)
US-7 MAST ARMS

Boring No.: C-104
Page No.: 1 of 1
Pin No.: 19t398
Checked By: END

Boring Crew: Brochu, Emerson, Whitlock
Date Started: 6/16/20 Date Finished: 6/16/20
VTSPG NAD83: N 708999.40 ft E 1455012.10 ft
Station: 80+70.00 Offset: -33.00
Ground Elevation: 208.4 ft

	Casing	Sampler
Type:	H.S.A.	SS
I.D.:	4 in	1.5 in
Hammer Wt:	N.A.	140 lb.
Hammer Fall:	N.A.	30 in.
Hammer/Rod Type:		Auto/AWJ
Rig:	CME 55 TRACK	CE = 1.52

Groundwater Observations		
Date	Depth (ft)	Notes

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		Field Note, Ashphalt 0-0.6					
		A-1-B, Sa, brn, Moist, Rec. = 1.1 ft	16-13-19-9 (32)	9.7	17.6	70.2	12.2
2.5		A-2-4, Sa, brn, Moist, Rec. = 1.5 ft	9-9-10-8 (19)	8.0	4.9	84.8	10.3
		Hole stopped @ 4.6 ft					
5.0							
		Remarks: Moved from proposed location due to underground utilities.					
7.5							

Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor.
3. Water level readings have been made at times and under conditions stated. Fluctuations may occur due to other factors than those present at the time measurements were made.

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STATE OF VERMONT
AGENCY OF TRANSPORTATION
CONSTRUCTION AND
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CENTRAL LABORATORY

BORING LOG

SHELBURNE–SOUTH BURLINGTON
NHG SGNL(51)
US-7 MAST ARMS

Boring No.: C-105
Page No.: 1 of 1
Pin No.: 19t398
Checked By: END

Boring Crew: Brochu, Emerson, Gonyaw
Date Started: 6/19/20 Date Finished: 6/19/20
VTSPG NAD83: N 709695.90 ft E 1455082.40 ft
Station: 87+71.00 Offset: -31.90
Ground Elevation: 206.8 ft

	Casing	Sampler
Type:	H.S.A.	SS
I.D.:	4 in	1.5 in
Hammer Wt:	N.A.	140 lb.
Hammer Fall:	N.A.	30 in.
Hammer/Rod Type:		Auto/AWJ
Rig:	CME 55 TRACK	CE = 1.52

Groundwater Observations		
Date	Depth (ft)	Notes

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		Field Note, Asphalt 0-0.35'					
		A-1-B, Gr, brn, Moist, Rec. = 0.8 ft	35-27-18-15 (45)	3.6	75.0	18.4	6.6
2.5		A-1-B, SaGr, brn, Moist, Rec. = 0.4 ft	10-9-7-5 (16)	7.2	61.2	29.3	9.5
		Hole stopped @ 4.5 ft					
5.0							
		Remarks: Hole collapsed at 2.7 ft.					
7.5							

Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor.
3. Water level readings have been made at times and under conditions stated. Fluctuations may occur due to other factors than those present at the time measurements were made.

2010 COPY SHELBURNE - SOUTH BURLINGTON NHG SGNL(51)C2 NEW.GPJ VERMONT AOT.GDT 10/16/20

PROJECT NAME: SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER: NHG SGNL(51) C/2

FILE NAME: boring logs.dgn
PROJECT LEADER: T. SISSON
DESIGNED BY: K. RECORD
BORING LOG SHEET 13

PLOT DATE: 10/28/2020
DRAWN BY: K. RECORD
CHECKED BY: T. SISSON
SHEET 25 OF 74

STATE OF VERMONT
AGENCY OF TRANSPORTATION
CONSTRUCTION AND
MATERIALS BUREAU
CENTRAL LABORATORY

BORING LOG

SHELBURNE–SOUTH BURLINGTON
NHG SGNL(51)
US–7 MAST ARMS

Boring No.: C–106
Page No.: 1 of 1
Pin No.: 19t398
Checked By: END

Boring Crew: Gonyaw, Emerson, Brochu
Date Started: 10/02/20 Date Finished: 10/02/20
VTSPG NAD83: N 710140.90 ft E 1455182.40 ft
Station: 92+22.00 Offset: 34.50
Ground Elevation: 209.2 ft

	Casing	Sampler
Type:	WASH BORE	SS
I.D.:	4 in	1.5 in
Hammer Wt:	N.A.	140 lb.
Hammer Fall:	N.A.	30 in.
Hammer/Rod Type:		Auto/AWJ
Rig:	CME 45C SKID	CE = 1.56

Groundwater Observations

Date	Depth (ft)	Notes

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		Field Note, Asphalt 0.0–0.37'					
		A–1–b, SaGr, brn, Moist, Rec. = 0.7 ft	24–20–19–17 (39)	9.1	51.9	36.5	11.6
2.5		A–2–4, Sa, brn, Moist, Rec. = 0.8 ft	14–13–9–8 (22)	7.1	15.7	72.3	12.0
5.0		Hole stopped @ 5.0 ft					
7.5							

Notes:
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2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor.
3. Water level readings have been made at times and under conditions stated. Fluctuations may occur due to other factors than those present at the time measurements were made.

2010 COPY SHELBURNE – SOUTH BURLINGTON NHG SGNL(51)C2 NEW.GPJ VERMONT AOT.GDT 10/16/20

PROJECT NAME: SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER: NHG SGNL(51) C/2

FILE NAME: boring logs.dgn
PROJECT LEADER: T. SISSON
DESIGNED BY: K. RECORD
BORING LOG SHEET 14

PLOT DATE: 10/28/2020
DRAWN BY: K. RECORD
CHECKED BY: T. SISSON
SHEET 26 OF 74

InfraMap CORP

92 NORTH MAIN STREET, BUILDING 19-E
P.O. BOX 448, WINDSOR, NEW JERSEY 08561
TEL. 609.371.5420 FAX 609.371.5423
800.995.3623

Complete Utility Infrastructure Surveying and Mapping Since 1987

TEST HOLE INVENTORY LIST

PROJECT : US ROUTE 7, INTERSECTION IMPROVEMENTS, SOUTH BURLINGTON, CHITTENDEN COUNTY, VERMONT
CLIENT: VERMONT AGENCY OF TRANSPORTATION
CLIENT PROJECT No. NHG SGNL(51) C/2
INFRAMAP CORP. PROJECT No.
CHECKED BY: CHAD BICE
DATE: 02-04-2020

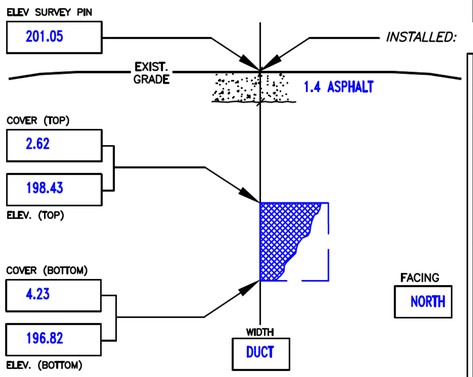
IMC TH#	TYPE OF UTILITY FOUND	UTILITY COVER (TOP)	UTILITY COVER (BOTTOM)	SURVEY PIN ELEVATION	UTILITY ELEVATION (TOP)	UTILITY ELEVATION (BOTTOM)	REMARKS/ COMMENTS
1	CONCRETE TELEPHONE DUCT	2.62	4.23	201.05	198.43	196.82	SEE TEST HOLE FORM FOR MORE DETAILS
2	2" WRAPPED STEEL GAS	3.25	3.46	201.01	197.76	197.55	NONE
3	2" WRAPPED STEEL GAS	2.31	2.52	203.47	201.16	200.95	NONE
4	2" POLYETHYLENE GAS	4.39	4.60	209.18	204.79	204.58	NONE
5	2" WRAPPED STEEL GAS	3.38	3.59	209.60	206.22	206.01	NONE
6	6" (PER RECORDS) GAS & & 8" PVC UNKNOWN	3.74 2.07	N/A 2.82	209.80	206.06 207.73	N/A 206.98	SEE TEST HOLE FORM FOR MORE DETAILS
7	CONCRETE TELEPHONE DUCT	1.90	3.89	208.85	206.95	204.96	SEE TEST HOLE FORM FOR MORE DETAILS
8	CANCELLED BY IMC (REQUESTED GAS)	N/A	N/A	N/A	N/A	N/A	NOT TARGETED BY IMC, NO EVIDENCE OF UTILITY
9	CONCRETE TELEPHONE DUCT	3.59	5.32	208.79	205.20	203.47	SEE TEST HOLE FORM FOR MORE DETAILS
10	6" WRAPPED STEEL GAS	3.17	3.75	210.23	207.06	206.48	NONE
11	3/8" & 0.5" DIRECT BURIED UNKNOWN CABLES	1.78	1.82	210.16	208.38	208.34	SEE TEST HOLE FORM FOR MORE DETAILS
12	TELEPHONE (POSSIBLE WOODEN DUCT)	4.77	N/A	207.21	202.44	N/A	SEE TEST HOLE FORM FOR MORE DETAILS
13	6" WRAPPED STEEL GAS	3.43	4.01	207.58	204.15	203.57	NONE
14	NO UTILITY FOUND (REQUESTED GAS)	N/A	N/A	206.07	N/A	N/A	SEE TEST HOLE FORM FOR MORE DETAILS
15	CONCRETE TELEPHONE (POSSIBLE DUCT)	4.53	N/A	209.62	205.09	N/A	SEE TEST HOLE FORM FOR MORE DETAILS
16	6" WRAPPED STEEL GAS	2.72	3.30	209.63	206.91	206.33	NONE
17	4" PVC (WHITE) TELEPHONE CONDUIT	7.25	N/A	210.06	202.81	N/A	SEE TEST HOLE FORM FOR MORE DETAILS
18	(4) 4" PVC (WHITE) TELEPHONE CONDUITS	4.20	4.59	209.29	205.09	204.70	SEE TEST HOLE FORM FOR MORE DETAILS

NOTE: 1. ALL MEASUREMENTS ARE IN ENGLISH UNITS (FEET).
2. SURVEY CONTROL POINTS PROVIDED BY CLIENT (Z17T241SV.DGN).

InfraMap CORP
Utility Locators Surveyors Consulting Engineers
92 NORTH MAIN ST., BLDG. 19, UNIT E, WINDSOR, NJ 08561

IMC PROJECT No. WN19162 VACUUM TEST HOLE REPORT # 1

PROJECT NAME:	US ROUTE 7, INTERSECTION IMPROVEMENTS	CLIENT PROJECT No.	NHG SGNL(51) C/2
LOCATE REQUESTED BY:	VERMONT AGENCY OF TRANSPORTATION	PROJECT LOCATION:	SOUTH BURLINGTON, CHITTENDEN COUNTY, VERMONT
UTILITY REQUESTED:	TELEPHONE	SHEET No. 3 OF 14	PROPOSED: TRAFFIC SIGNAL
UTILITY FOUND:	TELEPHONE	FORM BY: TR ASSISTED BY: CS AA	# OF HOLES: 1
MATERIAL AS FOUND:	CAST IN PLACE CONCRETE	PAVING CONDITION: FAIR	DATE DUG: 1-14-20
SIZE AS FOUND:	DUCT	SOIL CONDITIONS: SOFT MOIST CLAY ROCKY	
		UTILITY CONDITION: FAIR	



WEATHER: CLOUDY TEMPERATURE: 28°

SURVEY PIN SURVEYED BY: INFRAMAP CORP.

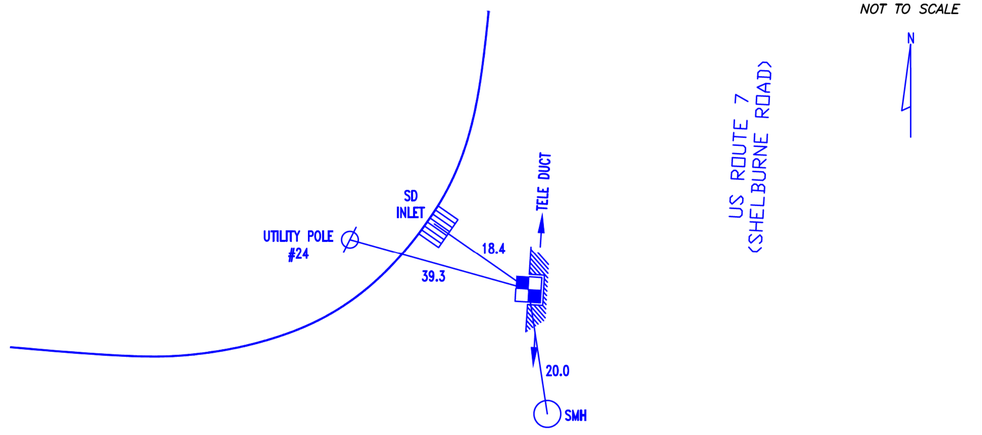
SURVEY INFO.: ALL MEASUREMENTS ON THIS FORM ARE IN ENGLISH UNITS (FEET).

NORTHING	EASTING	ELEV.
706958.43	1454839.83	201.05

SURVEY CONTROL POINTS PROVIDED BY CLIENT (Z17T241SV.DGN).

NOTES: PK SET OVER WEST EDGE OF TELEPHONE DUCT.

NOT TO SCALE



"LOCATING A BETTER WAY"
1-800-UNDER IT

PROJECT NAME:	SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER:	NHG SGNL(51) C/2

FILE NAME:	util info.dgn	PLOT DATE:	10/28/2020
PROJECT LEADER:	T. SISSON	DRAWN BY:	K. RECORD
DESIGNED BY:	K. RECORD	CHECKED BY:	T. SISSON
UTILITY INFORMATION SHEET 1		SHEET 27	OF 74

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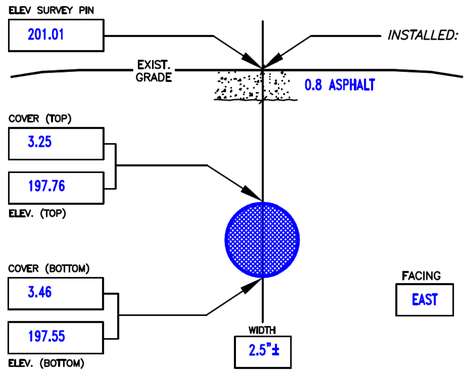
92 NORTH MAIN ST., BLDG. 19, UNIT E, WINDSOR, NJ 08561

IMC PROJECT No. WN19162 VACUUM TEST HOLE REPORT # 2

PROJECT NAME:	US ROUTE 7, INTERSECTION IMPROVEMENTS	CLIENT PROJECT No.	NHG SGNL(51) C/2
LOCATE REQUESTED BY:	VERMONT AGENCY OF TRANSPORTATION	PROJECT LOCATION:	SOUTH BURLINGTON, CHITTENDEN COUNTY, VERMONT
UTILITY REQUESTED:	GAS	SHEET No. 3 OF 14	PROPOSED: TRAFFIC SIGNAL
UTILITY FOUND:	GAS	FORM BY: TR ASSISTED BY: CS	# OF HOLES: 1
MATERIAL AS FOUND:	WRAPPED STEEL	PAVING CONDITION: FAIR	DATE DUG: 1-15-20
SIZE AS FOUND:	2"	SOIL CONDITIONS: SOFT MOIST SAND	
		UTILITY CONDITION: FAIR	



WEATHER: CLOUDY TEMPERATURE: 35°

SURVEY PIN SURVEYED BY: INFRAMAP CORP.

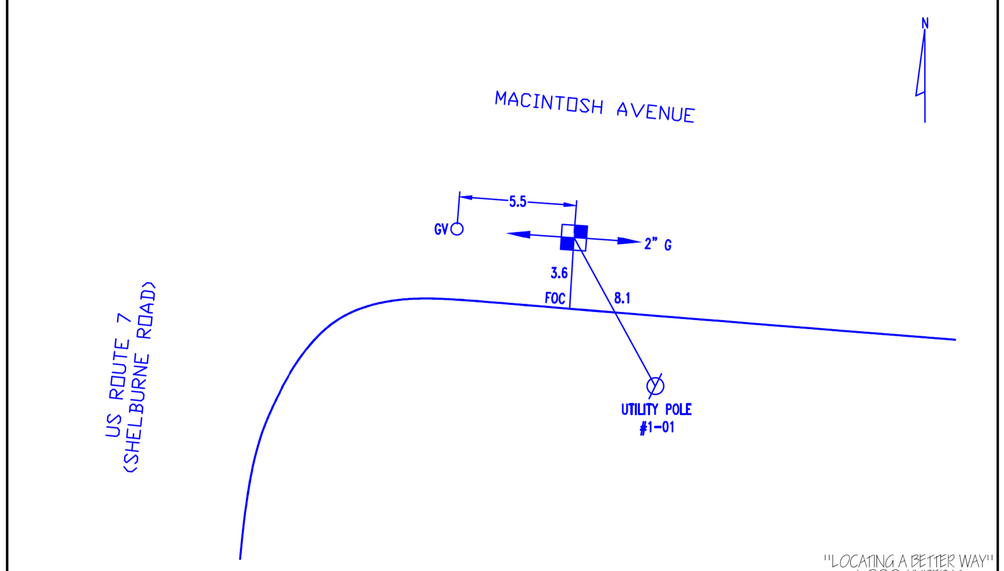
SURVEY INFO.: ALL MEASUREMENTS ON THIS FORM ARE IN ENGLISH UNITS (FEET).

NORTHING	EASTING	ELEV.
706902.80	1454912.41	201.01

SURVEY CONTROL POINTS PROVIDED BY CLIENT (Z17T241SV.DGN).

NOTES:

NOT TO SCALE



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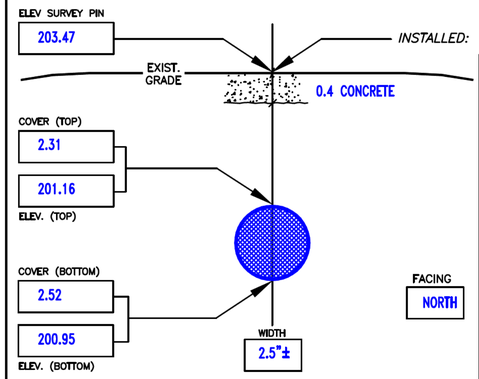
92 NORTH MAIN ST., BLDG. 19, UNIT E, WINDSOR, NJ 08561

IMC PROJECT No. WN19162 VACUUM TEST HOLE REPORT # 3

PROJECT NAME:	US ROUTE 7, INTERSECTION IMPROVEMENTS	CLIENT PROJECT No.	NHG SGNL(51) C/2
LOCATE REQUESTED BY:	VERMONT AGENCY OF TRANSPORTATION	PROJECT LOCATION:	SOUTH BURLINGTON, CHITTENDEN COUNTY, VERMONT
UTILITY REQUESTED:	GAS	SHEET No. 5 OF 14	PROPOSED: TRAFFIC SIGNAL
UTILITY FOUND:	GAS	FORM BY: SD ASSISTED BY: AB CS	# OF HOLES: 1
MATERIAL AS FOUND:	WRAPPED STEEL	PAVING CONDITION: N/A	DATE DUG: 1-24-20
SIZE AS FOUND:	2"	SOIL CONDITIONS: SOFT MOIST SAND	
		UTILITY CONDITION: FAIR	



WEATHER: SUNNY TEMPERATURE: 34°

SURVEY PIN SURVEYED BY: INFRAMAP CORP.

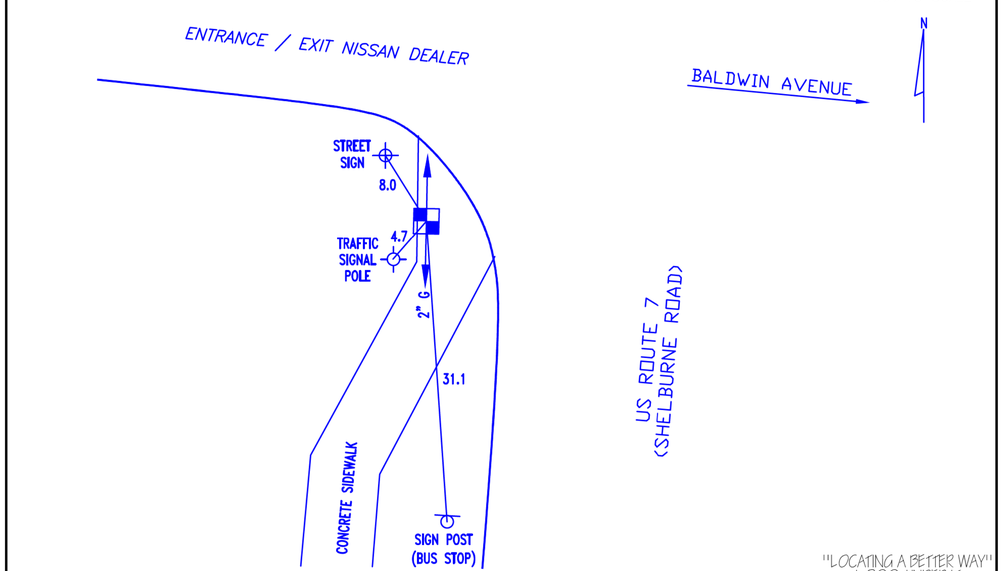
SURVEY INFO.: ALL MEASUREMENTS ON THIS FORM ARE IN ENGLISH UNITS (FEET).

NORTHING	EASTING	ELEV.
707422.51	1454875.38	203.47

SURVEY CONTROL POINTS PROVIDED BY CLIENT (Z17T241SV.DGN).

NOTES:

NOT TO SCALE



"LOCATING A BETTER WAY" 1-800-UNDER IT

PROJECT NAME:	SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER:	NHG SGNL(51) C/2
FILE NAME: util info.dgn	PLOT DATE: 10/28/2020
PROJECT LEADER: T. SISSON	DRAWN BY: K, RECORD
DESIGNED BY: K. RECORD	CHECKED BY: T. SISSON
UTILITY INFORMATION SHEET 2	SHEET 28 OF 74

InfraMap CORP — *Utility Locators, Surveyors, Consulting Engineers*

92 NORTH MAIN ST., BLDG. 19, UNIT E, WINDSOR, NJ 08561

IMC PROJECT No. WN19162 VACUUM TEST HOLE REPORT # 4

PROJECT NAME:	US ROUTE 7, INTERSECTION IMPROVEMENTS	CLIENT PROJECT No.	NHG SGNL(51) C/2
LOCATE REQUESTED BY:	VERMONT AGENCY OF TRANSPORTATION	PROJECT LOCATION:	SOUTH BURLINGTON, CHITTENDEN COUNTY, VERMONT
UTILITY REQUESTED:	GAS	SHEET No. 7 OF 14 PROPOSED:	TRAFFIC SIGNAL
UTILITY FOUND:	GAS	FORM BY: TR ASSISTED BY: CS AA	# OF HOLES: 1
MATERIAL AS FOUND:	POLYETHYLENE (PE)	PAVING CONDITION: N/A DATE DUG:	1-16-20
SIZE AS FOUND:	2"	SOIL CONDITIONS:	SOFT MOIST
		UTILITY CONDITION:	FAIR
INSTALLED:	HUB & TACK AT: CROWN OF UTILITY. MARKING TAPE: YELLOW		
		WEATHER: CLOUDY TEMPERATURE:	31°
		SURVEY PIN SURVEYED BY:	INFRAMAP CORP.

ELEV SURVEY PIN 209.18 — EXIST. GRADE

COVER (TOP) 4.39 — 204.79 ELEV. (TOP)

COVER (BOTTOM) 4.60 — 204.58 ELEV. (BOTTOM)

WIDTH 2.5"±

FACING EAST

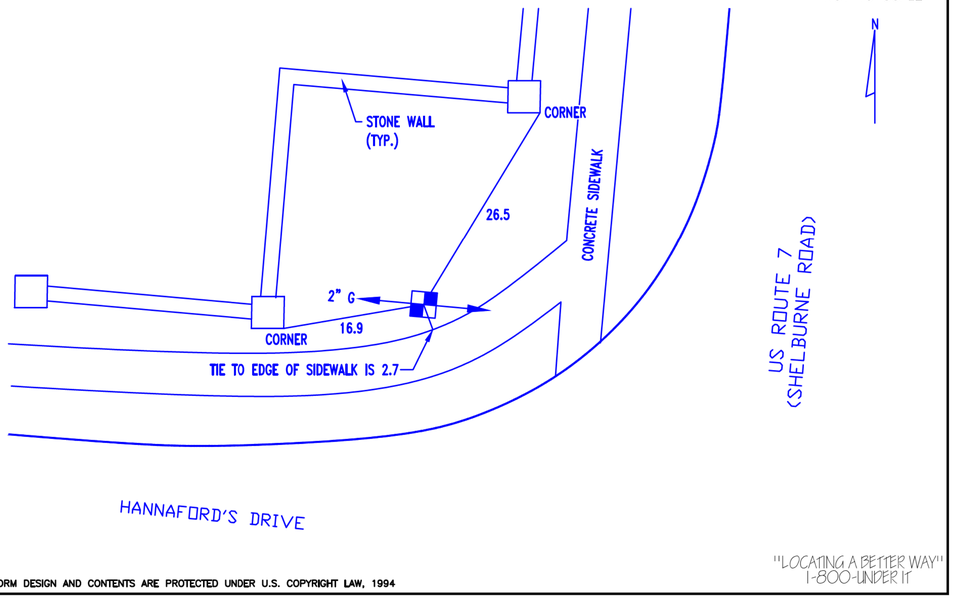
SURVEY INFO.: ALL MEASUREMENTS ON THIS FORM ARE IN ENGLISH UNITS (FEET).

NORTHING	EASTING	ELEV.
708533.53	1454930.59	209.18

SURVEY CONTROL POINTS PROVIDED BY CLIENT (Z17T241SV.DGN).

NOTES:

NOT TO SCALE



"LOCATING A BETTER WAY" 1-800-UNDER IT

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92 NORTH MAIN ST., BLDG. 19, UNIT E, WINDSOR, NJ 08561

IMC PROJECT No. WN19162 VACUUM TEST HOLE REPORT # 5

PROJECT NAME:	US ROUTE 7, INTERSECTION IMPROVEMENTS	CLIENT PROJECT No.	NHG SGNL(51) C/2
LOCATE REQUESTED BY:	VERMONT AGENCY OF TRANSPORTATION	PROJECT LOCATION:	SOUTH BURLINGTON, CHITTENDEN COUNTY, VERMONT
UTILITY REQUESTED:	GAS	SHEET No. 7 OF 14 PROPOSED:	TRAFFIC SIGNAL
UTILITY FOUND:	GAS	FORM BY: TR ASSISTED BY: CS AA	# OF HOLES: 1
MATERIAL AS FOUND:	WRAPPED STEEL	PAVING CONDITION: FAIR DATE DUG:	1-14-20
SIZE AS FOUND:	2"	SOIL CONDITIONS:	SOFT MOIST ROCKY
		UTILITY CONDITION:	FAIR
INSTALLED:	PK AT: CROWN OF UTILITY. MARKING TAPE: YELLOW		
		WEATHER: CLOUDY TEMPERATURE:	31°
		SURVEY PIN SURVEYED BY:	INFRAMAP CORP.

ELEV SURVEY PIN 209.60 — EXIST. GRADE — 0.5 ASPHALT

COVER (TOP) 3.38 — 206.22 ELEV. (TOP)

COVER (BOTTOM) 3.59 — 206.01 ELEV. (BOTTOM)

WIDTH 2.5"±

FACING EAST

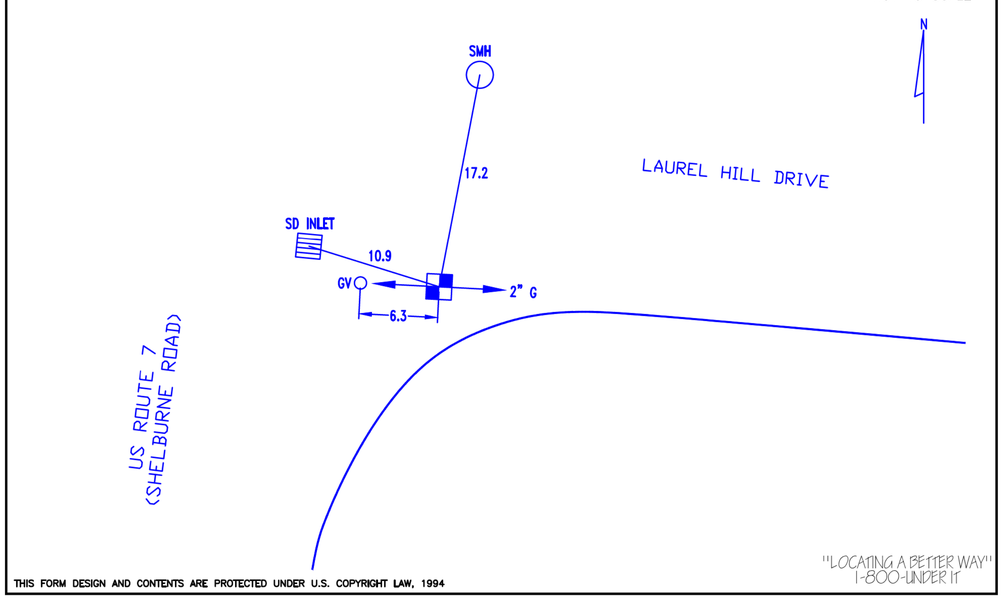
SURVEY INFO.: ALL MEASUREMENTS ON THIS FORM ARE IN ENGLISH UNITS (FEET).

NORTHING	EASTING	ELEV.
708464.90	1455039.51	209.60

SURVEY CONTROL POINTS PROVIDED BY CLIENT (Z17T241SV.DGN).

NOTES:

NOT TO SCALE



"LOCATING A BETTER WAY" 1-800-UNDER IT

PROJECT NAME:	SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER:	NHG SGNL(51) C/2
FILE NAME: util info.dgn	PLOT DATE: 10/28/2020
PROJECT LEADER: T. SISSON	DRAWN BY: K. RECORD
DESIGNED BY: K. RECORD	CHECKED BY: T. SISSON
UTILITY INFORMATION SHEET 3	SHEET 29 OF 74

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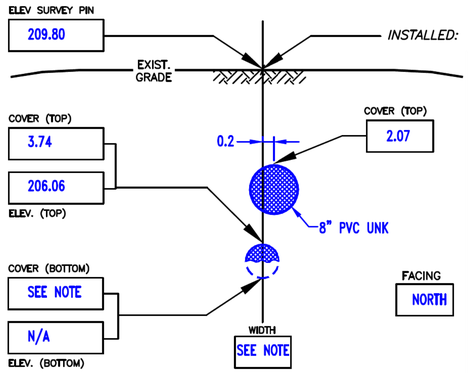
92 NORTH MAIN ST., BLDG. 19, UNIT E, WINDSOR, NJ 08561

IMC PROJECT No. WN19162 VACUUM TEST HOLE REPORT # 6

PROJECT NAME:	US ROUTE 7, INTERSECTION IMPROVEMENTS
LOCATE REQUESTED BY:	VERMONT AGENCY OF TRANSPORTATION
UTILITY REQUESTED:	GAS
UTILITY FOUND:	GAS (SEE NOTE)
MATERIAL AS FOUND:	SEE NOTE
SIZE AS FOUND:	SEE NOTE

CLIENT PROJECT No.	NHG SGNL(51) C/2
PROJECT LOCATION:	SOUTH BURLINGTON, CHITTENDEN COUNTY, VERMONT
SHEET No. 7 OF 14	PROPOSED: TRAFFIC SIGNAL
FORM BY: TR ASSISTED BY: CS AA	# OF HOLES: 1
PAVING CONDITION: N/A	DATE DUG: 1-14-20
SOIL CONDITIONS:	SOFT WET SAND ROCKY
UTILITY CONDITION:	GOOD



INSTALLED: STEEL PIN AT: TOP OF UTILITY. MARKING TAPE: YELLOW

WEATHER: CLOUDY TEMPERATURE: 28°

SURVEY PIN SURVEYED BY: INFRAMAP CORP.

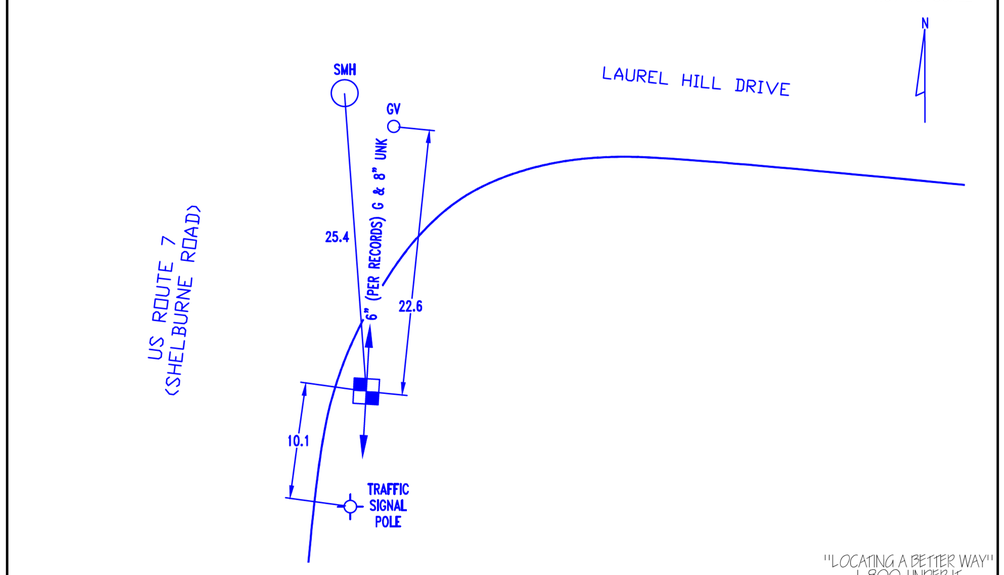
SURVEY INFO.: ALL MEASUREMENTS ON THIS FORM ARE IN ENGLISH UNITS (FEET).

NORTHING	EASTING	ELEV.
708442.74	1455030.89	209.80

SURVEY CONTROL POINTS PROVIDED BY CLIENT (Z17T241SV.DGN).

NOTES: UNABLE TO OBTAIN SIZE AND MATERIAL OF GAS MAIN DUE TO EXCESSIVE GROUND WATER AND DUE TO 8" PVC (GREENISH/BLUE) UNKNOWN (POSSIBLY WATER), RUNNING ABOVE 0.2' EAST OF STEEL PIN. TOP COVER OF 8" UNKNOWN IS 2.07. RECORDS INDICATE A 6" GAS AT THIS LOCATION.

NOT TO SCALE



"LOCATING A BETTER WAY" 1-800-UNDER IT

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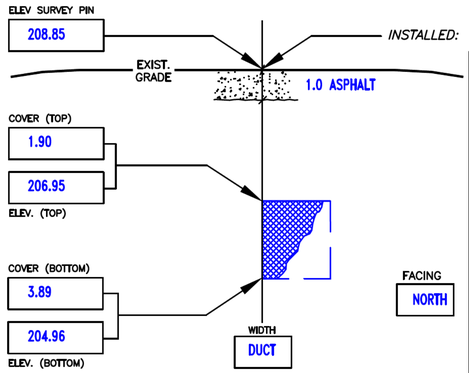
92 NORTH MAIN ST., BLDG. 19, UNIT E, WINDSOR, NJ 08561

IMC PROJECT No. WN19162 VACUUM TEST HOLE REPORT # 7

PROJECT NAME:	US ROUTE 7, INTERSECTION IMPROVEMENTS
LOCATE REQUESTED BY:	VERMONT AGENCY OF TRANSPORTATION
UTILITY REQUESTED:	TELEPHONE
UTILITY FOUND:	TELEPHONE
MATERIAL AS FOUND:	CAST IN PLACE CONCRETE
SIZE AS FOUND:	DUCT

CLIENT PROJECT No.	NHG SGNL(51) C/2
PROJECT LOCATION:	SOUTH BURLINGTON, CHITTENDEN COUNTY, VERMONT
SHEET No. 7 OF 14	PROPOSED: TRAFFIC SIGNAL
FORM BY: TR ASSISTED BY: CS AA	# OF HOLES: 1
PAVING CONDITION: FAIR	DATE DUG: 1-14-20
SOIL CONDITIONS:	SOFT DRY SAND ROCKY
UTILITY CONDITION:	FAIR



INSTALLED: PK AT: EDGE OF UTILITY. MARKING TAPE: ORANGE

WEATHER: CLOUDY TEMPERATURE: 28°

SURVEY PIN SURVEYED BY: INFRAMAP CORP.

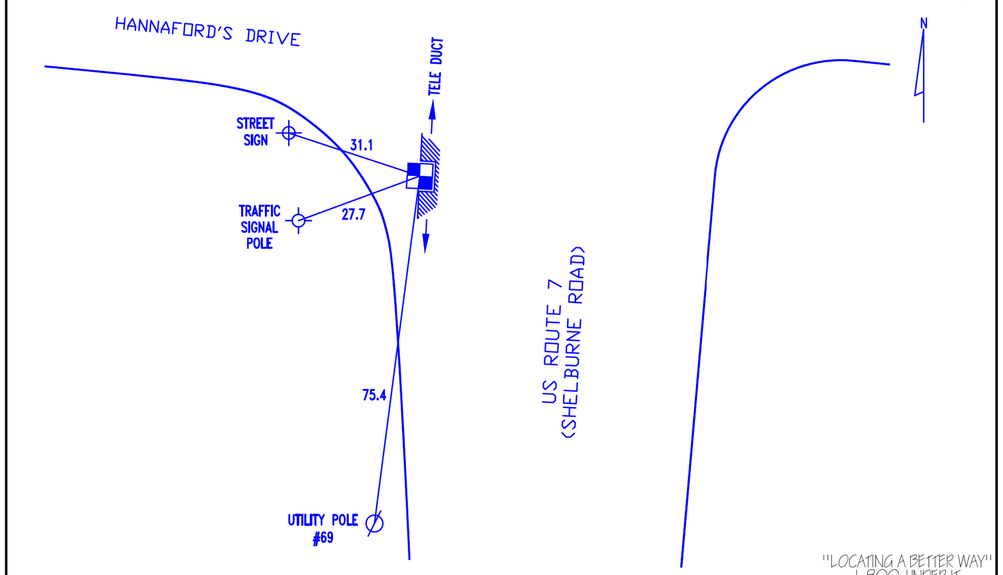
SURVEY INFO.: ALL MEASUREMENTS ON THIS FORM ARE IN ENGLISH UNITS (FEET).

NORTHING	EASTING	ELEV.
708438.49	1454962.64	208.85

SURVEY CONTROL POINTS PROVIDED BY CLIENT (Z17T241SV.DGN).

NOTES: PK SET OVER WEST EDGE OF TELEPHONE DUCT.

NOT TO SCALE



"LOCATING A BETTER WAY" 1-800-UNDER IT

PROJECT NAME:	SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER:	NHG SGNL(51) C/2

FILE NAME:	util info.dgn	PLOT DATE:	10/28/2020
PROJECT LEADER:	T. SISSON	DRAWN BY:	K. RECORD
DESIGNED BY:	K. RECORD	CHECKED BY:	T. SISSON
UTILITY INFORMATION SHEET 4		SHEET	30 OF 74

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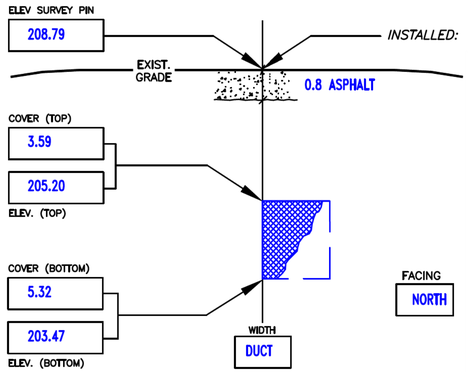
92 NORTH MAIN ST., BLDG. 19, UNIT E, WINDSOR, NJ 08561

IMC PROJECT No. WN19162 VACUUM TEST HOLE REPORT # 9

PROJECT NAME:	US ROUTE 7, INTERSECTION IMPROVEMENTS
LOCATE REQUESTED BY:	VERMONT AGENCY OF TRANSPORTATION
UTILITY REQUESTED:	TELEPHONE
UTILITY FOUND:	TELEPHONE
MATERIAL AS FOUND:	CAST IN PLACE CONCRETE
SIZE AS FOUND:	DUCT

CLIENT PROJECT No.	NHG SGNL(51) C/2
PROJECT LOCATION:	SOUTH BURLINGTON, CHITTENDEN COUNTY, VERMONT
SHEET No. 9 OF 14	PROPOSED: TRAFFIC SIGNAL
FORM BY: SD ASSISTED BY: AB CS	# OF HOLES: 1
PAVING CONDITION: FAIR	DATE DUG: 1-24-20
SOIL CONDITIONS: SOFT MOIST SAND ROCKY	
UTILITY CONDITION: FAIR	



PK AT: EDGE OF UTILITY. MARKING TAPE: ORANGE

WEATHER: CLOUDY TEMPERATURE: 31°

SURVEY PIN SURVEYED BY: INFRAMAP CORP.

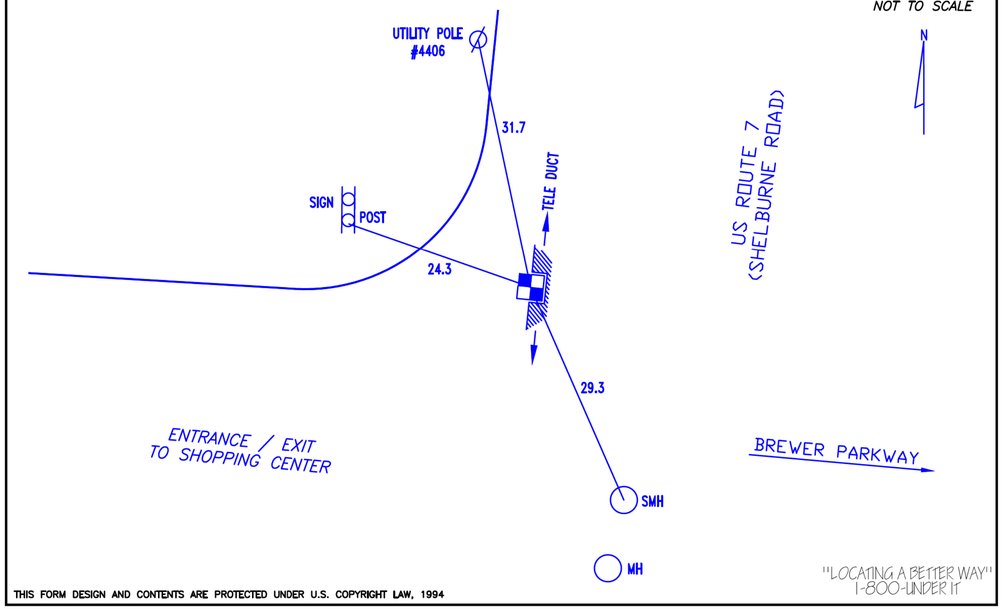
SURVEY INFO.: ALL MEASUREMENTS ON THIS FORM ARE IN ENGLISH UNITS (FEET).

NORTHING	EASTING	ELEV.
708995.92	1455012.47	208.79

SURVEY CONTROL POINTS PROVIDED BY CLIENT (Z17T241SV.DGN).

NOTES: PK SET OVER WEST EDGE OF TELEPHONE DUCT. UNABLE TO LOCATE EAST EDGE OF DUCT.

NOT TO SCALE



"LOCATING A BETTER WAY" 1-800-UNDER IT

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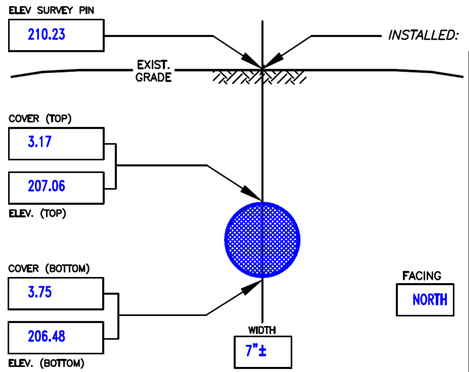
92 NORTH MAIN ST., BLDG. 19, UNIT E, WINDSOR, NJ 08561

IMC PROJECT No. WN19162 VACUUM TEST HOLE REPORT # 10

PROJECT NAME:	US ROUTE 7, INTERSECTION IMPROVEMENTS
LOCATE REQUESTED BY:	VERMONT AGENCY OF TRANSPORTATION
UTILITY REQUESTED:	GAS
UTILITY FOUND:	GAS
MATERIAL AS FOUND:	WRAPPED STEEL
SIZE AS FOUND:	6"

CLIENT PROJECT No.	NHG SGNL(51) C/2
PROJECT LOCATION:	SOUTH BURLINGTON, CHITTENDEN COUNTY, VERMONT
SHEET No. 9 OF 14	PROPOSED: TRAFFIC SIGNAL
FORM BY: SD ASSISTED BY: AB CS	# OF HOLES: 1
PAVING CONDITION: N/A	DATE DUG: 1-24-20
SOIL CONDITIONS: HARD DRY ROCKY	
UTILITY CONDITION: FAIR	



SPIKE AT: CROWN OF UTILITY. MARKING TAPE: YELLOW

WEATHER: CLOUDY TEMPERATURE: 20°

SURVEY PIN SURVEYED BY: INFRAMAP CORP.

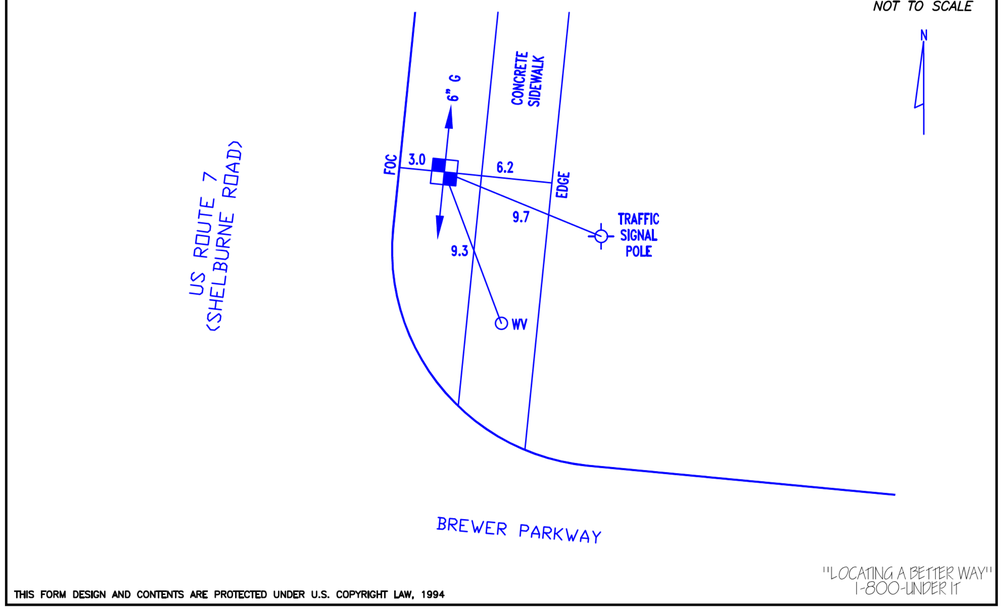
SURVEY INFO.: ALL MEASUREMENTS ON THIS FORM ARE IN ENGLISH UNITS (FEET).

NORTHING	EASTING	ELEV.
708993.00	1455079.26	210.23

SURVEY CONTROL POINTS PROVIDED BY CLIENT (Z17T241SV.DGN).

NOTES:

NOT TO SCALE



"LOCATING A BETTER WAY" 1-800-UNDER IT

PROJECT NAME:	SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER:	NHG SGNL(51) C/2

FILE NAME:	util info.dgn	PLOT DATE:	10/28/2020
PROJECT LEADER:	T. SISSON	DRAWN BY:	K. RECORD
DESIGNED BY:	K. RECORD	CHECKED BY:	T. SISSON
UTILITY INFORMATION SHEET 5		SHEET	31 OF 74

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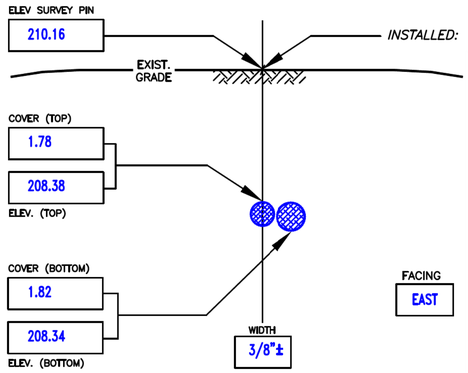
92 NORTH MAIN ST., BLDG. 19, UNIT E, WINDSOR, NJ 08561

IMC PROJECT No. WN19162 VACUUM TEST HOLE REPORT # 11

PROJECT NAME:	US ROUTE 7, INTERSECTION IMPROVEMENTS
LOCATE REQUESTED BY:	VERMONT AGENCY OF TRANSPORTATION
UTILITY REQUESTED:	WATER
UTILITY FOUND:	UNKNOWN (SEE NOTE)
MATERIAL AS FOUND:	DIRECT BURIED CABLES
SIZE AS FOUND:	3/8" & 1/2"

CLIENT PROJECT No.	NHG SGNL(51) C/2
PROJECT LOCATION:	SOUTH BURLINGTON, CHITTENDEN COUNTY, VERMONT
SHEET No. 9 OF 14	PROPOSED: TRAFFIC SIGNAL
FORM BY: TR ASSISTED BY: CS AA	# OF HOLES: 1
PAVING CONDITION: FAIR	DATE DUG: 1-14-20
SOIL CONDITIONS: HARD MOIST CLAY ROCKY	
UTILITY CONDITION: FAIR	



HUB & TACK AT: CROWN OF UTILITY. MARKING TAPE: PINK

WEATHER: CLOUDY TEMPERATURE: 35°

SURVEY PIN SURVEYED BY: INFRAMAP CORP.

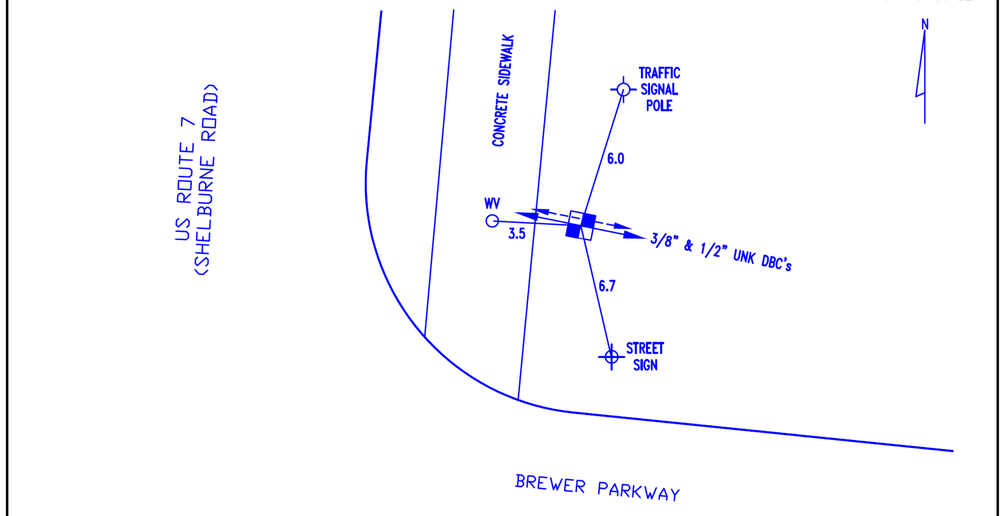
SURVEY INFO.: ALL MEASUREMENTS ON THIS FORM ARE IN ENGLISH UNITS (FEET).

NORTHING	EASTING	ELEV.
708984.10	1455086.47	210.16

SURVEY CONTROL POINTS PROVIDED BY CLIENT (Z17T241SV.DGN).

NOTES: WATER REQUESTED AT THIS LOCATION. HOWEVER, TEST HOLE REVEALED TWO DIRECT BURIED UNKNOWN CABLES. UNABLE TO DETERMINE TYPE OF UTILITY (POSSIBLE CABLE TV OR COMMUNICATION). TOTAL WIDTH IS 0.08'. REQUESTED UTILITY NOT FOUND AT THIS LOCATION. HUB SET OVER CROWN OF 3/8" CABLE.

NOT TO SCALE



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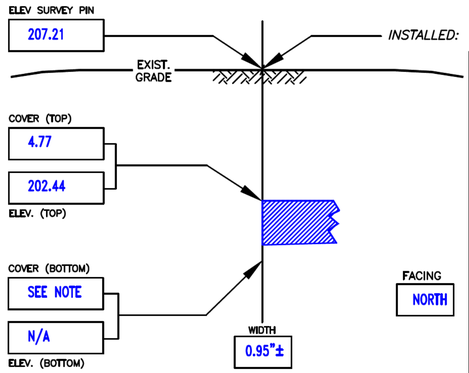
92 NORTH MAIN ST., BLDG. 19, UNIT E, WINDSOR, NJ 08561

IMC PROJECT No. WN19162 VACUUM TEST HOLE REPORT # 12

PROJECT NAME:	US ROUTE 7, INTERSECTION IMPROVEMENTS
LOCATE REQUESTED BY:	VERMONT AGENCY OF TRANSPORTATION
UTILITY REQUESTED:	TELEPHONE
UTILITY FOUND:	TELEPHONE (SEE NOTE)
MATERIAL AS FOUND:	WOOD (SEE NOTE)
SIZE AS FOUND:	SEE NOTE

CLIENT PROJECT No.	NHG SGNL(51) C/2
PROJECT LOCATION:	SOUTH BURLINGTON, CHITTENDEN COUNTY, VERMONT
SHEET No. 11 OF 14	PROPOSED: TRAFFIC SIGNAL
FORM BY: SD ASSISTED BY: AM	# OF HOLES: 1
PAVING CONDITION: N/A	DATE DUG: 1-15-20
SOIL CONDITIONS: HARD WET CLAY ROCKY	
UTILITY CONDITION: SEE NOTE	



HUB & TACK AT: EDGE OF UTILITY. MARKING TAPE: ORANGE

WEATHER: CLOUDY TEMPERATURE: 34°

SURVEY PIN SURVEYED BY: INFRAMAP CORP.

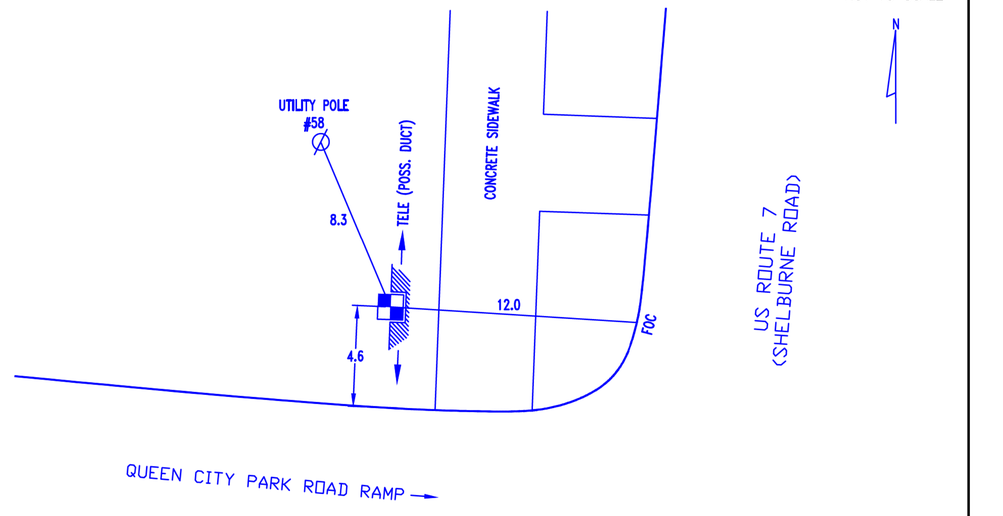
SURVEY INFO.: ALL MEASUREMENTS ON THIS FORM ARE IN ENGLISH UNITS (FEET).

NORTHING	EASTING	ELEV.
709699.15	1455066.17	207.21

SURVEY CONTROL POINTS PROVIDED BY CLIENT (Z17T241SV.DGN).

NOTES: TEST HOLE EXCAVATED ON ELECTRONIC SIGNAL FOR TELEPHONE AND REVEALED POSSIBLY WOODEN TELEPHONE DUCT. UNABLE TO EXCAVATE FURTHER DUE TO EXCESSIVE GROUND WATER, ROCKS AND TO AVOID DAMAGE TO UTILITY. HUB SET OVER WEST EDGE OF WOOD.

NOT TO SCALE



PROJECT NAME:	SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER:	NHG SGNL(51) C/2

FILE NAME:	util info.dgn	PLOT DATE:	10/28/2020
PROJECT LEADER:	T. SISSON	DRAWN BY:	K. RECORD
DESIGNED BY:	K. RECORD	CHECKED BY:	T. SISSON
UTILITY INFORMATION SHEET 6		SHEET	32 OF 74

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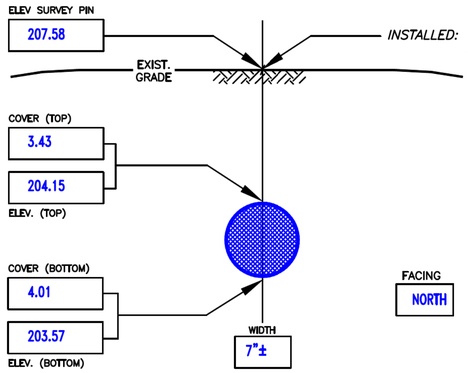
92 NORTH MAIN ST., BLDG. 19, UNIT E, WINDSOR, NJ 08561

IMC PROJECT No. WN19162 VACUUM TEST HOLE REPORT # 13

PROJECT NAME:	US ROUTE 7, INTERSECTION IMPROVEMENTS
LOCATE REQUESTED BY:	VERMONT AGENCY OF TRANSPORTATION
UTILITY REQUESTED:	GAS
UTILITY FOUND:	GAS
MATERIAL AS FOUND:	WRAPPED STEEL
SIZE AS FOUND:	6"

CLIENT PROJECT No.	NHG SGNL(51) C/2
PROJECT LOCATION:	SOUTH BURLINGTON, CHITTENDEN COUNTY, VERMONT
SHEET No. 11 OF 14	PROPOSED: TRAFFIC SIGNAL
FORM BY: SD ASSISTED BY: AM	# OF HOLES: 1
PAVING CONDITION: N/A	DATE DUG: 1-15-20
SOIL CONDITIONS:	HARD MOIST ROCKY
UTILITY CONDITION:	FAIR



HUB & TACK AT: CROWN OF UTILITY. MARKING TAPE: YELLOW

WEATHER: CLOUDY TEMPERATURE: 35°

SURVEY PIN SURVEYED BY: INFRAMAP CORP.

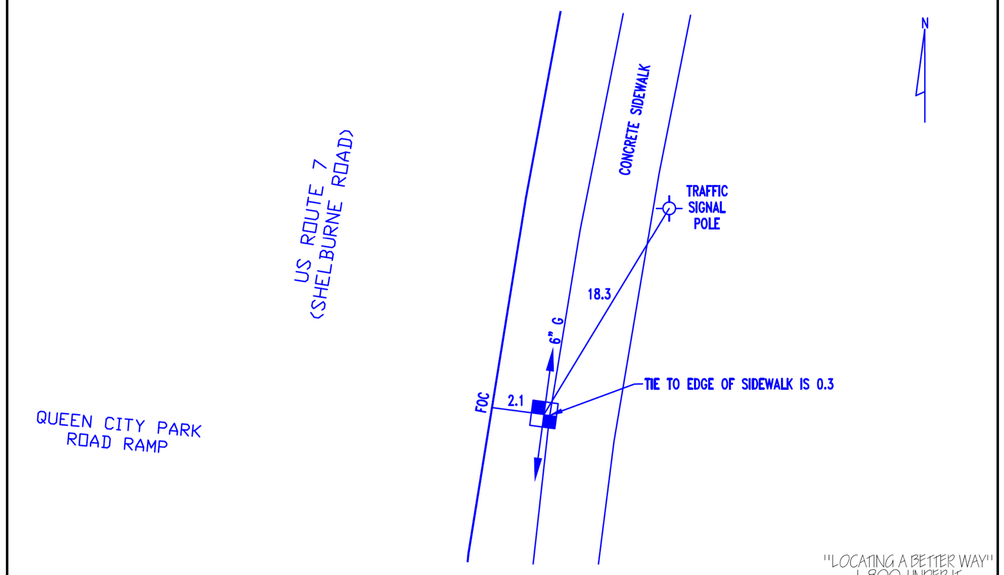
SURVEY INFO.: ALL MEASUREMENTS ON THIS FORM ARE IN ENGLISH UNITS (FEET).

NORTHING	EASTING	ELEV.
709688.02	1455145.31	207.58

SURVEY CONTROL POINTS PROVIDED BY CLIENT (Z17T241SV.DGN).

NOTES:

NOT TO SCALE



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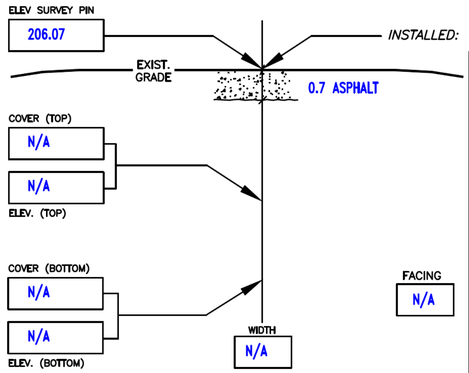
InfraMap CORP — *Utility Locators, Surveyors, Consulting Engineers*

92 NORTH MAIN ST., BLDG. 19, UNIT E, WINDSOR, NJ 08561

IMC PROJECT No. WN19162 VACUUM TEST HOLE REPORT # 14

PROJECT NAME:	US ROUTE 7, INTERSECTION IMPROVEMENTS
LOCATE REQUESTED BY:	VERMONT AGENCY OF TRANSPORTATION
UTILITY REQUESTED:	GAS
UTILITY FOUND:	SEE NOTE
MATERIAL AS FOUND:	SEE NOTE
SIZE AS FOUND:	SEE NOTE

CLIENT PROJECT No.	NHG SGNL(51) C/2
PROJECT LOCATION:	SOUTH BURLINGTON, CHITTENDEN COUNTY, VERMONT
SHEET No. 11 OF 14	PROPOSED: TRAFFIC SIGNAL
FORM BY: SD ASSISTED BY: AM	# OF HOLES: 1
PAVING CONDITION: FAIR	DATE DUG: 1-15-20
SOIL CONDITIONS:	HARD MOIST CLAY ROCKY
UTILITY CONDITION:	N/A



PK AT: SEE NOTE OF UTILITY. MARKING TAPE: PINK

WEATHER: CLOUDY TEMPERATURE: 34°

SURVEY PIN SURVEYED BY: INFRAMAP CORP.

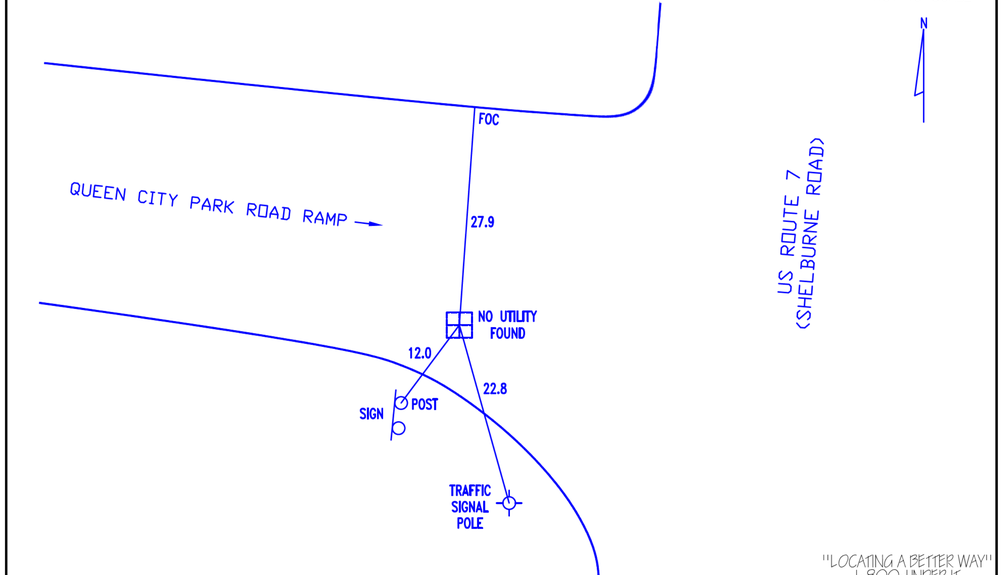
SURVEY INFO.: ALL MEASUREMENTS ON THIS FORM ARE IN ENGLISH UNITS (FEET).

NORTHING	EASTING	ELEV.
709667.71	1455053.92	206.07

SURVEY CONTROL POINTS PROVIDED BY CLIENT (Z17T241SV.DGN).

NOTES: GAS REQUESTED AT THIS LOCATION. TEST HOLE EXCAVATED OVER ELECTRONIC SIGNAL TO A DEPTH OF 7'±. NO UTILITY FOUND, POSSIBLY DEEPER. PK SET OVER OVER ELECTRONIC SIGNAL ON TOP OF TEST HOLE ATTEMPT.

NOT TO SCALE



"LOCATING A BETTER WAY" 1-800-UNDER IT

PROJECT NAME:	SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER:	NHG SGNL(51) C/2

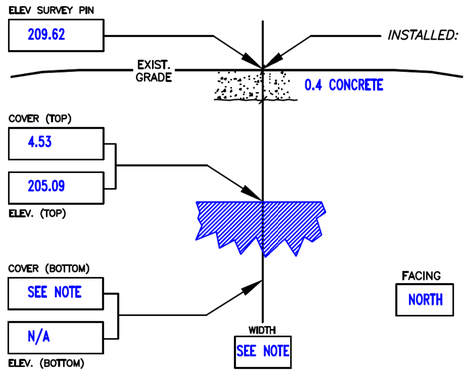
FILE NAME:	util info.dgn	PLOT DATE:	10/28/2020
PROJECT LEADER:	T. SISSON	DRAWN BY:	K. RECORD
DESIGNED BY:	K. RECORD	CHECKED BY:	T. SISSON
UTILITY INFORMATION SHEET 7		SHEET	33 OF 74

InfraMap CORP — Utility Locators, Surveyors, Consulting Engineers

92 NORTH MAIN ST., BLDG. 19, UNIT E, WINDSOR, NJ 08561

IMC PROJECT No. WN19162 VACUUM TEST HOLE REPORT # 15

PROJECT NAME:	US ROUTE 7, INTERSECTION IMPROVEMENTS	CLIENT PROJECT No.	NHG SGNL(51) C/2		
LOCATE REQUESTED BY:	VERMONT AGENCY OF TRANSPORTATION	PROJECT LOCATION:	SOUTH BURLINGTON, CHITTENDEN COUNTY, VERMONT		
UTILITY REQUESTED:	TELEPHONE	SHEET No. 13 OF 14		PROPOSED:	TRAFFIC SIGNAL
UTILITY FOUND:	TELEPHONE	FORM BY: SD	ASSISTED BY: AB CS	# OF HOLES:	1
MATERIAL AS FOUND:	CAST IN PLACE CONCRETE	PAVING CONDITION:	FAIR	DATE DUG:	1-23-20
SIZE AS FOUND:	SEE NOTE	SOIL CONDITIONS:	HARD ROCKY		
		UTILITY CONDITION:	FAIR (SEE NOTE)		



WEATHER: NIGHT TEMPERATURE: 30°

SURVEY PIN SURVEYED BY: INFRAMAP CORP.

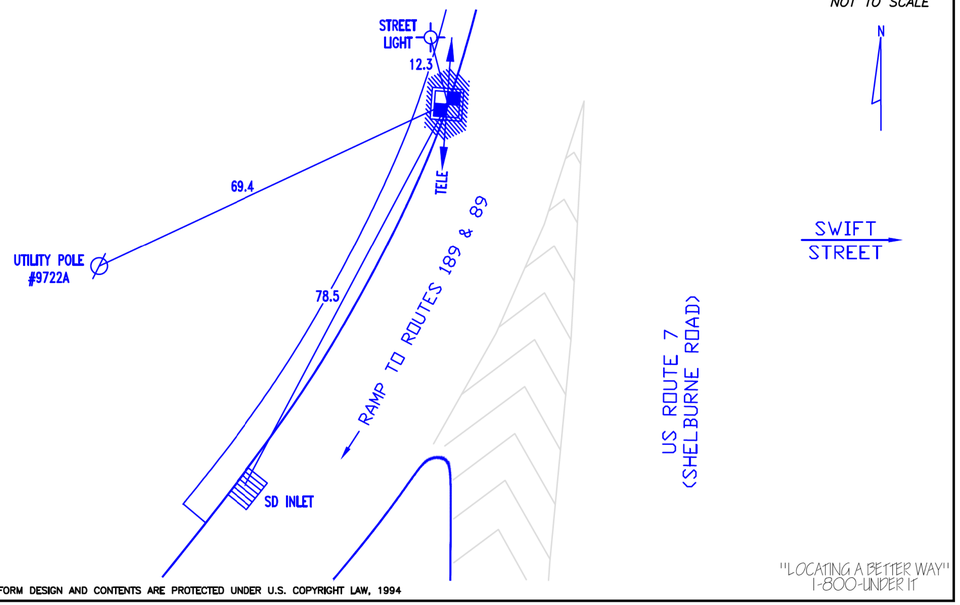
SURVEY INFO.: ALL MEASUREMENTS ON THIS FORM ARE IN ENGLISH UNITS (FEET).

NORTHING	EASTING	ELEV.
710154.06	1455090.66	209.62

SURVEY CONTROL POINTS PROVIDED BY CLIENT (Z17T241SV.DGN).

NOTES: TEST HOLE REVEALED ROUGH POURED CONCRETE (POSSIBLE DUCT). UNABLE TO LOCATE ANY EDGES. CHIS "X" SET OVER ELECTRONIC SIGNAL ON TOP ON CONCRETE.

NOT TO SCALE



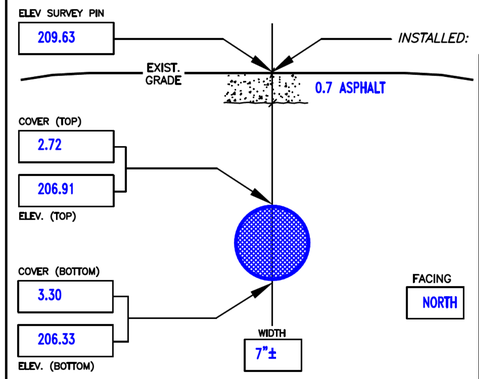
"LOCATING A BETTER WAY" 1-800-UNDER IT

InfraMap CORP — Utility Locators, Surveyors, Consulting Engineers

92 NORTH MAIN ST., BLDG. 19, UNIT E, WINDSOR, NJ 08561

IMC PROJECT No. WN19162 VACUUM TEST HOLE REPORT # 16

PROJECT NAME:	US ROUTE 7, INTERSECTION IMPROVEMENTS	CLIENT PROJECT No.	NHG SGNL(51) C/2		
LOCATE REQUESTED BY:	VERMONT AGENCY OF TRANSPORTATION	PROJECT LOCATION:	SOUTH BURLINGTON, CHITTENDEN COUNTY, VERMONT		
UTILITY REQUESTED:	GAS	SHEET No. 13 OF 14		PROPOSED:	TRAFFIC SIGNAL
UTILITY FOUND:	GAS	FORM BY: SD	ASSISTED BY: AB CS	# OF HOLES:	1
MATERIAL AS FOUND:	WRAPPED STEEL	PAVING CONDITION:	FAIR	DATE DUG:	1-23-20
SIZE AS FOUND:	6"	SOIL CONDITIONS:	HARD MOIST SAND ROCKY		
		UTILITY CONDITION:	FAIR		



WEATHER: NIGHT TEMPERATURE: 30°

SURVEY PIN SURVEYED BY: INFRAMAP CORP.

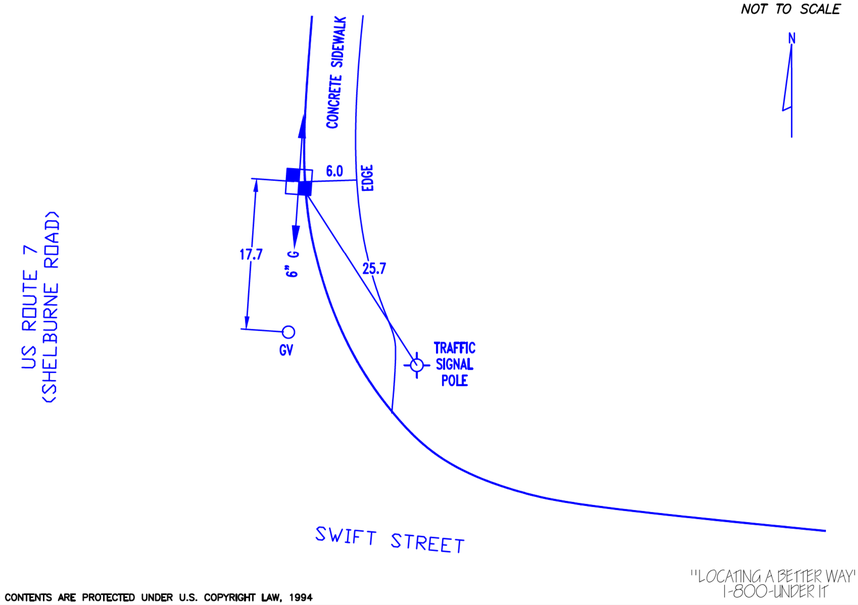
SURVEY INFO.: ALL MEASUREMENTS ON THIS FORM ARE IN ENGLISH UNITS (FEET).

NORTHING	EASTING	ELEV.
710140.72	1455187.25	209.63

SURVEY CONTROL POINTS PROVIDED BY CLIENT (Z17T241SV.DGN).

NOTES:

NOT TO SCALE



"LOCATING A BETTER WAY" 1-800-UNDER IT

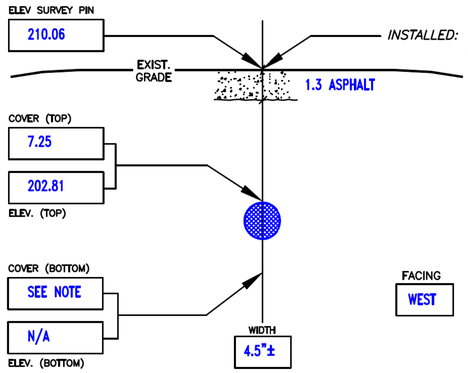
PROJECT NAME:	SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER:	NHG SGNL(51) C/2
FILE NAME: util info.dgn	PLOT DATE: 10/28/2020
PROJECT LEADER: T. SISSON	DRAWN BY: K. RECORD
DESIGNED BY: K. RECORD	CHECKED BY: T. SISSON
UTILITY INFORMATION SHEET 8	SHEET 34 OF 74

InfraMap CORP — Utility Locators, Surveyors, Consulting Engineers

92 NORTH MAIN ST., BLDG. 19, UNIT E, WINDSOR, NJ 08561

IMC PROJECT No. WN19162 VACUUM TEST HOLE REPORT # 17

PROJECT NAME:	US ROUTE 7, INTERSECTION IMPROVEMENTS	CLIENT PROJECT No.	NHG SGNL(51) C/2
LOCATE REQUESTED BY:	VERMONT AGENCY OF TRANSPORTATION	PROJECT LOCATION:	SOUTH BURLINGTON, CHITTENDEN COUNTY, VERMONT
UTILITY REQUESTED:	TELEPHONE	SHEET No. 13 OF 14	PROPOSED: TRAFFIC SIGNAL
UTILITY FOUND:	TELEPHONE	FORM BY: SD ASSISTED BY: AB CS	# OF HOLES: 1
MATERIAL AS FOUND:	PVC (WHITE) CONDUIT	PAVING CONDITION: FAIR	DATE DUG: 1-23-20
SIZE AS FOUND:	4" (SEE NOTE)	SOIL CONDITIONS:	HARD WET CLAY ROCKY
		UTILITY CONDITION:	FAIR (SEE NOTE)



PK AT: CROWN OF UTILITY. MARKING TAPE: ORANGE

WEATHER: NIGHT TEMPERATURE: 30°

SURVEY PIN SURVEYED BY: INFRAMAP CORP.

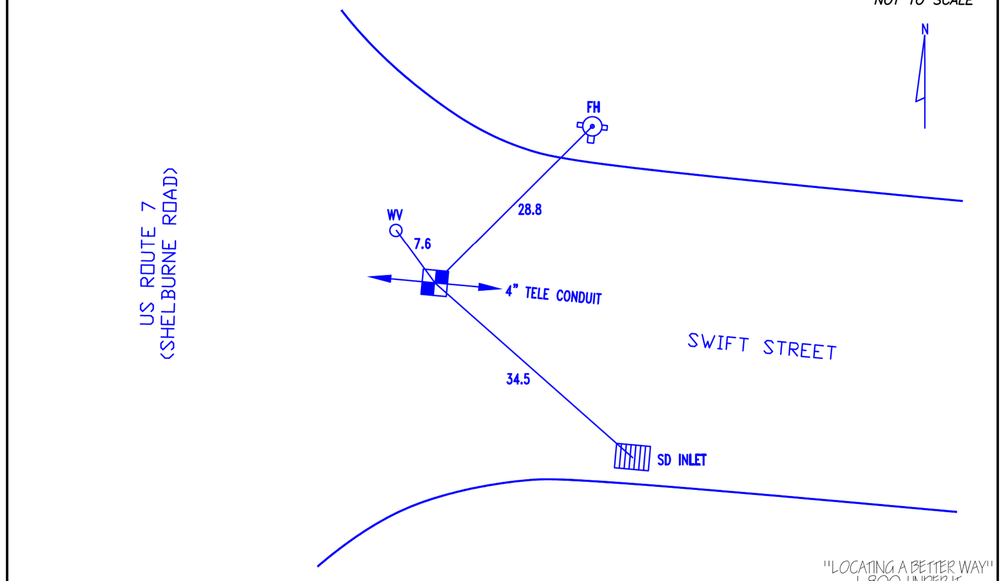
SURVEY INFO.: ALL MEASUREMENTS ON THIS FORM ARE IN ENGLISH UNITS (FEET).

NORTHING	EASTING	ELEV.
710078.68	1455210.46	210.06

SURVEY CONTROL POINTS PROVIDED BY CLIENT (Z17T241SV.DGN).

NOTES: ABLE TO VIEW ONLY ONE CONDUIT. UNABLE TO DETERMINE TOTAL NUMBER OF CONDUITS DUE TO LARGE DEBRIS AND EXCESSIVE GROUND WATER ENCOUNTERED IN TEST HOLE. EXCAVATED 1'± TRENCH AND ENCOUNTERED SAME LARGE DEBRIS.

NOT TO SCALE

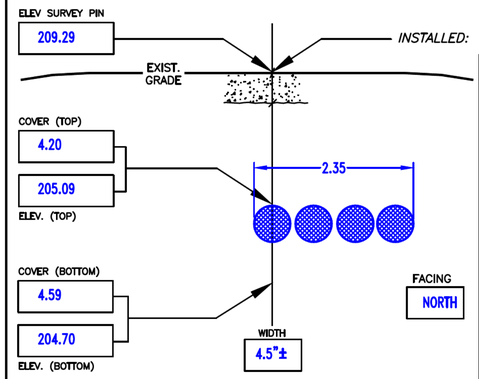


InfraMap CORP — Utility Locators, Surveyors, Consulting Engineers

92 NORTH MAIN ST., BLDG. 19, UNIT E, WINDSOR, NJ 08561

IMC PROJECT No. WN19162 VACUUM TEST HOLE REPORT # 18

PROJECT NAME:	US ROUTE 7, INTERSECTION IMPROVEMENTS	CLIENT PROJECT No.	NHG SGNL(51) C/2
LOCATE REQUESTED BY:	VERMONT AGENCY OF TRANSPORTATION	PROJECT LOCATION:	SOUTH BURLINGTON, CHITTENDEN COUNTY, VERMONT
UTILITY REQUESTED:	TELEPHONE	SHEET No. 13 OF 14	PROPOSED: TRAFFIC SIGNAL
UTILITY FOUND:	TELEPHONE	FORM BY: SD ASSISTED BY: AM	# OF HOLES: 1
MATERIAL AS FOUND:	PVC (WHITE) CONDUITS	PAVING CONDITION: N/A	DATE DUG: 1-15-20
SIZE AS FOUND:	(4) 4"	SOIL CONDITIONS:	SOFT MOIST SAND ROCKY
		UTILITY CONDITION:	FAIR



HUB & TACK AT: CROWN OF UTILITY. MARKING TAPE: ORANGE

WEATHER: CLOUDY RAIN TEMPERATURE: 30°

SURVEY PIN SURVEYED BY: INFRAMAP CORP.

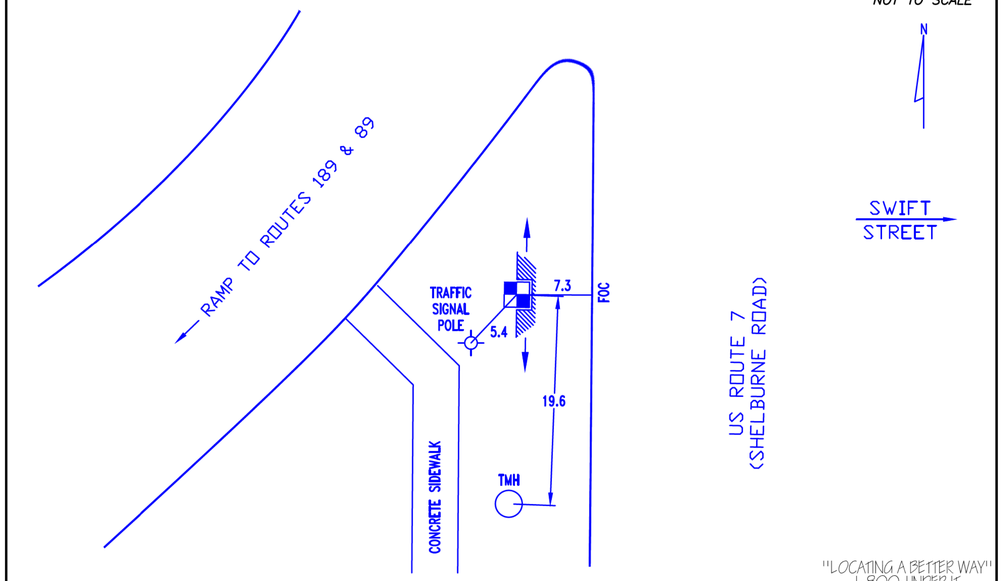
SURVEY INFO.: ALL MEASUREMENTS ON THIS FORM ARE IN ENGLISH UNITS (FEET).

NORTHING	EASTING	ELEV.
710063.15	1455083.47	209.29

SURVEY CONTROL POINTS PROVIDED BY CLIENT (Z17T241SV.DGN).

NOTES: TOTAL WIDTH IS 2.35'. HUB SET OVER CROWN OF WESTERN MOST TELEPHONE CONDUIT.

NOT TO SCALE



PROJECT NAME:	SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER:	NHG SGNL(51) C/2
FILE NAME: util info.dgn	PLOT DATE: 10/28/2020
PROJECT LEADER: T. SISSON	DRAWN BY: K. RECORD
DESIGNED BY: K. RECORD	CHECKED BY: T. SISSON
UTILITY INFORMATION SHEET 9	SHEET 35 OF 74

STATE OF VERMONT
AGENCY OF TRANSPORTATION

RIGHT - OF - WAY DETAIL SHEET

TABLE OF PROPERTY ACQUISITION

PARCEL NO.	PROPERTY OWNER	ROW LAYOUT NO.	BEGINNING STATION	ENDING STATION	TAKE	REMAINDER	RIGHT			RECORDING DATA					REMARKS
					AREA±	AREA±	TYPE	T / P	AREA ±	TITLE	DATE	TOWN / CITY	BOOK	PAGE	
1	CITY OF SOUTH BURLINGTON	1	27+37 RT	27+82 RT			INSTALL & MAINTAIN	P							SIGNAL POLE AND APPURTENANCES
			87+13 LT	87+30 LT			INSTALL & MAINTAIN	P							TRAFFIC CONTROL BOXES, ELECTRIC METER AND APPURTENANCES

TABLE OF REVISIONS

REVISION NO.	ROW SET SHEET #	DESCRIPTION	DATE

PROJECT NAME: SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER: NHG SGNL(51) C/2

FILE NAME: ROW.dgn
PROJECT LEADER: T. SISSON
DESIGNED BY: A. EGIZI
R.O.W. DETAIL SHEET 1

PLOT DATE: 10/28/2020
DRAWN BY: M. TROTTIER
CHECKED BY: A. PROULX
SHEET 36 OF 74

TRAFFIC CONTROL SIGNAL SYSTEM, INTERSECTION (US ROUTE 7 & QUEEN CITY PARK ROAD)
SEE LIST OF MAJOR EQUIPMENT, THIS SHEET

MAST ARM POLES
STA. 87+13, LT (MAP-13)
STA. 87+78, RT (MAP-14)

PEDESTRIAN SIGNAL HEAD & PUSH BUTTON
STA. 87+13, LT (X2) (EXTENSION BRACKET X2)
STA. 87+77, LT
STA. 87+29, RT

PEDESTRIAN PEDESTAL POLE
STA. 87+77, LT (PP-12)
STA. 87+29, RT (PP-13)

POWER DROP STANCHION
STA. 87+14, LT

TRAFFIC CONTROL SIGNAL SYSTEM, INTERSECTION (US ROUTE 7 & QUEEN CITY PARK ROAD)(ATSPM)
SEE LIST OF MAJOR EQUIPMENT, THIS SHEET

CONTROLLER CABINET (GROUND MOUNTED)
STA. 87+16, LT

TRAFFIC SIGNAL CONTROLLER
STA. 87+16, LT

REMOVAL OF TRAFFIC CONTROL SIGNAL SYSTEM (US ROUTE 7 & QUEEN CITY PARK ROAD)
SEE PROJECT SPECIAL PROVISIONS SALVAGED EQUIPMENT MEMO

WIRED CONDUIT (2") (PVC) (SCH. 80)
SEE TRAFFIC SIGNAL LAYOUT SHEET 10

ELECTRICAL CONDUIT SLEEVE (12" HDPE CASING)
STA. 87+29, LT - STA. 87+71, LT (39')
STA. 87+71, LT - STA. 87+69, RT (87')

SPECIAL PROVISION (JUNCTION BOX, HEAVY DUTY)
STA. 87+29, LT (JB-23)
STA. 87+71, LT (JB-24)
STA. 87+69, RT (JB-25)
STA. 87+28, RT (JB-26)

LUMINAIRE
STA. 87+13, LT (SL-9)
STA. 87+78, RT (SL-10)

BRACKET ARM
STA. 87+13, LT (SL-9)
STA. 87+78, RT (SL-10)

REMOVE STREET LIGHT ASSEMBLY
STA. 87+87, LT

TRAFFIC SIGNS, TYPE A
6 - SEE TRAFFIC SIGN SUMMARY SHEETS

REMOVING SIGNS
STA. 87+14, LT (QUEEN CITY PARK RD/SHELBURNE RD)
STA. 87+29, LT (NO TURN ON RED, RETAIN ALL OTHER SIGNS ON POST)

24 INCH STOP BAR
STA. 86+84, RT (23')
STA. 87+48, LT (34')
STA. 87+89, LT (23')

CROSSWALK MARKINGS
STA. 87+17, LT - STA. 87+20, RT (68')
STA. 87+23, LT - STA. 87+67, LT (44')

PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH
AS NEEDED

CAST-IN-PLACE CONCRETE CURB, TYPE B
AS NEEDED

DETECTABLE WARNING SURFACE
AS NEEDED

SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)
AS NEEDED

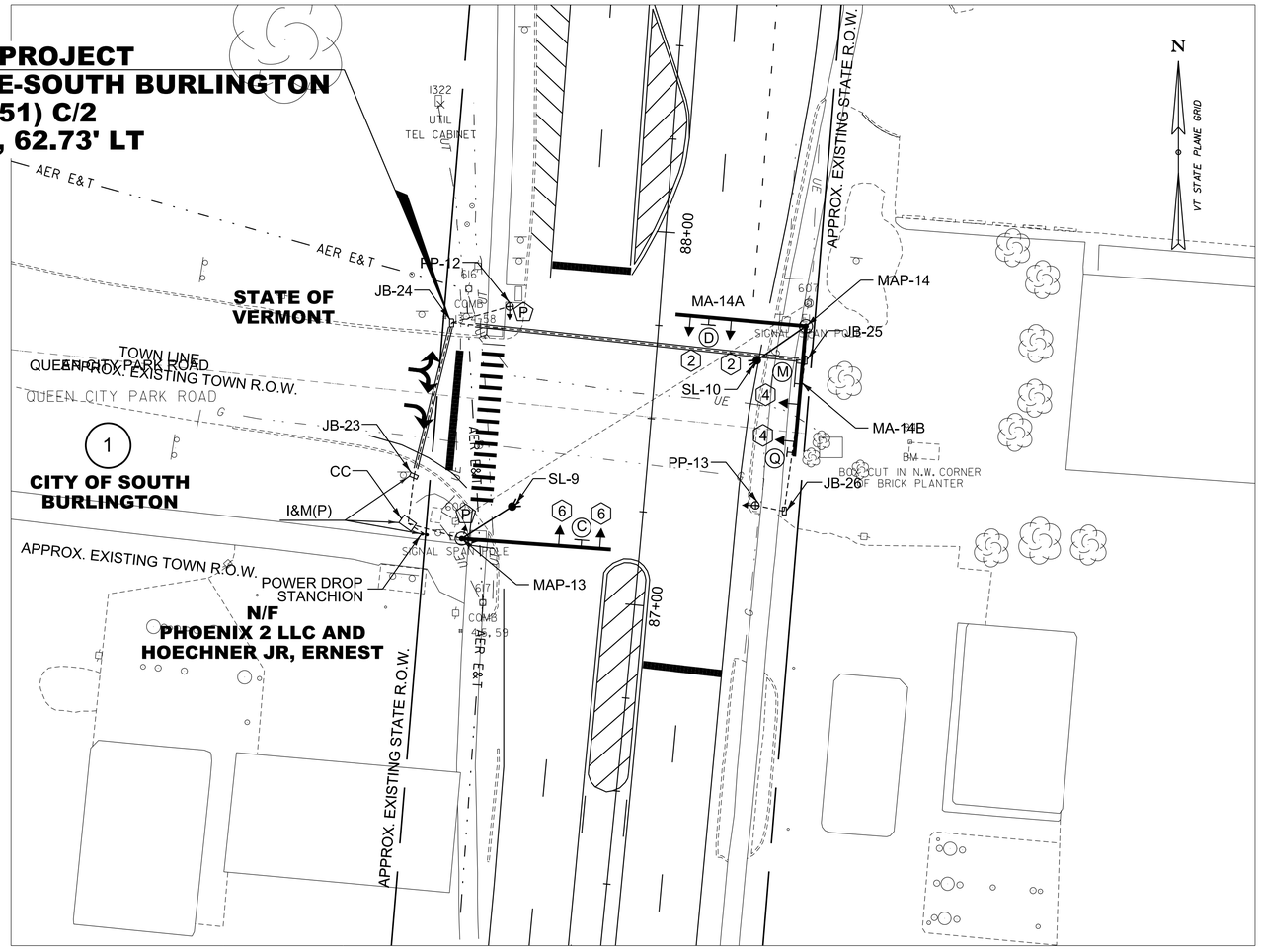
LIST OF MAJOR EQUIPMENT

678.15 - TRAFFIC CONTROL SIGNAL SYSTEM, INTERSECTION (US ROUTE 7 & QUEEN CITY PARK ROAD)	QUANTITY
STEEL SIGNAL MAST ARM POLE	2
STEEL SIGNAL MAST ARM	3
SMART MALFUNCTIONING MONITORING UNIT	1
BUS INTERFACE UNIT	1
GPS CLOCK	1
STOP BAR DETECTOR ASSEMBLY	3
STOP BAR DETECTION BRACKET	3
DETECTION PROCESSOR	1
ACCESSIBLE PEDESTRIAN PUSH BUTTON ASSEMBLY	4
COUNTDOWN PEDESTRIAN SIGNAL HEADS	4
PEDESTRIAN PUSH BUTTON EXTENSION BRACKET	2
PEDESTRIAN PEDESTAL POLE ON NEW FOUNDATION	2
3-SECTION SIGNAL HEADS	6
SIGNAL HEAD BRACKETS	6
OPTICAL PREEMPTION DETECTORS	2
OPTICAL PREEMPTION SIGNAL PROCESSOR CARD	1
PREEMPTION AC STROBE	2
POWER STANCHION	1
HARDENED UNMANAGED 8-PORT NETWORK SWITCH	1
BLUETOOTH ROAD SIDE UNIT	1

LIST OF MAJOR EQUIPMENT (ATSPM)

678.15 - TRAFFIC CONTROL SIGNAL SYSTEM, INTERSECTION (US ROUTE 7 & QUEEN CITY PARK ROAD)(ATSPM)	QUANTITY
TRAFFIC SIGNAL CABINET WITH 15-INCH EXTENSION BASE	1
TRAFFIC SIGNAL CONTROLLER	1
ADVANCED DETECTOR ASSEMBLY	2
DETECTOR MOUNTING BRACKET	2
TRAFFIC MONITORING 360 DEGREE CAMERA	1
5.8 GHz ETHERNET RADIO	2

END R.O.W PROJECT
SHELBURNE-SOUTH BURLINGTON
NHG SGNL(51) C/2
STA. 87+30, 62.73' LT



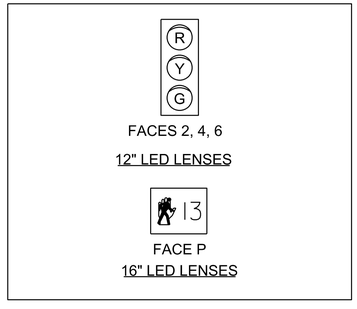
0 20 40
SCALE IN FEET

SIGN DETAIL

Ⓒ Ⓓ Ⓠ (VR925) SEE NOTE 4

Shelburne Rd
Ⓜ
SEE SIGN DETAILS SHEET

PROPOSED SIGNAL FACE ARRANGEMENTS

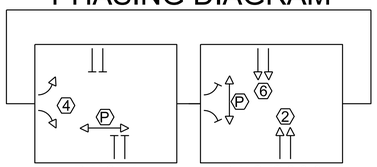


FACES 2, 4, 6
12" LED LENSES

FACE P
16" LED LENSES

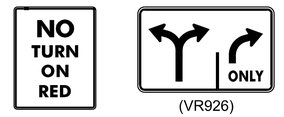
TRAFFIC SIGNAL LEGEND	
JB	JUNCTION BOX
CC	CONTROLLER CABINET
PP	PEDESTRIAN PEDESTAL POST
→2	SIGNAL HEAD WITH PHASE NO.
→P	PEDESTRIAN SIGNAL HEAD WITH PED PHASE
----	WIRED CONDUIT
====	WIRED CONDUIT IN ELECTRICAL CONDUIT SLEEVE
—Ⓐ	MAST ARM-MOUNTED SIGN
2A	STOP BAR DETECTION AREA
	LUMINAIRE ON BRACKET ARM

PHASING DIAGRAM



PHASE 4 PHASES 2 & 6

REMOVAL SIGN DETAIL



(VR926)
SEE NOTE 3

NOTES:
1. ITEMS LISTED ARE APPROXIMATE LOCATIONS AND MAY BE MODIFIED BY THE ENGINEER IN THE FIELD.
2. SIDEWALK, DETECTABLE WARNING SURFACE, CURBING AND PAVEMENT SHALL BE REPLACED AS NECESSARY IN LOCATIONS WHERE EXISTING SIDEWALK, CURBING AND PAVEMENT ARE IMPACTED BY THE INSTALLATION OF ELECTRICAL CONDUIT SLEEVES OR AS DIRECTED BY THE ENGINEER. PAYMENT FOR EACH ITEM WILL BE PAID FOR UNDER EACH CONTRACT ITEM.
3. REMOVE 2 LANE ASSIGNMENT SIGNS (VR926) THAT ARE ROUGHLY 118' DOWN FROM THE STOP BAR ON QUEEN CITY PARKWAY.
4. INSTALL 2 NEW LANE ASSIGNMENT SIGNS (VR925) IN THE SAME LOCATIONS AS THE REMOVAL OF BOTH LANE ASSIGNMENT SIGNS (VR926) THAT ARE ROUGHLY 118' DOWN FROM THE STOP BAR ON QUEEN CITY PARKWAY.
5. SEE BIKE ROUTE LAYOUT SIGN SHEET FOR NEW BIKE ROUTE SIGNS AND APPROXIMATE LOCATIONS

FOR R.O.W. USE ONLY

PROJECT NAME: SHELBURNE-SOUTH BURLINGTON
PROJECT NUMBER: NHG SGNL(51) C/2

FILE NAME: ROW.dgn
PROJECT LEADER: T. SISSON
DESIGNED BY: K. RECORD
R.O.W. LAYOUT 1 - QUEEN CITY PARK ROAD
PLOT DATE: 10/28/2020
DRAWN BY: A. EGIZI
CHECKED BY: A. PROULX
SHEET 37 OF 74

TRAFFIC CONTROL SIGNAL SYSTEM, INTERSECTION (US ROUTE 7 & GREEN MOUNTAIN DRIVE)
SEE LIST OF MAJOR EQUIPMENT, THIS SHEET

MAST ARM POLES
STA. 27+79, RT (MAP-17)

PEDESTRIAN SIGNAL HEAD & PUSH BUTTON
STA. 27+13, RT

PEDESTRIAN PEDESTAL POLE
STA. 27+13, RT (PP-17)

TRAFFIC SIGN, TYPE A
RIGHT TURN ON RED MUST YIELD TO U-TURN (MA-17)

RESETTING SIGNS
SHELBURNE RD (MA-17)

WIRED CONDUIT
SEE CONDUIT SCHEDULE, THIS SHEET

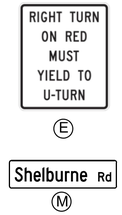
LIST OF MAJOR EQUIPMENT

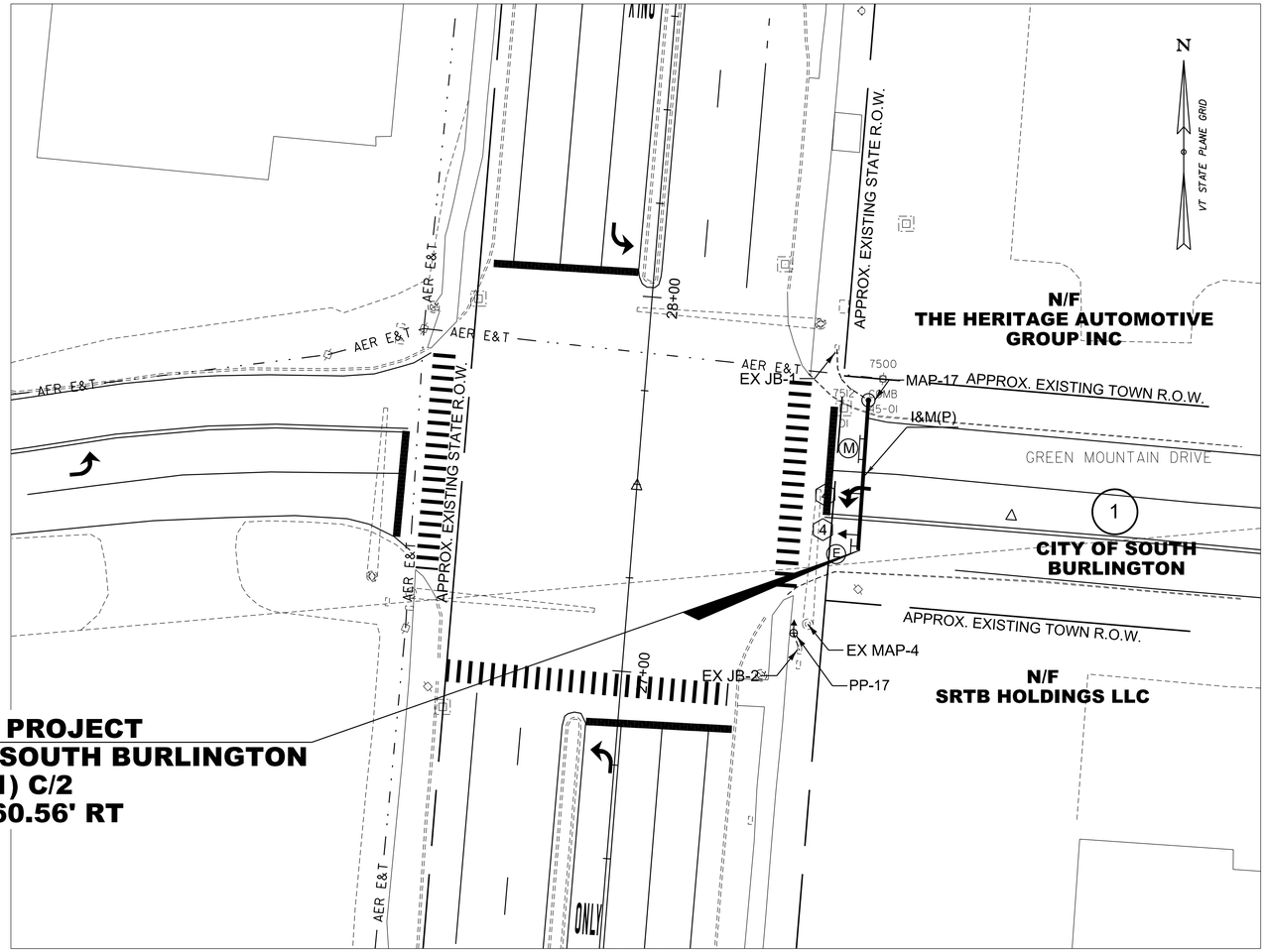
678.15 - TRAFFIC CONTROL SIGNAL SYSTEM, INTERSECTION (US ROUTE 7 & GREEN MOUNTAIN DRIVE)	QUANTITY
STEEL SIGNAL MAST ARM POLE	1
STEEL SIGNAL MAST ARM	1
ACCESSIBLE PEDESTRIAN PUSH BUTTON ASSEMBLY	1
COUNTDOWN PEDESTRIAN SIGNAL HEADS	1
PEDESTRIAN PEDESTAL POLE ON NEW FOUNDATION	1
3-SECTION SIGNAL HEADS	2
SIGNAL HEAD BRACKETS	2

CONDUIT SCHEDULE		
LOCATION	**LENGTH**	**DESCRIPTION**
MAP-20 TO EX JB-1	23	SIGNAL
MAP-20 TO EX JB-1	23	DETECTION
MAP-20 TO EX JB-1	23	FUTURE USE
PP-17 TO EX JB-2	13	PEDESTRIAN
PP-17 TO EX JB-2	13	FUTURE USE
SUBTOTAL	95	
ROUNDING	5	
TOTAL	100	

NOTES:
1. ITEMS LISTED ARE APPROXIMATE LOCATIONS AND MAY BE MODIFIED BY THE ENGINEER IN THE FIELD.
2. EXISTING JUNCTION BOXES AND CONDUIT SHALL BE USED FOR WIRING UNLESS OTHERWISE NOTED IN THE PLANS.
3. EXISTING MAP-4 SHALL BE REMOVED. THE EXISTING FOUNDATION SHALL HAVE THE TOP TWO FEET REMOVED AND FILLED IN. CONDUIT SHALL BE ABANDONED IN PLACE AND CAPPED. PAYMENT SHALL BE INCIDENTAL TO ITEM 678.45 REMOVAL OF EXISTING TRAFFIC CONTROL SIGNAL SYSTEM.

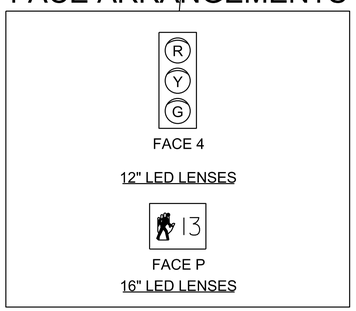
SIGN DETAIL





BEGIN R.O.W PROJECT
SHELBURNE-SOUTH BURLINGTON
NHG SGNL(51) C/2
STA. 27+37, 60.56' RT

PROPOSED SIGNAL FACE ARRANGEMENTS



TRAFFIC SIGNAL LEGEND	
JB	JUNCTION BOX
CC	CONTROLLER CABINET
PP	PEDESTRIAN PEDESTAL POST
→(2)	SIGNAL HEAD WITH PHASE NO.
→(P)	PEDESTRIAN SIGNAL HEAD WITH PED PHASE
----	WIRED CONDUIT
	WIRED CONDUIT IN ELECTRICAL CONDUIT SLEEVE
→(A)	MAST ARM-MOUNTED SIGN
(2A)	STOP BAR DETECTION AREA

FOR R.O.W. USE ONLY

PROJECT NAME: SHELBURNE-SOUTH BURLINGTON
PROJECT NUMBER: NHG SGNL(51) C/2

FILE NAME: ROW.dgn
PROJECT LEADER: T. SISSON
DESIGNED BY: K. RECORD
R.O.W. LAYOUT 2 - GREEN MOUNTAIN DRIVE

PLOT DATE: 10/28/2020
DRAWN BY: A. EGIZI
CHECKED BY: A. PROULX
SHEET 38 OF 74

TRAFFIC CONTROL SIGNAL SYSTEM, INTERSECTION (US ROUTE 7 & MCINTOSH AVENUE)
SEE LIST OF MAJOR EQUIPMENT, THIS SHEET

MAST ARM POLES
STA. 59+48, LT (MAP-1)
STA. 60+16, RT (MAP-2)
STA. 59+59, RT (MAP-3)

PEDESTRIAN SIGNAL HEAD & PUSH BUTTON
STA. 59+48, LT (X2)
STA. 60+37, LT
STA. 59+59, RT (EXTENSION BRACKET)
STA. 59+66, RT
STA. 60+09, RT

PEDESTRIAN PEDESTAL POLE
STA. 60+37, LT (PP-1)
STA. 60+09, RT (PP-2)
STA. 59+67, RT (PP-3)

POWER DROP STANCHION
STA. 60+44, LT

TRAFFIC CONTROL SIGNAL SYSTEM, INTERSECTION (US ROUTE 7 & MCINTOSH AVENUE)(ATSPM)
SEE LIST OF MAJOR EQUIPMENT, THIS SHEET

CONTROLLER CABINET (GROUND MOUNTED)
STA. 60+22, RT

TRAFFIC SIGNAL CONTROLLER
STA. 60+22, RT

REMOVAL OF TRAFFIC CONTROL SIGNAL SYSTEM (US ROUTE 7 & MCINTOSH AVENUE)
SEE PROJECT SPECIAL PROVISIONS SALVAGED EQUIPMENT MEMO

WIRED CONDUIT (2") (PVC) (SCH. 80)
SEE TRAFFIC LAYOUT SHEET 2

WIRED CONDUIT (2.5") (PVC) (SCH. 80)
SEE TRAFFIC LAYOUT SHEET 2

WIRED CONDUIT (3") (PVC) (SCH. 80)
SEE TRAFFIC LAYOUT SHEET 2

ELECTRICAL CONDUIT SLEEVE (12" HDPE CASING)
STA. 59+30, LT - STA. 59+30, RT (82')
STA. 59+63, RT - STA. 60+10, RT (41')
STA. 60+40, LT - STA. 60+41, RT (94')

SPECIAL PROVISION (JUNCTION BOX, HEAVY DUTY)
STA. 59+30, LT (JB-1)
STA. 60+40, LT (JB-2)
STA. 60+41, RT (JB-3)
STA. 60+10, RT (JB-4)
STA. 59+63, RT (JB-5)
STA. 59+30, RT (JB-6)

LUMINAIRE
STA. 59+48, LT (SL-1)
STA. 59+59, RT (SL-2)

BRACKET ARM
STA. 59+48, LT (SL-1) (16')
STA. 59+59, RT (SL-2) (16')

TRAFFIC SIGNS, TYPE A
11 - SEE TRAFFIC SIGN SUMMARY SHEET

REMOVING SIGNS
STA. 59+61, LT (SHELBURNE RD, FAYETTE DR)
STA. 60+11, RT (SHELBURNE RD, MCINTOSH AVE)

6 INCH WHITE LINE
STA. 60+34 - STA. 60+46, LT (x3)
STA. 60+34 - STA. 60+46, RT
STA. 59+24 - STA. 59+36, LT
STA. 59+24 - STA. 59+36, RT (x2)

6 INCH YELLOW LINE
STA. 60+34 - STA. 60+46, RT
STA. 59+24 - STA. 59+36, CL

LETTER OR SYMBOL
STA. 59+35, RT (LEFT ARROW)
STA. 60+35, RT (LEFT ARROW)
STA. 60+35, LT (RIGHT ARROW)

CROSSWALK MARKINGS
STA. 59+61, LT - STA. 60+24, LT
STA. 59+58, LT - STA. 59+59, RT
STA. 59+69, RT - STA. 60+02, RT

24 INCH STOP BAR
STA. 59+44, RT
STA. 59+77, LT
STA. 59+92, RT
STA. 60+30, LT

PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH
AS NEEDED

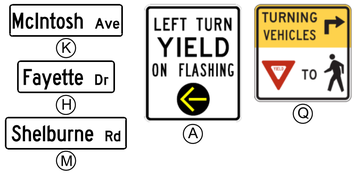
CAST-IN-PLACE CONCRETE CURB, TYPE B
AS NEEDED

REMOVING AND RESETTING CURB
AS NEEDED

DETECTABLE WARNING SURFACE
AS NEEDED

SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)
AS NEEDED

SIGN DETAIL



SEE SIGN DETAILS SHEET

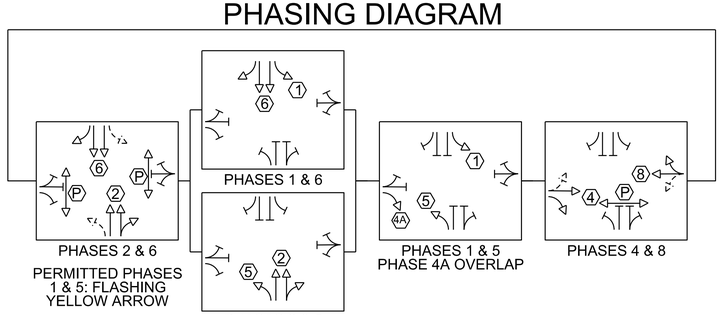
LIST OF MAJOR EQUIPMENT (ATSPM)

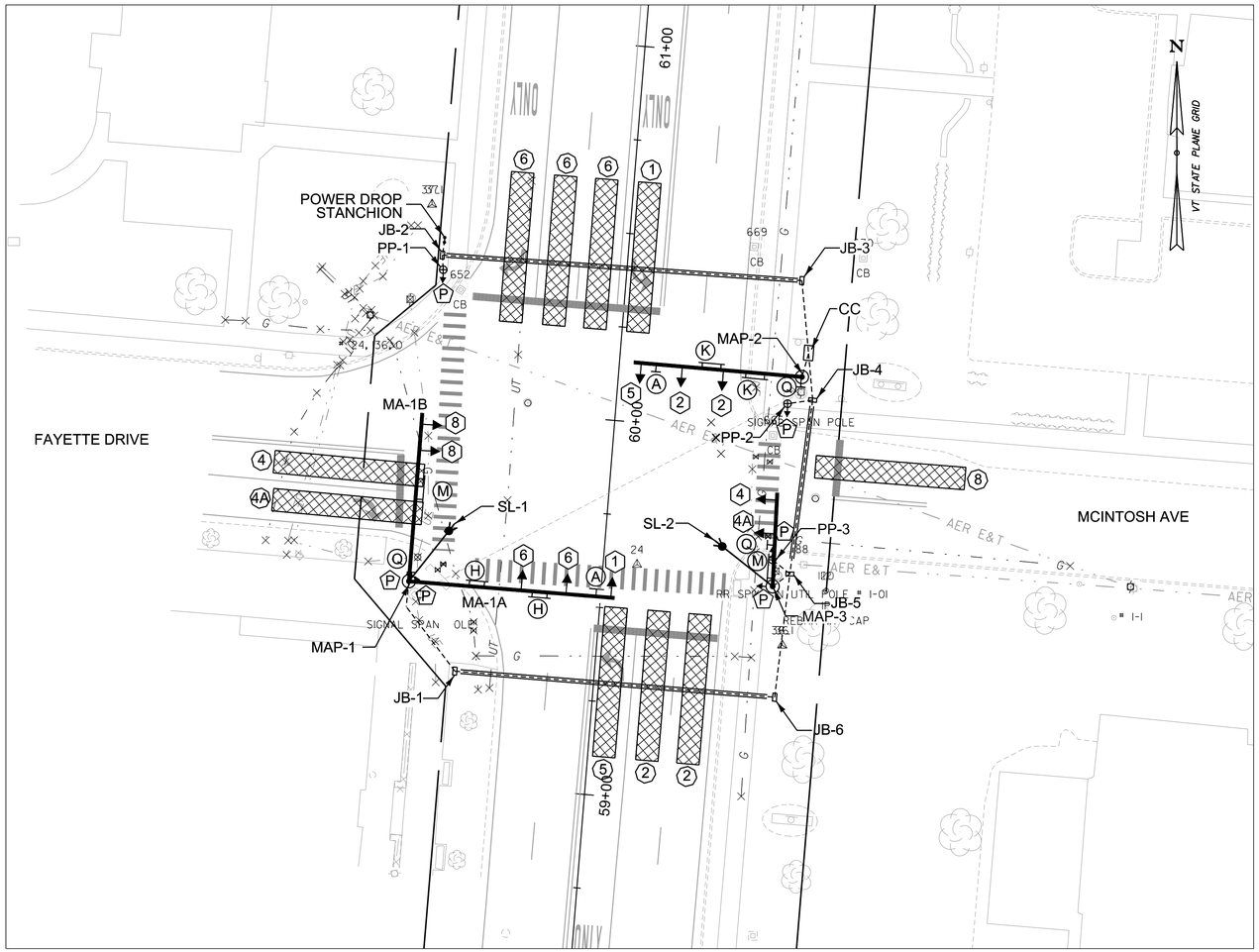
678.15 - TRAFFIC CONTROL SIGNAL SYSTEM, INTERSECTION (US ROUTE 7 & MCINTOSH AVENUE)(ATSPM)	QUANTITY
TRAFFIC SIGNAL CABINET WITH 15-INCH EXTENSION BASE	1
TRAFFIC SIGNAL CONTROLLER	1
ADVANCED DETECTOR ASSEMBLY	2
DETECTOR MOUNTING BRACKET	2
TRAFFIC MONITORING 360 DEGREE CAMERA	1
5.8 GHz ETHERNET RADIO	2

LIST OF MAJOR EQUIPMENT

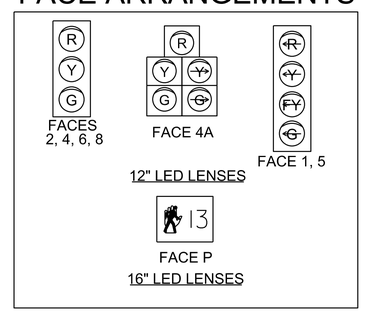
678.15 - TRAFFIC CONTROL SIGNAL SYSTEM, INTERSECTION (US ROUTE 7 & MCINTOSH AVENUE)	QUANTITY
STEEL SIGNAL MAST ARM POLE	3
STEEL SIGNAL MAST ARM	4
SMART MALFUNCTIONING MONITORING UNIT	1
BUS INTERFACE UNIT	1
GPS CLOCK	1
STOP BAR DETECTOR ASSEMBLY	4
STOP BAR DETECTION BRACKET	4
DETECTION PROCESSOR	1
ACCESSIBLE PEDESTRIAN PUSH BUTTON ASSEMBLY	6
COUNTDOWN PEDESTRIAN SIGNAL HEADS	6
PEDESTRIAN PUSH BUTTON EXTENSION BRACKET	1
PEDESTRIAN PEDESTAL POLE ON NEW FOUNDATION	3
3-SECTION SIGNAL HEADS	7
4-SECTION SIGNAL HEADS	2
5-SECTION SIGNAL HEADS	1
SIGNAL HEAD BRACKETS	10
OPTICAL PREEMPTION DETECTORS	2
OPTICAL PREEMPTION SIGNAL PROCESSOR CARD	1
PREEMPTION AC STROBE	2
POWER STANCHION	1
HARDENED UNMANAGED 8-PORT NETWORK SWITCH	1
BLUETOOTH ROAD SIDE UNIT	1

PHASING DIAGRAM





PROPOSED SIGNAL FACE ARRANGEMENTS



0 20 40
SCALE IN FEET

TRAFFIC SIGNAL LEGEND	
JB	JUNCTION BOX
CC	CONTROLLER CABINET
PP	PEDESTRIAN PEDESTAL POST
→(2)	SIGNAL HEAD WITH PHASE NO.
→(P)	PEDESTRIAN SIGNAL HEAD WITH PED PHASE
----	WIRED CONDUIT
▬▬	WIRED CONDUIT IN ELECTRICAL CONDUIT SLEEVE
—(A)	MAST ARM-MOUNTED SIGN
(4A)	STOP BAR DETECTION AREA
SL	LUMINAIRE ON BRACKET ARM

NOTES:
1. ITEMS LISTED ARE APPROXIMATE LOCATIONS AND MAY BE MODIFIED BY THE ENGINEER IN THE FIELD.
2. SIDEWALK, DETECTABLE WARNING SURFACE, CURBING AND PAVEMENT SHALL BE REPLACED AS NECESSARY IN LOCATIONS WHERE EXISTING SIDEWALK, CURBING AND PAVEMENT ARE IMPACTED BY THE INSTALLATION OF ELECTRICAL CONDUIT SLEEVES OR AS DIRECTED BY THE ENGINEER. PAYMENT FOR EACH ITEM WILL BE PAID FOR UNDER EACH CONTRACT ITEM.

MS-518: US 7 - MCINTOSH AVE

PROJECT NAME: SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER: NHG SGNL(51) C/2

FILE NAME: layout 11a.dgn
PROJECT LEADER: T. SISSON
DESIGNED BY: K. RECORD
TRAFFIC SIGNAL LAYOUT SHEET 1
PLOT DATE: 10/28/2020
DRAWN BY: K. RECORD
CHECKED BY: T. SISSON
SHEET 39 OF 74

CONTROLLER TIMING CHART

PHASE	1	2	3	4	5	6	7	8
IN USE	X	X		X	X	X		X
MOVEMENT	SB	NB		EB	NB	SB		WB
MIN. GREEN	5	15		8	5	15		8
MAX 2 - GREEN	6	57		21	6	42		16
MAX 1 - GREEN	6	58		22	6	46		18
MAX 3 - GREEN	6	65		24	6	48		19
YELLOW	4	4		4	4	4		4
ALL RED	2	2		2	2	2		2
VEHICLE EXT	3	3		3	3	3		3
RECALL MODE		SOFT				SOFT		
WALK		7		7		7		7
PED CLEAR		25		21		25		21
DELAY GREEN		7		7		7		7
COORDINATED		X				X		

PREEMPTION TIMINGS

	PREEMPTOR		
	3	4	
DIRECTION	SB	NB	
HOLD PHASE	1 & 6	2 & 5	
DET. LOCK	YES	YES	
DURATION TIME	30	30	
MIN. GREEN	5	5	
HOLD GREEN	12	12	
HOLD YELLOW	4	4	
HOLD RED	2	2	

SPLIT PHASES/SPLIT TIMINGS

PATTERN	COS	CYCLE	OFFSET	1	2	3	4	5	6	7	8
1	111	100	19	11	50		34	11	50		34
2	211	95	62	13	56		31	15	54		31
3	311	130	126	11	83		36	24	70		36

DAY PLAN

PLAN #	EVENT	ACTION PLAN	START TIME
1	1	4	12:00 AM
1	2	2	6:30 AM
1	3	1	9:30 AM
1	4	3	2:30 PM
1	5	1	7:30 PM
1	6	4	11:00 PM
2	1	4	12:00 AM
2	2	1	6:00 AM
2	3	2	9:00 AM
2	4	1	6:30 PM
2	5	4	11:00 PM

ACTION PLAN

PLAN #	PATTERN	FLASH	MAX
1	1	NO	MAX 1
2	2	NO	MAX 2
3	3	NO	MAX 3
99	254-FREE	NO	MAX 1

SCHEDULE PLAN

SCH #	DAY PLAN	DAYS	DATES
1	1	M - F	1-31
1	2	SA, SU	1-31

CONDUIT SCHEDULE

LOCATION	2"	2.5"	3"	DESCRIPTION
POWER TO STANCHION		55		POWER
STANCHION TO JB-2	12			POWER
JB-2 TO PP-1	12			PEDESTRIAN
JB-2 TO PP-1	12			FUTURE USE
JB-2 TO JB-3			10	SIGNAL\LIGHTING
JB-2 TO JB-3			10	DETECTION
JB-2 TO JB-3			10	FUTURE USE
JB-2 TO JB-3			10	FUTURE USE
JB-3 TO CC			27	SIGNAL\LIGHTING
JB-3 TO CC			27	DETECTION
JB-3 TO CC			27	FUTURE USE
CC TO MAP-2	14			SIGNAL\LIGHTING
CC TO MAP-2	14			DETECTION
CC TO MAP-2	14			FUTURE USE
CC TO MAP-2	14			FUTURE USE
CC TO JB-4			18	SIGNAL\LIGHTING
CC TO JB-4			18	DETECTION
CC TO JB-4			18	FUTURE USE
JB-4 TO PP-2	14			PEDESTRIAN
JB-4 TO PP-2	14			FUTURE USE
JB-4 TO JB-5			12	SIGNAL\LIGHTING
JB-4 TO JB-5			12	DETECTION
JB-4 TO JB-5			12	FUTURE USE
JB-4 TO JB-5			12	FUTURE USE
JB-5 TO PP-3	13			PEDESTRIAN
JB-5 TO PP-3	13			FUTURE USE
JB-5 TO MAP-3	13			SIGNAL\LIGHTING
JB-5 TO MAP-3	12			DETECTION
JB-5 TO MAP-3	13			FUTURE USE
JB-5 TO MAP-3	13			FUTURE USE
JB-5 TO JB-6			40	SIGNAL\LIGHTING
JB-5 TO JB-6			40	DETECTION
JB-5 TO JB-6			40	FUTURE USE
JB-6 TO JB-1			10	SIGNAL\LIGHTING
JB-6 TO JB-1			10	DETECTION
JB-6 TO JB-1			10	FUTURE USE
JB-6 TO JB-1			10	FUTURE USE
JB-1 TO MAP-1	35			SIGNAL\LIGHTING
JB-1 TO MAP-1	35			DETECTION
JB-1 TO MAP-1	35			FUTURE USE
JB-1 TO MAP-1	35			FUTURE USE
SUBTOTAL	337	55	383	
ROUNDING	13	5	12	
TOTAL	350	60	395	

NOTE:

PAYMENT FOR WIRED CONDUIT INSTALLED INSIDE UNDERGROUND HDPE CASING PIPE SHALL BE INCIDENTAL TO ITEM 678.25 - ELECTRICAL CONDUIT SLEEVE. CONDUIT SHOWN IN CONDUIT SCHEDULE REFLECT LENGTH OF CONDUIT OUTSIDE LIMITS OF CONDUIT SLEEVE.

MS-518: US 7 - MCINTOSH AVE

PROJECT NAME: SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER: NHG SGNL(51) C/2

FILE NAME: layout 11b.dgn
PROJECT LEADER: T. SISSON
DESIGNED BY: K. RECORD
TRAFFIC SIGNAL LAYOUT SHEET 2

PLOT DATE: 10/28/2020
DRAWN BY: K. RECORD
CHECKED BY: T. SISSON
SHEET 40 OF 74

TRAFFIC CONTROL SIGNAL SYSTEM, INTERSECTION (US ROUTE 7 & BALDWIN AVENUE)
SEE LIST OF MAJOR EQUIPMENT, THIS SHEET

MAST ARM POLES
STA. 64+87, LT (MAP-4)
STA. 65+48, RT (MAP-5)
STA. 64+92, RT (MAP-6)

PEDESTRIAN SIGNAL HEAD & PUSH BUTTON
STA. 64+87, LT (EXTENSION BRACKET) x2
STA. 65+37, LT (EXTENSION BRACKET)
STA. 64+92, RT x2
STA. 65+42, RT

PEDESTRIAN PEDESTAL POLE
STA. 65+37, LT (PP-4)
STA. 65+42, RT (PP-5)

POWER DROP STANCHION
STA. 65+53, LT

TRAFFIC CONTROL SIGNAL SYSTEM, INTERSECTION (US ROUTE 7 & BALDWIN AVENUE)(ATSPM)
SEE LIST OF MAJOR EQUIPMENT, THIS SHEET

CONTROLLER CABINET (GROUND MOUNTED)
STA. 65+47, RT

TRAFFIC SIGNAL CONTROLLER
STA. 65+47, RT

REMOVAL OF TRAFFIC CONTROL SIGNAL SYSTEM (US ROUTE 7 & BALDWIN AVENUE)
SEE PROJECT SPECIAL PROVISIONS SALVAGED EQUIPMENT MEMO

WIRED CONDUIT (2") (PVC) (SCH. 80)
SEE TRAFFIC SIGNAL LAYOUT SHEET 4

WIRED CONDUIT (2.5") (PVC) (SCH. 80)
SEE TRAFFIC SIGNAL LAYOUT SHEET 4

WIRED CONDUIT (3") (PVC) (SCH. 80)
SEE TRAFFIC SIGNAL LAYOUT SHEET 4

ELECTRICAL CONDUIT SLEEVE (12" HDPE CASING)
STA. 64+90, LT - STA. 65+53, LT (45')
STA. 65+53, LT - STA. 65+53, RT (70')
STA. 65+42, RT - STA. 64+94, RT (42)

SPECIAL PROVISION (JUNCTION BOX, HEAVY DUTY)
STA. 64+90, LT (JB-7)
STA. 65+53, LT (JB-8)
STA. 65+53, RT (JB-9)
STA. 65+42, RT (JB-10)
STA. 64+94, RT (JB-11)

LUMINAIRE
STA. 64+87, LT (SL-3)
STA. 64+92, RT (SL-4)

BRACKET ARM
STA. 64+87, LT (SL-3) (16')
STA. 64+92, RT (SL-4) (16')

TRAFFIC SIGNS, TYPE A
11 - SEE TRAFFIC SIGN SUMMARY SHEET

REMOVING SIGNS
STA. 64+89, LT (SATURN WAY/SHELBURNE RD)
STA. 65+33, RT (BALDWIN AVE/SHELBURNE RD)

6 INCH WHITE LINE
STA. 65+48 - STA. 65+60, LT
STA. 65+53 - STA. 65+60, LT
STA. 65+48 - STA. 65+60, RT
STA. 65+03 - STA. 65+04, RT

6 INCH YELLOW LINE
STA. 65+53 - STA. 65+60, RT
STA. 65+17 - STA. 65+18, RT

LETTER OR SYMBOL
STA. 65+60, RT (LEFT ARROW)

CROSSWALK MARKINGS
STA. 65+00, RT - STA. 65+30, RT
STA. 64+82, LT - STA. 64+87, RT
STA. 64+91, LT - STA. 65+33, LT

24 INCH STOP BAR
STA. 64+71, RT
STA. 65+00, LT
STA. 65+23, RT
STA. 65+51, LT

PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH
AS NEEDED

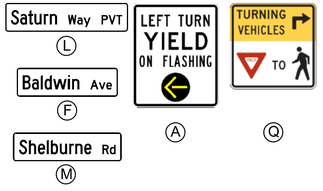
CAST-IN-PLACE CONCRETE CURB, TYPE B
AS NEEDED

REMOVING AND RESETTING CURB
AS NEEDED

DETECTABLE WARNING SURFACE
AS NEEDED

SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)
AS NEEDED

SIGN DETAIL



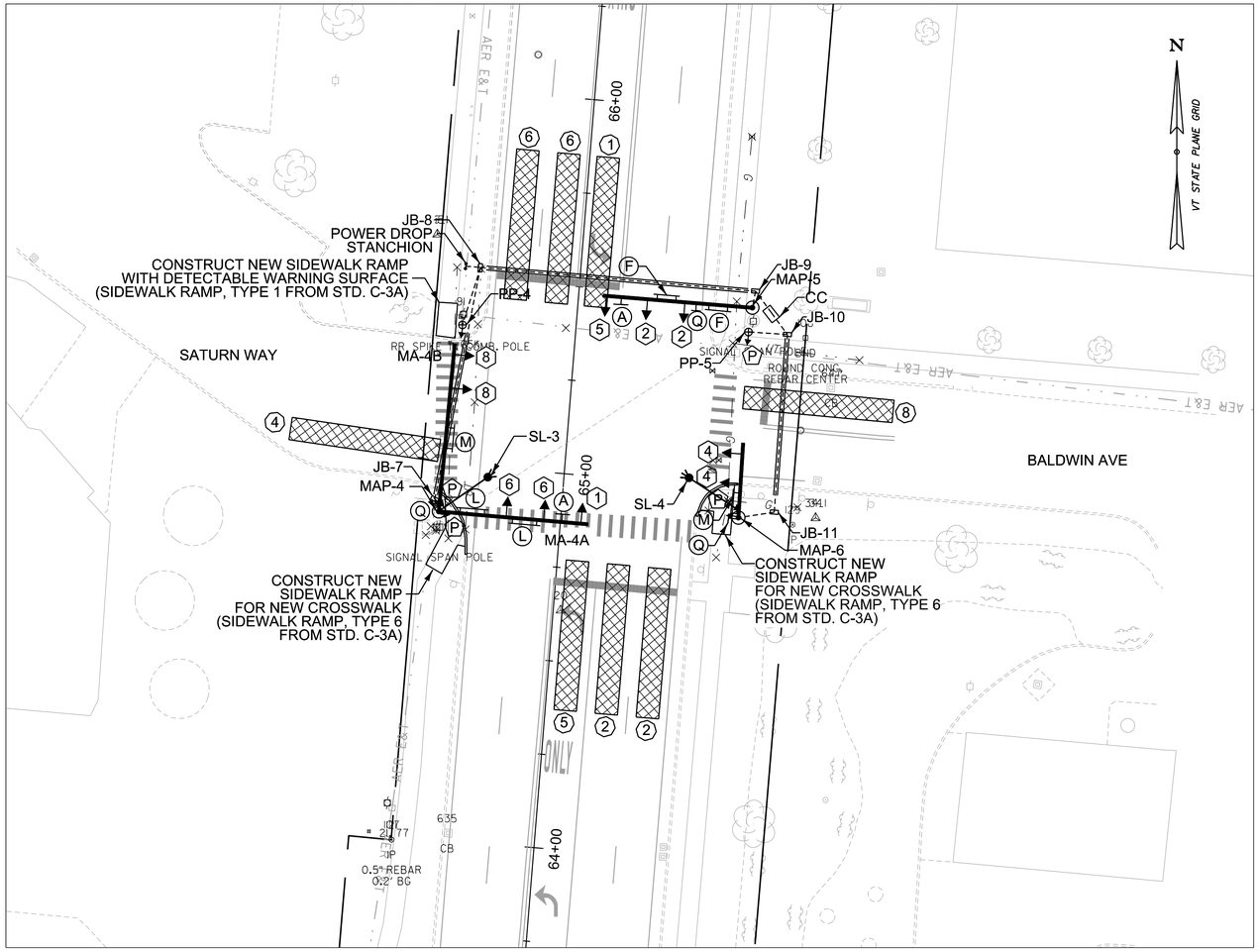
SEE SIGN DETAILS SHEET

LIST OF MAJOR EQUIPMENT (ATSPM)

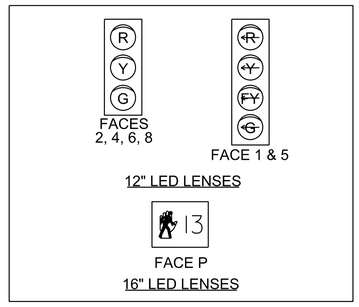
678.15 - TRAFFIC CONTROL SIGNAL SYSTEM, INTERSECTION (US ROUTE 7 & BALDWIN AVENUE)(ATSPM)	QUANTITY
TRAFFIC SIGNAL CABINET WITH 15-INCH EXTENSION BASE	1
TRAFFIC SIGNAL CONTROLLER	1
ADVANCED DETECTOR ASSEMBLY	2
DETECTOR MOUNTING BRACKET	2
TRAFFIC MONITORING 360 DEGREE CAMERA	1
5.8 GHz ETHERNET RADIO	2

LIST OF MAJOR EQUIPMENT

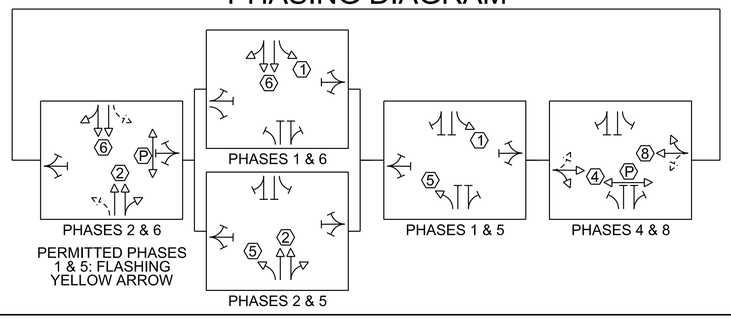
678.15 - TRAFFIC CONTROL SIGNAL SYSTEM, INTERSECTION (US ROUTE 7 & BALDWIN AVENUE)	QUANTITY
STEEL SIGNAL MAST ARM POLE	3
STEEL SIGNAL MAST ARM	4
SMART MALFUNCTIONING MONITORING UNIT	1
BUS INTERFACE UNIT	1
GPS CLOCK	1
STOP BAR DETECTOR ASSEMBLY	4
STOP BAR DETECTION BRACKET	4
DETECTION PROCESSOR	1
ACCESSIBLE PEDESTRIAN PUSH BUTTON ASSEMBLY	6
COUNTDOWN PEDESTRIAN SIGNAL HEADS	6
PEDESTRIAN PUSH BUTTON EXTENSION BRACKET	5
PEDESTRIAN PEDESTAL POLE ON NEW FOUNDATION	2
3-SECTION SIGNAL HEADS	8
4-SECTION SIGNAL HEADS	2
SIGNAL HEAD BRACKETS	10
OPTICAL PREEMPTION DETECTORS	2
OPTICAL PREEMPTION SIGNAL PROCESSOR CARD	1
PREEMPTION AC STROBE	2
POWER STANCHION	1
HARDENED UNMANAGED 8-PORT NETWORK SWITCH	1
BLUETOOTH ROAD SIDE UNIT	1



PROPOSED SIGNAL FACE ARRANGEMENTS



PHASING DIAGRAM



0 20 40
SCALE IN FEET

TRAFFIC SIGNAL LEGEND	
JB	JUNCTION BOX
CC	CONTROLLER CABINET
PP	PEDESTRIAN PEDESTAL POST
2	SIGNAL HEAD WITH PHASE NO.
P	PEDESTRIAN SIGNAL HEAD WITH PED PHASE
----	WIRED CONDUIT
	WIRED CONDUIT IN ELECTRICAL CONDUIT SLEEVE
A	MAST ARM-MOUNTED SIGN
2A	STOP BAR DETECTION AREA
	LUMINAIRE ON BRACKET ARM

NOTES:
1. ITEMS LISTED ARE APPROXIMATE LOCATIONS AND MAY BE MODIFIED BY THE ENGINEER IN THE FIELD.
2. SIDEWALK, DETECTABLE WARNING SURFACE, CURBING AND PAVEMENT SHALL BE REPLACED AS NECESSARY IN LOCATIONS WHERE EXISTING SIDEWALK, CURBING AND PAVEMENT ARE IMPACTED BY THE INSTALLATION OF ELECTRICAL CONDUIT SLEEVES OR AS DIRECTED BY THE ENGINEER. PAYMENT FOR EACH ITEM WILL BE PAID FOR UNDER EACH CONTRACT ITEM.

MS-519: US 7 - BALDWIN AVE

PROJECT NAME: SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER: NHG SGNL(51) C/2

FILE NAME: layout 12a.dgn
PROJECT LEADER: T. SISSON
DESIGNED BY: K. RECORD
TRAFFIC SIGNAL LAYOUT SHEET 3

PLOT DATE: 10/28/2020
DRAWN BY: K. RECORD
CHECKED BY: T. SISSON
SHEET 41 OF 74

CONTROLLER TIMING CHART

PHASE	1	2	3	4	5	6	7	8
IN USE	X	X		X	X	X		X
MOVEMENT	SB	NB		EB	NB	SB		WB
MIN. GREEN	5	25		5	5	25		5
MAX 2 - GREEN	9	68		16	5	55		16
MAX 1 - GREEN	11	69		17	5	54		17
MAX 3 - GREEN	11	76		18	5	61		18
YELLOW	4	4		4	4	4		4
ALL RED	2	2		2	2	2		2
VEHICLE EXT	3	3		3	3	3		3
RECALL MODE		SOFT				SOFT		
WALK		7		7		7		7
PED CLEAR		10		17		10		17
DELAY GREEN		7		7		7		7
COORDINATED		X				X		

PREEMPTION TIMINGS

	PREEMPTOR		
	3	4	
DIRECTION	SB	NB	
HOLD PHASE	1 & 6	2 & 5	
DET. LOCK	YES	YES	
DURATION TIME	30	30	
MIN. GREEN	12	12	
HOLD GREEN	12	12	
HOLD YELLOW	4	4	
HOLD RED	2	2	

SPLIT PHASES/SPLIT TIMINGS

PATTERN	COS	CYCLE	OFFSET	1	2	3	4	5	6	7	8
1	111	100	97	16	59		25	11	64		25
2	211	95	39	16	56		23	11	61		23
3	311	130	116	18	84		28	11	91		28

DAY PLAN

PLAN #	EVENT	ACTION PLAN	START TIME
1	1	4	12:00 AM
1	2	2	6:30 AM
1	3	1	9:30 AM
1	4	3	2:30 PM
1	5	1	7:30 PM
1	6	4	11:00 PM
2	1	4	12:00 AM
2	2	1	6:00 AM
2	3	2	9:00 AM
2	4	1	6:30 PM
2	5	4	11:00 PM

ACTION PLAN

PLAN #	PATTERN	FLASH	MAX
1	1	NO	MAX 1
2	2	NO	MAX 2
3	3	NO	MAX 3
99	254-FREE	NO	MAX 1

SCHEDULE PLAN

SCH #	DAY PLAN	DAYS	DATES
1	1	M - F	1-31
1	2	SA, SU	1-31

CONDUIT SCHEDULE

LOCATION	2"	2.5"	3"	DESCRIPTION
POWER TO STANCHION		40		POWER
STANCHION TO JB-8	11			POWER
JB-8 TO JB-9			11	SIGNAL\LIGHTING
JB-8 TO JB-9			11	DETECTION
JB-8 TO JB-9			11	FUTURE USE
JB-8 TO JB-9			11	FUTURE USE
JB-9 TO MAP-5	11			SIGNAL\LIGHTING
JB-9 TO MAP-5	11			DETECTION
JB-9 TO MAP-5	11			FUTURE USE
JB-9 TO MAP-5	11			FUTURE USE
CC TO JB-9			16	SIGNAL\LIGHTING
CC TO JB-9			16	DETECTION
CC TO JB-9			16	FUTURE USE
CC TO JB-10			14	SIGNAL\LIGHTING
CC TO JB-10			14	DETECTION
CC TO JB-10			14	FUTURE USE
JB-10 TO PP-5	17			PEDESTRIAN
JB-10 TO PP-5	17			FUTURE USE
JB-10 TO JB-11			14	SIGNAL\LIGHTING
JB-10 TO JB-11			14	DETECTION
JB-10 TO JB-11			14	FUTURE USE
JB-10 TO JB-11			14	FUTURE USE
JB-11 TO MAP-6	17			SIGNAL\LIGHTING
JB-11 TO MAP-6	17			DETECTION
JB-11 TO MAP-6	17			FUTURE USE
JB-11 TO MAP-6	17			FUTURE USE
JB-8 TO PP-4	23			PEDESTRIAN
JB-8 TO PP-4	23			FUTURE USE
JB-8 TO JB-7			26	SIGNAL\LIGHTING
JB-8 TO JB-7			26	DETECTION
JB-8 TO JB-7			26	FUTURE USE
JB-8 TO JB-7			26	FUTURE USE
JB-7 TO MAP-4	10			SIGNAL\LIGHTING
JB-7 TO MAP-4	10			DETECTION
JB-7 TO MAP-4	10			FUTURE USE
JB-7 TO MAP-4	10			FUTURE USE
SUBTOTAL	243	40	294	
ROUNDING	12	5	16	
TOTAL	255	45	310	

NOTE:

PAYMENT FOR WIRED CONDUIT INSTALLED INSIDE UNDERGROUND HDPE CASING PIPE SHALL BE INCIDENTAL TO ITEM 678.25 - ELECTRICAL CONDUIT SLEEVE. CONDUIT SHOWN IN CONDUIT SCHEDULE REFLECT LENGTH OF CONDUIT OUTSIDE LIMITS OF CONDUIT SLEEVE.

MS-519: US 7 - BALDWIN AVE

PROJECT NAME: SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER: NHG SGNL(51) C/2

FILE NAME: layout 12b.dgn
PROJECT LEADER: T. SISSON
DESIGNED BY: K. RECORD
TRAFFIC SIGNAL LAYOUT SHEET 4

PLOT DATE: 10/28/2020
DRAWN BY: K. RECORD
CHECKED BY: T. SISSON
SHEET 42 OF 74

TRAFFIC CONTROL SIGNAL SYSTEM, INTERSECTION (US ROUTE 7 & LAUREL HILL DRIVE)
SEE LIST OF MAJOR EQUIPMENT, THIS SHEET

CONTROLLER CABINET (GROUND MOUNTED)
STA. 75+88, RT

MAST ARM POLES
STA. 74+99, LT (MAP-7)
STA. 76+07, LT (MAP-8)
STA. 75+95, RT (MAP-9)
STA. 75+25, RT (MAP-10)

PEDESTRIAN SIGNAL HEAD & PUSH BUTTON
STA. 74+98, LT
STA. 75+08, LT
STA. 75+95, LT (EXTENSION BRACKET)
STA. 75+04, RT
STA. 75+25, RT (EXTENSION BRACKET)
STA. 75+95, RT (EXTENSION BRACKET)

PEDESTRIAN PEDESTAL POLE
STA. 74+98, LT (PP-6)
STA. 75+08, LT (PP-7)
STA. 75+04, RT (PP-8)

POWER DROP STANCHION
STA. 75+84, RT

TRAFFIC CONTROL SIGNAL SYSTEM, INTERSECTION (US ROUTE 7 & LAUREL HILL DRIVE)(ATSPM)
SEE LIST OF MAJOR EQUIPMENT, THIS SHEET

TRAFFIC SIGNAL CONTROLLER
STA. 75+88, RT

REMOVAL OF TRAFFIC CONTROL SIGNAL SYSTEM (US ROUTE 7 & LAUREL HILL DRIVE)
SEE PROJECT SPECIAL PROVISIONS SALVAGED EQUIPMENT MEMO

WIRED CONDUIT (2") (PVC) (SCH. 80)
SEE TRAFFIC SIGNAL LAYOUT SHEET 6

WIRED CONDUIT (2.5") (PVC) (SCH. 80)
SEE TRAFFIC SIGNAL LAYOUT SHEET 6

WIRED CONDUIT (3") (PVC) (SCH. 80)
SEE TRAFFIC SIGNAL LAYOUT SHEET 6

ELECTRICAL CONDUIT SLEEVE (12" HDPE CASING)
STA. 74+92, LT - STA. 75+08, RT (94')
STA. 75+29, RT - STA. 75+86, RT (53')
STA. 76+12, LT - STA. 76+13, RT (91')

SPECIAL PROVISION (JUNCTION BOX, HEAVY DUTY)
STA. 74+92, LT (JB-11)
STA. 76+12, LT (JB-12)
STA. 76+13, RT (JB-13)
STA. 75+86, RT (JB-14)
STA. 75+29, RT (JB-15)
STA. 75+08, RT (JB-16)

LUMINAIRE
STA. 76+07, LT (SL-5)
STA. 75+25, RT (SL-6)

BRACKET ARM
STA. 76+07, LT (SL-5) (16')
STA. 75+25, RT (SL-6) (16')

TRAFFIC SIGNS, TYPE A
11 - SEE TRAFFIC SIGN SUMMARY SHEET

REMOVING SIGNS
STA. 75+83, RT (LAUREL HILL/SHELBURNE RD)
STA. 75+13, LT (HANNAFORDS DR)

6 INCH WHITE LINE
STA. 74+88 - STA. 75+00, LT
STA. 75+00 - STA. 75+12, RT
STA. 76+07 - STA. 76+20, RT
STA. 76+16 - STA. 76+20, RT

6 INCH YELLOW LINE
STA. 75+54 - STA. 75+55, RT
STA. 76+16 - STA. 76+20, RT

LETTERS OR SYMBOLS
STA. 75+71, RT (RIGHT ARROW)
STA. 76+20, RT (LEFT ARROW)
STA. 76+20, RT (RIGHT ARROW)

24 INCH STOP BAR
STA. 74+92, RT
STA. 75+48, LT
STA. 75+66, RT
STA. 76+16, LT

CROSSWALK MARKINGS
STA. 75+01, LT - STA. 75+02, RT
STA. 75+14, LT - STA. 75+91, LT
STA. 75+32, RT - STA. 75+85, RT

PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH
AS NEEDED

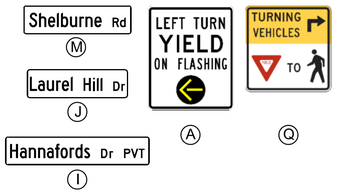
CAST-IN-PLACE CONCRETE CURB, TYPE B
AS NEEDED

REMOVING AND RESETTING CURB
AS NEEDED

DETECTABLE WARNING SURFACE
AS NEEDED

SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)
AS NEEDED

SIGN DETAIL



SEE SIGN DETAILS SHEET

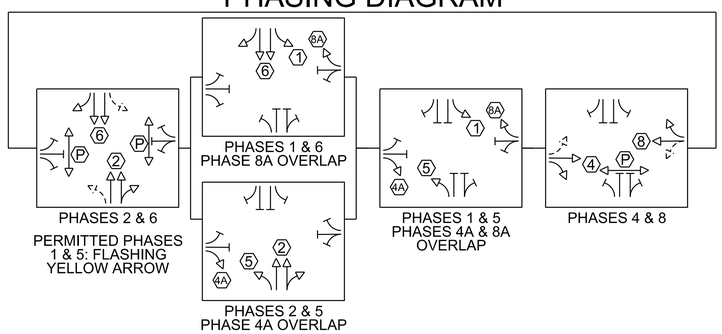
LIST OF MAJOR EQUIPMENT (ATSPM)

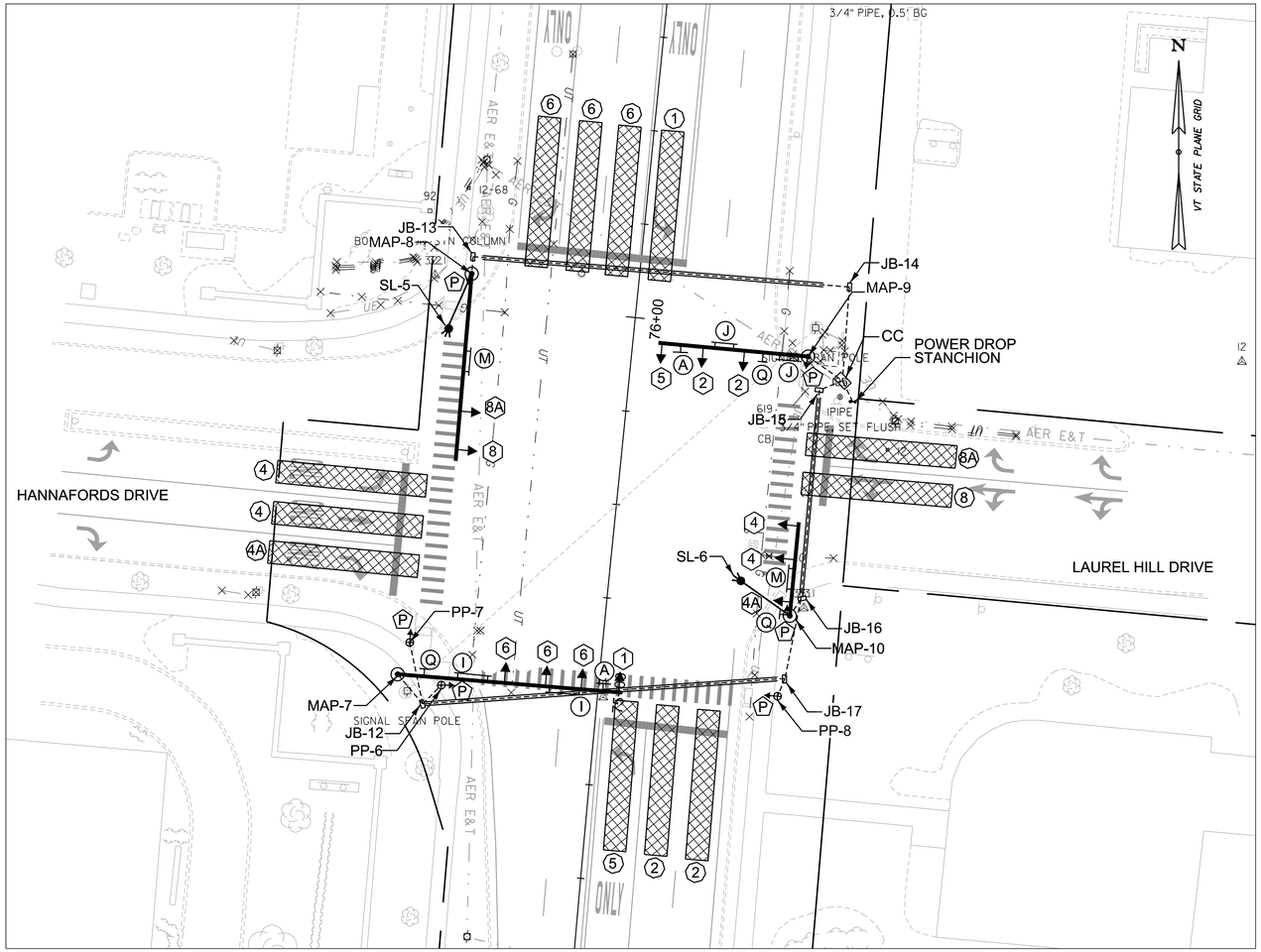
678.15 - TRAFFIC CONTROL SIGNAL SYSTEM, INTERSECTION (US ROUTE 7 & LAUREL HILL DRIVE)(ATSPM)	QUANTITY
TRAFFIC SIGNAL CONTROLLER	1
ADVANCED DETECTOR ASSEMBLY	2
DETECTOR MOUNTING BRACKET	2
TRAFFIC MONITORING 360 DEGREE CAMERA	1
5.8 GHz ETHERNET RADIO	2

LIST OF MAJOR EQUIPMENT

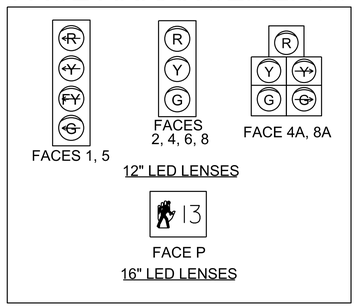
678.15 - TRAFFIC CONTROL SIGNAL SYSTEM, INTERSECTION (US 7 & LAUREL HILL DRIVE)	QUANTITY
TRAFFIC SIGNAL CABINET WITH 15-INCH EXTENSION BASE	1
STEEL SIGNAL MAST ARM POLE	4
STEEL SIGNAL MAST ARM	4
SMART MALFUNCTIONING MONITORING UNIT	1
BUS INTERFACE UNIT	1
GPS CLOCK	1
STOP BAR DETECTOR ASSEMBLY	4
STOP BAR DETECTION BRACKET	4
DETECTION PROCESSOR	1
ACCESSIBLE PEDESTRIAN PUSH BUTTON ASSEMBLY	6
COUNTDOWN PEDESTRIAN SIGNAL HEADS	6
PEDESTRIAN PUSH BUTTON EXTENSION BRACKET	3
PEDESTRIAN PEDESTAL POLE ON NEW FOUNDATION	3
3-SECTION SIGNAL HEADS	8
4-SECTION SIGNAL HEADS	2
5-SECTION SIGNAL HEADS	2
SIGNAL HEAD BRACKETS	12
OPTICAL PREEMPTION DETECTORS	2
OPTICAL PREEMPTION SIGNAL PROCESSOR CARD	1
PREEMPTION AC STROBE	2
POWER STANCHION	1
HARDENED UNMANAGED 8-PORT NETWORK SWITCH	1
BLUETOOTH ROAD SIDE UNIT	1

PHASING DIAGRAM





PROPOSED SIGNAL FACE ARRANGEMENTS



0 20 40
SCALE IN FEET

TRAFFIC SIGNAL LEGEND	
JB	JUNCTION BOX
CC	CONTROLLER CABINET
PP	PEDESTRIAN PEDESTAL POST
→2	SIGNAL HEAD WITH PHASE NO.
→P	PEDESTRIAN SIGNAL HEAD WITH PED PHASE
----	WIRED CONDUIT
	WIRED CONDUIT IN ELECTRICAL CONDUIT SLEEVE
→A	MAST ARM-MOUNTED SIGN
2A	STOP BAR DETECTION AREA
	LUMINAIRE ON BRACKET ARM

NOTES:
1. ITEMS LISTED ARE APPROXIMATE LOCATIONS AND MAY BE MODIFIED BY THE ENGINEER IN THE FIELD.
2. SIDEWALK, DETECTABLE WARNING SURFACE, CURBING AND PAVEMENT SHALL BE REPLACED AS NECESSARY IN LOCATIONS WHERE EXISTING SIDEWALK, CURBING AND PAVEMENT ARE IMPACTED BY THE INSTALLATION OF ELECTRICAL CONDUIT SLEEVES OR AS DIRECTED BY THE ENGINEER. PAYMENT FOR EACH ITEM WILL BE PAID FOR UNDER EACH CONTRACT ITEM.

MS-524: US 7 - LAUREL HILL DRIVE

PROJECT NAME: SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER: NHG SGNL(51) C/2

FILE NAME: layout 13a.dgn
PROJECT LEADER: T. SISSON
DESIGNED BY: K. RECORD
TRAFFIC SIGNAL LAYOUT SHEET 5

PLOT DATE: 10/28/2020
DRAWN BY: K. RECORD
CHECKED BY: T. SISSON
SHEET 43 OF 74

CONTROLLER TIMING CHART

PHASE	1	2	3	4	5	6	7	8
IN USE	X	X		X	X	X		X
MOVEMENT	SB	NB		EB	NB	SB		WB
MIN. GREEN	5	15		5	5	15		5
MAX 2 - GREEN	7	45		28	7	43		28
MAX 1 - GREEN	8	49		25	8	46		25
MAX 3 - GREEN	7	52		31	7	50		31
YELLOW	4	4		4	4	4		4
ALL RED	2	2		2	2	2		2
VEHICLE EXT	3	3		3	3	3		3
RECALL MODE		SOFT				SOFT		
WALK		7		7		7		7
PED CLEAR		24		21		24		21
DELAY GREEN		7		7		7		7
COORDINATED		X				X		

PREEMPTION TIMINGS

	PREEMPTOR		
	3	4	
DIRECTION	SB	NB	
HOLD PHASE	1 & 6	2 & 5	
DET. LOCK	YES	YES	
DURATION TIME	30	30	
MIN. GREEN	5	5	
HOLD GREEN	12	12	
HOLD YELLOW	4	4	
HOLD RED	2	2	

SPLIT PHASES/SPLIT TIMINGS

PATTERN	COS	CYCLE	OFFSET	1	2	3	4	5	6	7	8
1	111	100	76	19	56		25	19	56		25
2	211	95	21	11	60		24	16	55		24
3	311	130	3	18	84		28	18	84		28

DAY PLAN

PLAN #	EVENT	ACTION PLAN	START TIME
1	1	4	12:00 AM
1	2	2	6:30 AM
1	3	1	9:30 AM
1	4	3	2:30 PM
1	5	1	7:30 PM
1	6	4	11:00 PM
2	1	4	12:00 AM
2	2	1	6:00 AM
2	3	2	9:00 AM
2	4	1	6:30 PM
2	5	4	11:00 PM

ACTION PLAN

PLAN #	PATTERN	FLASH	MAX
1	1	NO	MAX 1
2	2	NO	MAX 2
3	3	NO	MAX 3
99	254-FREE	NO	MAX 1

SCHEDULE PLAN

SCH #	DAY PLAN	DAYS	DATES
1	1	M - F	1-31
1	2	SA, SU	1-31

CONDUIT SCHEDULE

LOCATION	2"	2.5"	3"	DESCRIPTION
POWER TO STANCHION		50		POWER
STANCHION TO CC	13			POWER
CC TO MAP-9	18			SIGNAL\LIGHTING
CC TO MAP-9	18			DETECTION
CC TO MAP-9	18			FUTURE USE
CC TO MAP-9	18			FUTURE USE
CC TO JB-14			32	SIGNAL\LIGHTING
CC TO JB-14			32	DETECTION
CC TO JB-14			32	FUTURE USE
JB-13 TO JB-12			10	SIGNAL\LIGHTING
JB-13 TO JB-12			10	DETECTION
JB-13 TO JB-12			10	FUTURE USE
JB-13 TO JB-12			10	FUTURE USE
JB-12 TO MAP-8	11			SIGNAL\LIGHTING
JB-12 TO MAP-8	11			DETECTION
JB-12 TO MAP-8	11			FUTURE USE
JB-12 TO MAP-8	11			FUTURE USE
CC TO JB-15			13	SIGNAL\LIGHTING
CC TO JB-15			13	DETECTION
CC TO JB-15			13	FUTURE USE
JB-15 TO JB-16			10	SIGNAL\LIGHTING
JB-15 TO JB-16			10	DETECTION
JB-15 TO JB-16			10	FUTURE USE
JB-15 TO JB-16			10	FUTURE USE
JB-16 TO MAP-10	12			SIGNAL\LIGHTING
JB-16 TO MAP-10	12			DETECTION
JB-16 TO MAP-10	12			FUTURE USE
JB-16 TO MAP-10	12			FUTURE USE
JB-16 TO JB-17			28	SIGNAL\LIGHTING
JB-16 TO JB-17			28	DETECTION
JB-16 TO JB-17			28	FUTURE USE
JB-17 TO PP-8	12			PEDESTRIAN
JB-17 TO PP-8	12			FUTURE USE
JB-17 TO JB-12			10	SIGNAL\LIGHTING
JB-17 TO JB-12			10	DETECTION
JB-17 TO JB-12			10	FUTURE USE
JB-17 TO JB-12			10	FUTURE USE
JB-12 TO MAP-7	17			SIGNAL\LIGHTING
JB-12 TO MAP-7	17			DETECTION
JB-12 TO MAP-7	17			FUTURE USE
JB-12 TO MAP-7	17			FUTURE USE
JB-11 TO PP-6	14			PEDESTRIAN
JB-11 TO PP-6	14			FUTURE USE
JB-11 TO PP-7	23			PEDESTRIAN
JB-11 TO PP-7	23			FUTURE USE
SUBTOTAL	343	50	339	
ROUNDING	17	5	16	
TOTAL	360	55	355	

NOTE:

PAYMENT FOR WIRED CONDUIT INSTALLED INSIDE UNDERGROUND HDPE CASING PIPE SHALL BE INCIDENTAL TO ITEM 678.25 - ELECTRICAL CONDUIT SLEEVE. CONDUIT SHOWN IN CONDUIT SCHEDULE REFLECT LENGTH OF CONDUIT OUTSIDE LIMITS OF CONDUIT SLEEVE.

MS-524: US 7 - LAUREL HILL DRIVE

PROJECT NAME: SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER: NHG SGNL(51) C/2

FILE NAME: layout 13b.dgn
PROJECT LEADER: T. SISSON
DESIGNED BY: K. RECORD
TRAFFIC SIGNAL LAYOUT SHEET 6

PLOT DATE: 10/28/2020
DRAWN BY: K. RECORD
CHECKED BY: T. SISSON
SHEET 44 OF 74

TRAFFIC CONTROL SIGNAL SYSTEM, INTERSECTION (US ROUTE 7 & BREWER PARKWAY)
SEE LIST OF MAJOR EQUIPMENT, THIS SHEET

MAST ARM POLES
STA. 80+04, LT (MAP-11)
STA. 80+59, RT (MAP-12)

PEDESTRIAN SIGNAL HEAD & PUSH BUTTON
STA. 80+08, LT (x2)
STA. 80+82, LT
STA. 80+12, RT (x2)
STA, 80+59, RT (EXTENSION BRACKET)

PEDESTRIAN PEDESTAL POLE
STA. 80+07, LT (PP-9)
STA. 80+82, LT (PP-10)
STA. 80+12, RT (PP-11)

POWER DROP STANCHION
STA. 80+03, RT

TRAFFIC CONTROL SIGNAL SYSTEM, INTERSECTION (US ROUTE 7 & BREWER PARKWAY)(ATSPM)
SEE LIST OF MAJOR EQUIPMENT, THIS SHEET

CONTROLLER CABINET (GROUND MOUNTED)
STA. 80+07, RT

TRAFFIC SIGNAL CONTROLLER
STA. 80+07, RT

REMOVAL OF TRAFFIC CONTROL SIGNAL SYSTEM (US ROUTE 7 & BREWER PARKWAY)
SEE PROJECT SPECIAL PROVISIONS SALVAGED EQUIPMENT MEMO

WIRED CONDUIT (2") (PVC) (SCH. 80)
SEE TRAFFIC SIGNAL LAYOUT SHEET 8

WIRED CONDUIT (2.5") (PVC) (SCH. 80)
SEE TRAFFIC SIGNAL LAYOUT SHEET 8

WIRED CONDUIT (3") (PVC) (SCH. 80)
SEE TRAFFIC SIGNAL LAYOUT SHEET 8

ELECTRICAL CONDUIT SLEEVE (12" HDPE CASING)
STA. 80+00, LT - STA. 80+00, RT (78')
STA. 80+12, RT - STA. 80+59, RT (43')
STA. 80+86, LT - STA. 80+87, RT (84')

SPECIAL PROVISION (JUNCTION BOX, HEAVY DUTY)
STA. 80+00, LT (JB-18)
STA. 80+86, LT (JB-19)
STA. 80+87, RT (JB-20)
STA. 80+59, RT (JB-21)
STA. 80+12, RT (JB-22)
STA. 80+00, RT (JB-23)

TEMPORARY TRAFFIC SIGNAL SYSTEM
STA. 80+50

LUMINAIRE
STA. 80+04, LT (SL-7)
STA. 80+59, RT (SL-8)

BRACKET ARM
STA. 80+04, LT (SL-7) (16')
STA. 80+59, RT (SL-8) (16')

TRAFFIC SIGNS, TYPE A
9 - SEE TRAFFIC SIGN SUMMARY SHEETS

REMOVING SIGNS
STA. 80+57, RT (BREWER PKWY)

6 INCH WHITE LINE
STA. 79+93 - STA. 80+00, RT
STA. 79+93 - STA. 80+23, RT
STA. 80+52 - STA. 80+92, RT
STA. 79+93 - STA. 80+00, LT
STA. 80+80 - STA. 80+92, LT
STA. 80+88 - STA. 80+92, LT (X2)

6 INCH YELLOW LINE
STA. 79+93 - STA 80+00
STA. 80+88 - STA. 80+92

LETTER OR SYMBOL
STA. 79+94, RT (LEFT ARROW)
STA. 80+94, LT (RIGHT ARROW)
STA. 80+94, LT (LEFT ARROW)

24 INCH STOP BAR
STA. 79+99, RT (34')
STA. 80+28, LT (26')
STA. 80+46, RT (12')
STA. 80+88, LT (46')

CROSSWALK MARKING
STA. 80+14, LT - STA. 80+67, LT (52')
STA. 80+08, LT - STA. 80+10, RT (63')
STA. 80+23, RT - STA. 80+53, RT (26')

PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH
AS NEEDED

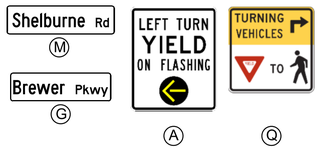
CAST-IN-PLACE CONCRETE CURB, TYPE B
AS NEEDED

REMOVING AND RESETTING CURB
AS NEEDED

DETECTABLE WARNING SURFACE
AS NEEDED

SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)
AS NEEDED

SIGN DETAIL



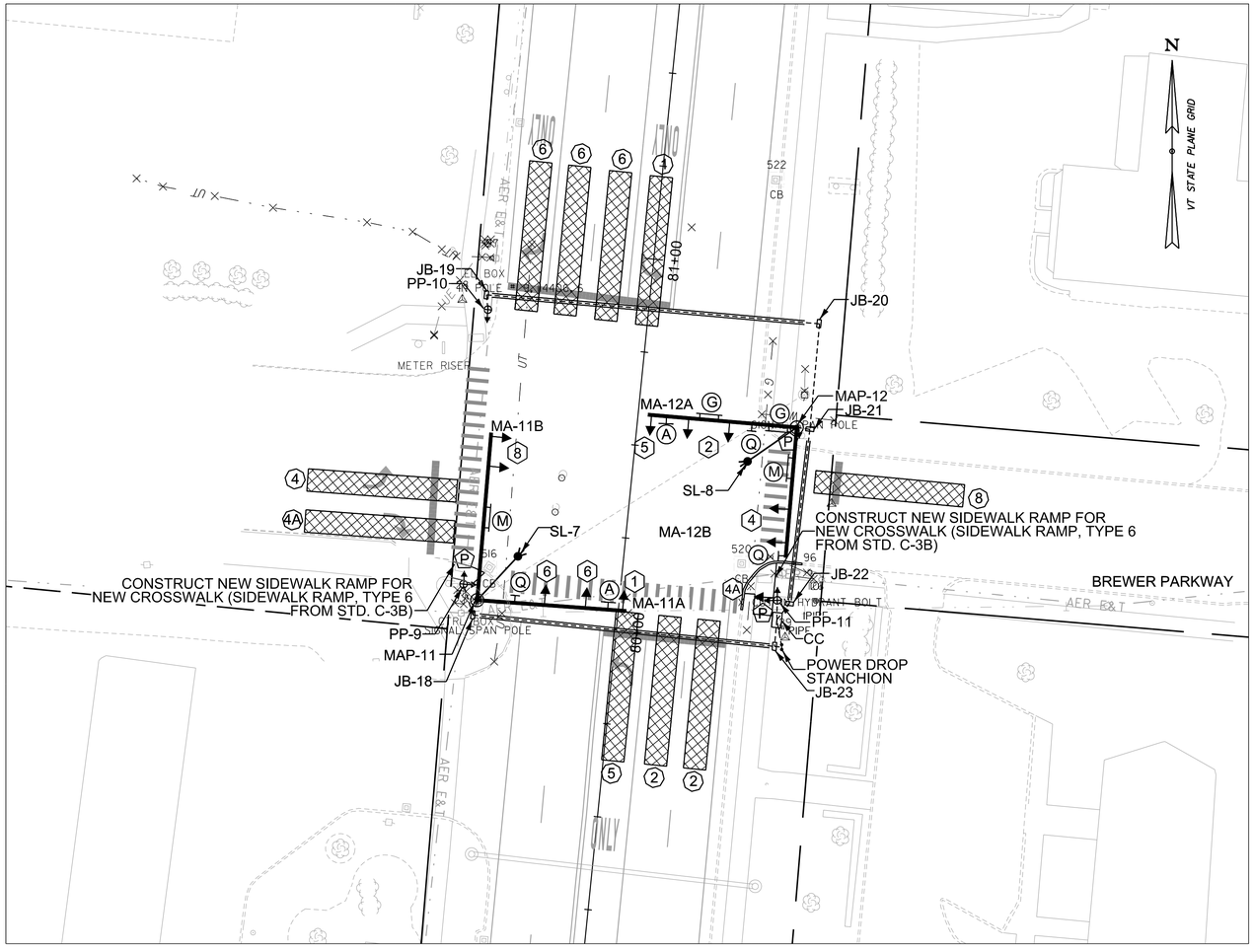
SEE SIGN DETAILS SHEET

LIST OF MAJOR EQUIPMENT (ATSPM)

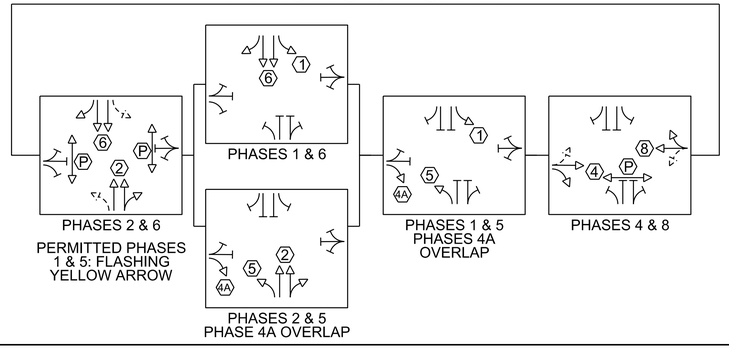
678.15 - TRAFFIC CONTROL SIGNAL SYSTEM, INTERSECTION (US ROUTE 7 & BREWER PARKWAY)(ATSPM)	QUANTITY
TRAFFIC SIGNAL CABINET WITH 15-INCH EXTENSION BASE	1
TRAFFIC SIGNAL CONTROLLER	1
ADVANCED DETECTOR ASSEMBLY	2
DETECTOR MOUNTING BRACKET	2
TRAFFIC MONITORING 360 DEGREE CAMERA	1
5.8 GHz ETHERNET RADIO	2

LIST OF MAJOR EQUIPMENT

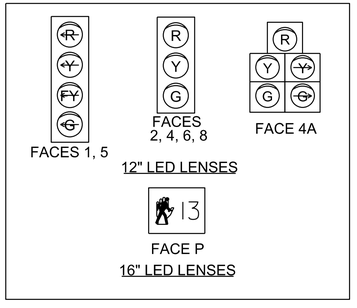
678.15 - TRAFFIC CONTROL SIGNAL SYSTEM, INTERSECTION (US 7 & BREWER PARKWAY)	QUANTITY
STEEL SIGNAL MAST ARM POLE	2
STEEL SIGNAL MAST ARM	4
SMART MALFUNCTIONING MONITORING UNIT	1
BUS INTERFACE UNIT	1
GPS CLOCK	1
STOP BAR DETECTOR ASSEMBLY	4
STOP BAR DETECTION BRACKET	4
DETECTION PROCESSOR	1
ACCESSIBLE PEDESTRIAN PUSH BUTTON ASSEMBLY	6
COUNTDOWN PEDESTRIAN SIGNAL HEADS	6
PEDESTRIAN PUSH BUTTON EXTENSION BRACKET	1
PEDESTRIAN PEDESTAL POLE ON NEW FOUNDATION	3
3-SECTION SIGNAL HEADS	8
4-SECTION SIGNAL HEADS	2
5-SECTION SIGNAL HEADS	1
SIGNAL HEAD BRACKETS	11
OPTICAL PREEMPTION DETECTORS	2
OPTICAL PREEMPTION SIGNAL PROCESSOR CARD	1
PREEMPTION AC STROBE	2
POWER STANCHION	1
HARDENED UNMANAGED 8-PORT NETWORK SWITCH	1
BLUETOOTH ROAD SIDE UNIT	1



PHASING DIAGRAM



PROPOSED SIGNAL FACE ARRANGEMENTS



NOTES:
1. ITEMS LISTED ARE APPROXIMATE LOCATIONS AND MAY BE MODIFIED BY THE ENGINEER IN THE FIELD.
2. SIDEWALK, DETECTABLE WARNING SURFACE, CURBING AND PAVEMENT SHALL BE REPLACED AS NECESSARY IN LOCATIONS WHERE EXISTING SIDEWALK, CURBING AND PAVEMENT ARE IMPACTED BY THE INSTALLATION OF ELECTRICAL CONDUIT SLEEVES OR AS DIRECTED BY THE ENGINEER. PAYMENT FOR EACH ITEM WILL BE PAID FOR UNDER EACH CONTRACT ITEM.

0 20 40
SCALE IN FEET

TRAFFIC SIGNAL LEGEND	
JB	JUNCTION BOX
CC	CONTROLLER CABINET
PP	PEDESTRIAN PEDESTAL POST
→2	SIGNAL HEAD WITH PHASE NO.
→P	PEDESTRIAN SIGNAL HEAD WITH PED PHASE
----	WIRED CONDUIT
	WIRED CONDUIT IN ELECTRICAL CONDUIT SLEEVE
—A	MAST ARM-MOUNTED SIGN
2A	STOP BAR DETECTION AREA
	LUMINAIRE ON BRACKET ARM

MS-520: US 7 - BREWER PARKWAY

PROJECT NAME: SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER: NHG SGNL(51) C/2

FILE NAME: layout 14a.dgn
PROJECT LEADER: T. SISSON
DESIGNED BY: K. RECORD
TRAFFIC SIGNAL LAYOUT SHEET 7
PLOT DATE: 10/28/2020
DRAWN BY: K. RECORD
CHECKED BY: T. SISSON
SHEET 45 OF 74

CONTROLLER TIMING CHART

PHASE	1	2	3	4	5	6	7	8
IN USE	X	X		X	X	X		X
MOVEMENT	SB	NB		EB	NB	NB		WB
MIN. GREEN	5	8		5	5	8		5
MAX 2 - GREEN	5	40		25	5	39		25
MAX 1 - GREEN	5	38		25	5	38		25
MAX 3 - GREEN	5	60		25	8	57		25
YELLOW	4	4		4	4	4		4
ALL RED	2	2		2	2	2		2
VEHICLE EXT	3	3		3	3	3		3
RECALL MODE		SOFT				SOFT		
WALK		7		7		7		7
PED CLEAR		17		21		17		21
DELAY GREEN		7		7		7		7
COORDINATED		X				X		

PREEMPTION TIMINGS

	PREEMPTOR		
	3	4	
DIRECTION	SB	NB	
HOLD PHASE	1 & 6	2 & 5	
DET. LOCK	YES	YES	
DURATION TIME	30	30	
MIN. GREEN	5	5	
HOLD GREEN	12	12	
HOLD YELLOW	4	4	
HOLD RED	2	2	

SPLIT PHASES/SPLIT TIMINGS

PATTERN	COS	CYCLE	OFFSET	1	2	3	4	5	6	7	8
1	111	100	89	13	62		25	17	58		25
2	211	95	68	11	66		18	15	62		18
3	311	130	127	18	84		28	18	84		28

DAY PLAN

PLAN #	EVENT	ACTION PLAN	START TIME
1	1	4	12:00 AM
1	2	2	6:30 AM
1	3	1	9:30 AM
1	4	3	2:30 PM
1	5	1	7:30 PM
1	6	4	11:00 PM
2	1	4	12:00 AM
2	2	1	6:00 AM
2	3	2	9:00 AM
2	4	1	6:30 PM
2	5	4	11:00 PM

ACTION PLAN

PLAN #	PATTERN	FLASH	MAX
1	1	NO	MAX 1
2	2	NO	MAX 2
3	3	NO	MAX 3
99	254-FREE	NO	MAX 1

SCHEDULE PLAN

SCH #	DAY PLAN	DAYS	DATES
1	1	M - F	1-31
1	2	SA, SU	1-31

CONDUIT SCHEDULE

LOCATION	2"	2.5"	3"	DESCRIPTION
POWER TO JB-22		30		POWER
STANCHION TO CC	10			POWER
JB-18 TO PP-9	16			PEDESTRIAN
JB-18 TO PP-9	16			FUTURE USE
JB-18 TO MAP-11	12			SIGNAL\LIGHTING
JB-18 TO MAP-11	12			DETECTION
JB-18 TO MAP-11	12			FUTURE USE
JB-18 TO MAP-11	12			FUTURE USE
JB-18 TO JB-23			10	SIGNAL\LIGHTING
JB-18 TO JB-23			10	DETECTION
JB-18 TO JB-23			10	FUTURE USE
JB-18 TO JB-23			10	FUTURE USE
JB-23 TO CC			15	SIGNAL\LIGHTING
JB-23 TO CC			15	DETECTION
JB-23 TO CC			15	FUTURE USE
CC TO PP-11	12			PEDESTRIAN
CC TO PP-11	12			FUTURE USE
CC TO JB-22			12	SIGNAL\LIGHTING
CC TO JB-22			12	DETECTION
CC TO JB-22			12	FUTURE USE
JB-22 TO JB-21			11	SIGNAL\LIGHTING
JB-22 TO JB-21			11	DETECTION
JB-22 TO JB-21			11	FUTURE USE
JB-22 TO JB-21			11	FUTURE USE
JB-21 TO MAP-12	10			SIGNAL\LIGHTING
JB-21 TO MAP-12	10			DETECTION
JB-21 TO MAP-12	10			FUTURE USE
JB-21 TO MAP-12	10			FUTURE USE
JB-21 TO JB-20			35	PEDESTRIAN
JB-21 TO JB-20			35	FUTURE USE
JB-20 TO JB-19			12	PEDESTRIAN
JB-20 TO JB-19			12	FUTURE USE
JB-19 TO PP-10	10			PEDESTRIAN
JB-19 TO PP-10	10			FUTURE USE
SUBTOTAL	174	30	259	
ROUNDING	16	5	21	
TOTAL	190	35	280	

NOTE:

PAYMENT FOR WIRED CONDUIT INSTALLED INSIDE UNDERGROUND HDPE CASING PIPE SHALL BE INCIDENTAL TO ITEM 678.25 - ELECTRICAL CONDUIT SLEEVE. CONDUIT SHOWN IN CONDUIT SCHEDULE REFLECT LENGTH OF CONDUIT OUTSIDE LIMITS OF CONDUIT SLEEVE.

MS-520: US 7 - BREWER PARKWAY

PROJECT NAME: SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER: NHG SGNL(51) C/2

FILE NAME: layout 14b.dgn
PROJECT LEADER: T. SISSON
DESIGNED BY: K. RECORD
TRAFFIC SIGNAL LAYOUT SHEET 8

PLOT DATE: 10/28/2020
DRAWN BY: K. RECORD
CHECKED BY: T. SISSON
SHEET 46 OF 74

TRAFFIC CONTROL SIGNAL SYSTEM, INTERSECTION (US ROUTE 7 & QUEEN CITY PARK ROAD)
SEE LIST OF MAJOR EQUIPMENT, THIS SHEET

MAST ARM POLES
STA. 87+13, LT (MAP-13)
STA. 87+78, RT (MAP-14)

PEDESTRIAN SIGNAL HEAD & PUSH BUTTON
STA. 87+13, LT (X2) (EXTENSION BRACKET X2)
STA. 87+77, LT
STA. 87+29, RT

PEDESTRIAN PEDESTAL POLE
STA. 87+77, LT (PP-12)
STA. 87+29, RT (PP-13)

POWER DROP STANCHION
STA. 87+14, LT

TRAFFIC CONTROL SIGNAL SYSTEM, INTERSECTION (US ROUTE 7 & QUEEN CITY PARK ROAD)(ATSPM)
SEE LIST OF MAJOR EQUIPMENT, THIS SHEET

CONTROLLER CABINET (GROUND MOUNTED)
STA. 87+16, LT

TRAFFIC SIGNAL CONTROLLER
STA. 87+16, LT

REMOVAL OF TRAFFIC CONTROL SIGNAL SYSTEM (US ROUTE 7 & QUEEN CITY PARK ROAD)
SEE PROJECT SPECIAL PROVISIONS SALVAGED EQUIPMENT MEMO

WIRED CONDUIT (2") (PVC) (SCH. 80)
SEE TRAFFIC SIGNAL LAYOUT SHEET 11

WIRED CONDUIT (2.5") (PVC) (SCH. 80)
SEE TRAFFIC SIGNAL LAYOUT SHEET 11

WIRED CONDUIT (3") (PVC) (SCH. 80)
SEE TRAFFIC SIGNAL LAYOUT SHEET 11

ELECTRICAL CONDUIT SLEEVE (12" HDPE CASING)
STA. 87+29, LT - STA. 87+71, LT (39')
STA. 87+71, LT - STA. 87+69, RT (87')

SPECIAL PROVISION (JUNCTION BOX, HEAVY DUTY)
STA. 87+29, LT (JB-24)
STA. 87+71, LT (JB-25)
STA. 87+69, RT (JB-26)
STA. 87+28, RT (JB-27)

LUMINAIRE
STA. 87+13, LT (SL-9)
STA. 87+78, RT (SL-10)

BRACKET ARM
STA. 87+13, LT (SL-9)(16')
STA. 87+78, RT (SL-10)(16')

REMOVE STREET LIGHT ASSEMBLY
STA. 87+87, LT

REMOVAL AND DISPOSAL OF GUARDRAIL
STA. 87+15 - STA 87+25, LT

REMOVAL AND DISPOSAL OF GUIDEPOST
STA. 87+15 - STA 87+25, LT

6 INCH WHITE LINE
STA. 87+31 - STA. 87+39, LT
STA. 87+61 - STA. 87+82, RT

6 INCH YELLOW LINE
STA. 87+67 - STA. 87+68, LT

LETTERS OR SYMBOLS
STA. 87+45, LT (RIGHT ARROW)
STA. 87+58, LT (LEFT ARROW)

24 INCH STOP BAR
STA. 86+84, RT
STA. 87+48, LT
STA. 87+89, LT

CROSSWALK MARKINGS
STA. 87+17, LT - STA. 87+20, RT
STA. 87+23, LT - STA. 87+67, LT

COMMON EXCAVATION
STA. 87+78, LT
STA. 87+78, RT

PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH
AS NEEDED

CAST-IN-PLACE CONCRETE CURB, TYPE B
AS NEEDED

REMOVING AND RESETTING CURB
AS NEEDED

DETECTABLE WARNING SURFACE
AS NEEDED

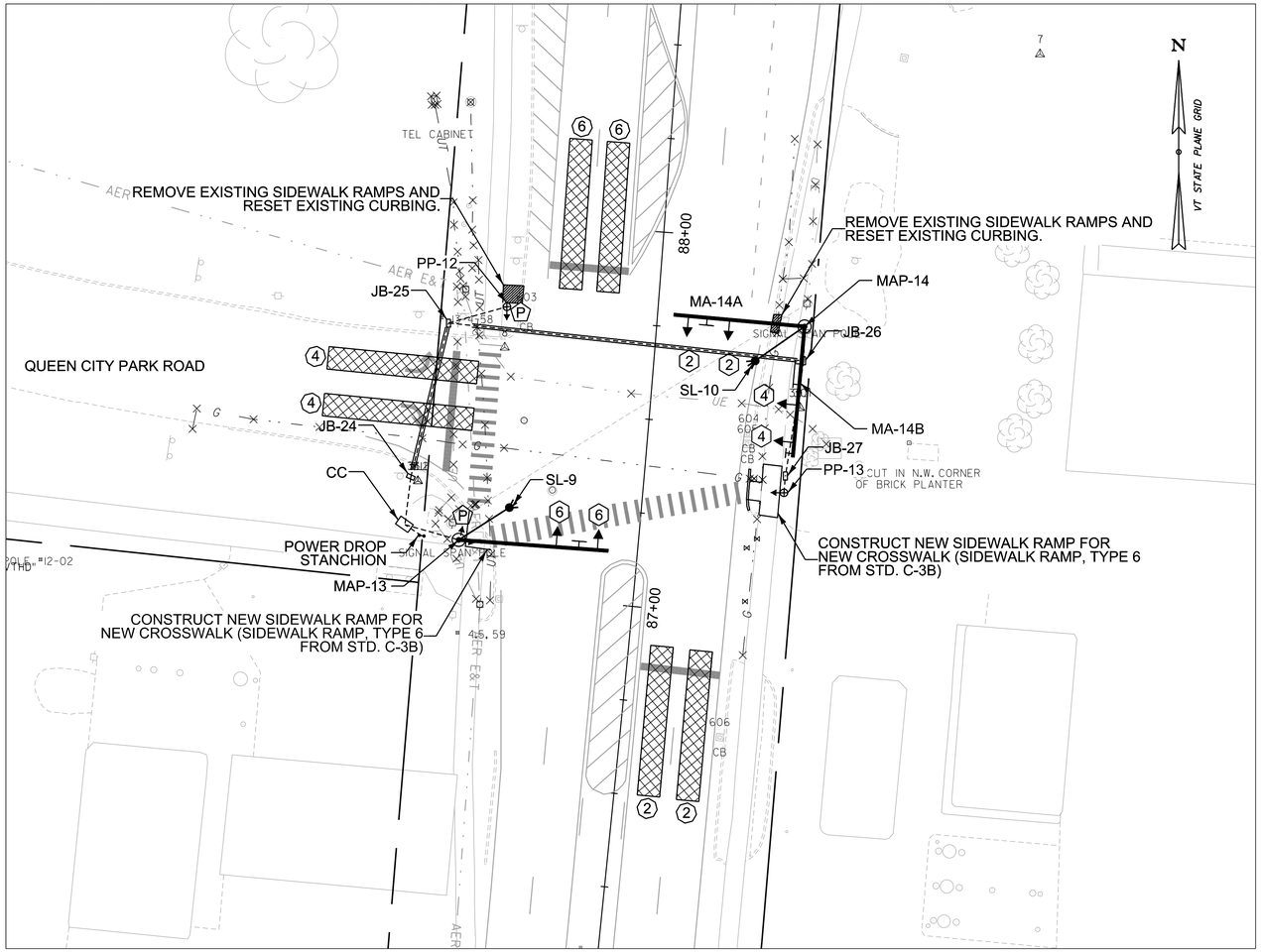
SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)
AS NEEDED

LIST OF MAJOR EQUIPMENT

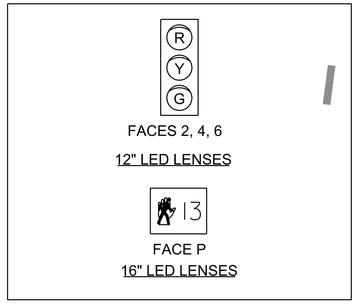
678.15 - TRAFFIC CONTROL SIGNAL SYSTEM, INTERSECTION (US ROUTE 7 & QUEEN CITY PARK ROAD)	QUANTITY
STEEL SIGNAL MAST ARM POLE	2
STEEL SIGNAL MAST ARM	3
SMART MALFUNCTIONING MONITORING UNIT	1
BUS INTERFACE UNIT	1
GPS CLOCK	1
STOP BAR DETECTOR ASSEMBLY	3
STOP BAR DETECTION BRACKET	3
DETECTION PROCESSOR	1
ACCESSIBLE PEDESTRIAN PUSH BUTTON ASSEMBLY	4
COUNTDOWN PEDESTRIAN SIGNAL HEADS	4
PEDESTRIAN PUSH BUTTON EXTENSION BRACKET	2
PEDESTRIAN PEDESTAL POLE ON NEW FOUNDATION	2
3-SECTION SIGNAL HEADS	6
SIGNAL HEAD BRACKETS	6
OPTICAL PREEMPTION DETECTORS	2
OPTICAL PREEMPTION SIGNAL PROCESSOR CARD	1
PREEMPTION AC STROBE	2
POWER STANCHION	1
HARDENED UNMANAGED 8-PORT NETWORK SWITCH	1
BLUETOOTH ROAD SIDE UNIT	1

LIST OF MAJOR EQUIPMENT (ATSPM)

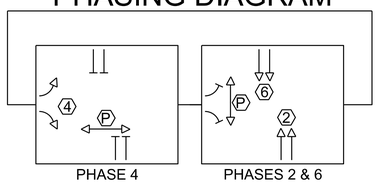
678.15 - TRAFFIC CONTROL SIGNAL SYSTEM, INTERSECTION (US ROUTE 7 & QUEEN CITY PARK ROAD)(ATSPM)	QUANTITY
TRAFFIC SIGNAL CABINET WITH 15-INCH EXTENSION BASE	1
TRAFFIC SIGNAL CONTROLLER	1
ADVANCED DETECTOR ASSEMBLY	2
DETECTOR MOUNTING BRACKET	2
TRAFFIC MONITORING 360 DEGREE CAMERA	1
5.8 GHz ETHERNET RADIO	2



PROPOSED SIGNAL FACE ARRANGEMENTS



PHASING DIAGRAM



NOTES:
1. ITEMS LISTED ARE APPROXIMATE LOCATIONS AND MAY BE MODIFIED BY THE ENGINEER IN THE FIELD.
2. SIDEWALK, DETECTABLE WARNING SURFACE, CURBING AND PAVEMENT SHALL BE REPLACED AS NECESSARY IN LOCATIONS WHERE EXISTING SIDEWALK, CURBING AND PAVEMENT ARE IMPACTED BY THE INSTALLATION OF ELECTRICAL CONDUIT SLEEVES OR AS DIRECTED BY THE ENGINEER. PAYMENT FOR EACH ITEM WILL BE PAID FOR UNDER EACH CONTRACT ITEM.
3. SEE TRAFFIC LAYOUT SHEET 10 FOR DETAILED INFORMATION ON STREET NAME/MAST ARM MOUNTED SIGNS AND BIKE ROUTE SIGNS
4. THE EXISTING CROSSWALK MARKINGS AND SIDEWALK RAMPS ON THE NORTH SIDE OF THE INTERSECTION ARE TO BE REMOVED. GRANITE CURB SHALL BE RESET ALONG BOTH CURB LINES TO THE APPROPRIATE HEIGHT.

0 20 40
SCALE IN FEET

TRAFFIC SIGNAL LEGEND	
JB	JUNCTION BOX
CC	CONTROLLER CABINET
PP	PEDESTRIAN PEDESTAL POST
2	SIGNAL HEAD WITH PHASE NO.
P	PEDESTRIAN SIGNAL HEAD WITH PED PHASE
----	WIRED CONDUIT
	WIRED CONDUIT IN ELECTRICAL CONDUIT SLEEVE
A	MAST ARM-MOUNTED SIGN
2A	STOP BAR DETECTION AREA
	LUMINAIRE ON BRACKET ARM

MS-521: US 7 - QUEEN CITY PARK ROAD

PROJECT NAME: SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER: NHG SGNL(51) C/2

FILE NAME: layout 15a.dgn
PROJECT LEADER: T. SISSON
DESIGNED BY: K. RECORD
TRAFFIC SIGNAL LAYOUT SHEET 9
PLOT DATE: 10/28/2020
DRAWN BY: K. RECORD
CHECKED BY: T. SISSON
SHEET 47 OF 74

TRAFFIC SIGNS, TYPE A
16 - SEE TRAFFIC SIGN SUMMARY SHEETS

REMOVING SIGNS
STA. 87+14, LT (QUEEN CITY PARK RD/SHELBURNE RD)
STA. 87+14, LT (BIKE ROUTE SIGNS AND STOP SIGN)
STA. 87+29, LT (NO TURN ON RED, RETAIN ALL OTHER SIGNS ON POST)
STA. 87+89, LT (BIKE ROUTE SIGNS, RETAIN NO RIGHT TURN SIGN)
STA. 87+76, RT (BIKE ROUTE SIGNS)
REMOVE EXISTING BIKE ROUTE SIGNS ON LINDENWOOD DR

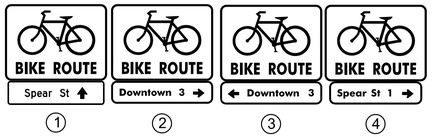
SIGN DETAIL

Ⓒ Ⓓ Ⓠ (VR925) SEE NOTE 3

Shelburne Rd
Ⓜ

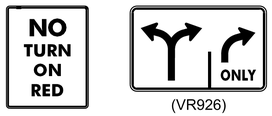
SEE SIGN DETAILS SHEET

BIKE ROUTE SIGN DETAIL

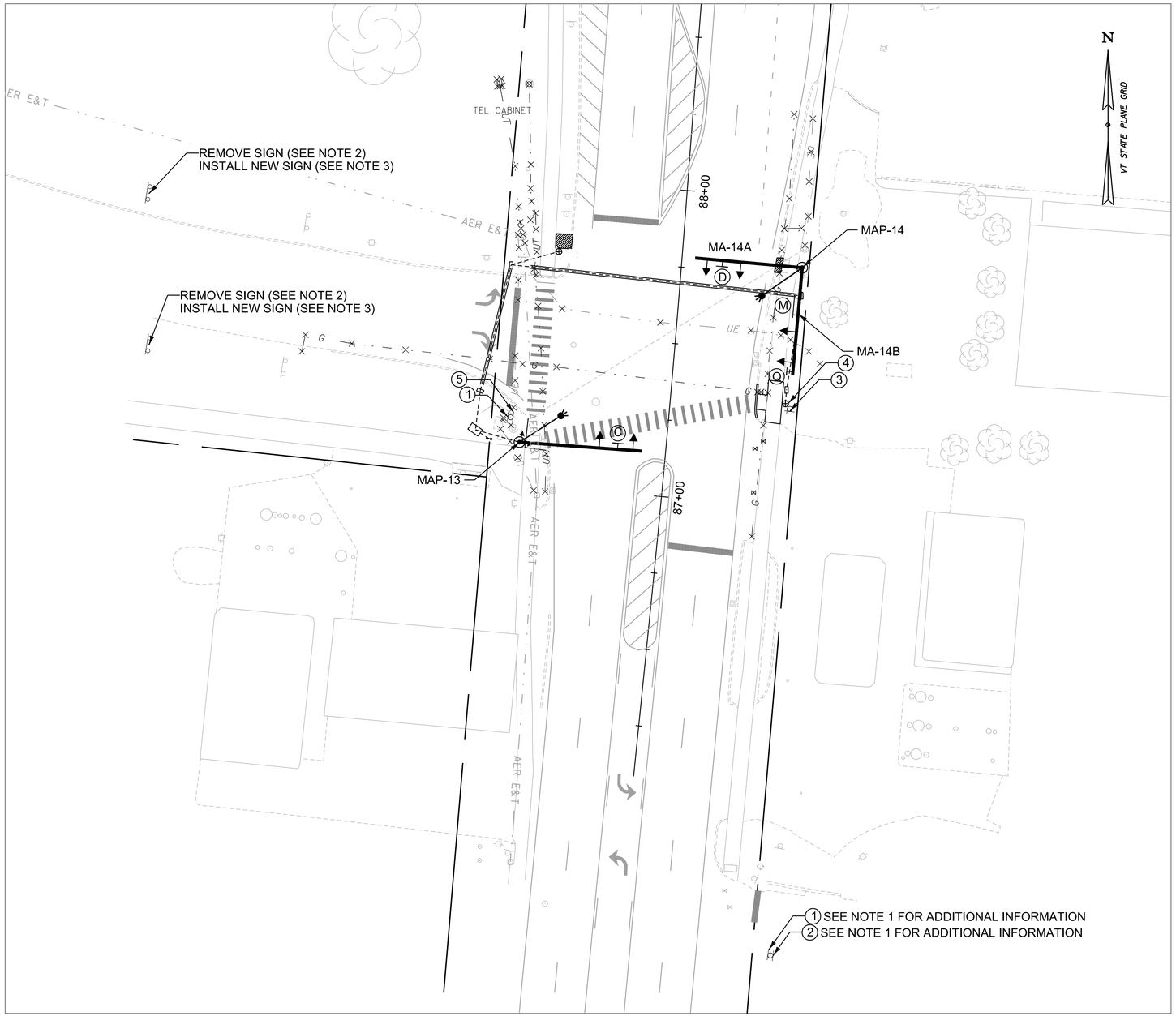


① ② ③ ④ ⑤

REMOVAL SIGN DETAIL



(VR926)
SEE NOTE 2



0 20 40
SCALE IN FEET

NOTE:
1. INSTALL NEW BIKE ROUTE SIGNS ON LINDENWOOD DR ROUGHLY 10 FEET DOWN FROM THE LEGAL LOAD LIMIT 24,000 POUNDS SIGN CLOSEST TO THE RIGHT LANE.
2. REMOVE 2 LANE ASSIGNMENT SIGNS (VR926) THAT ARE ROUGHLY 118' DOWN FROM THE STOP BAR ON QUEEN CITY PARK ROAD.
3. INSTALL 2 NEW LANE ASSIGNMENT SIGNS (VR925) IN THE SAME LOCATIONS AS THE REMOVAL OF BOTH LANE ASSIGNMENT SIGNS (VR926) THAT ARE ROUGHLY 118' DOWN FROM THE STOP BAR ON QUEEN CITY PARK ROAD.

MS-521: US 7 - QUEEN CITY PARK ROAD

PROJECT NAME:	SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER:	NHG SGNL(51) C/2
FILE NAME: layout 10.dgn	PLOT DATE: 10/28/2020
PROJECT LEADER: T. SISSON	DRAWN BY: K. RECORD
DESIGNED BY: K. RECORD	CHECKED BY: T. SISSON
TRAFFIC SIGNAL LAYOUT SHEET 10	SHEET 48 OF 74

CONTROLLER TIMING CHART

PHASE	1	2	3	4	5	6	7	8
IN USE		X		X		X		
MOVEMENT		NB		EB		SB		
MIN. GREEN		8		8		8		
MAX 2 - GREEN		63		20		63		
MAX 1 - GREEN		69		19		69		
MAX 3 - GREEN		78		28		78		
YELLOW		4		4		4		
ALL RED		2		2		2		
VEHICLE EXT		3		3		3		
RECALL MODE		SOFT				SOFT		
WALK		7		7		7		
PED CLEAR		14		21		14		
DELAY GREEN				7				
COORDINATED		X				X		

PREEMPTION TIMINGS

	PREEMPTOR		
	3	4	3
DIRECTION	SB	NB	
HOLD PHASE	1 & 6	2 & 5	
DET. LOCK	YES	YES	
DURATION TIME	30	30	
MIN. GREEN	5	5	
HOLD GREEN	12	12	
HOLD YELLOW	4	4	
HOLD RED	2	2	

SPLIT PHASES/SPLIT TIMINGS

PATTERN	COS	CYCLE	OFFSET	1	2	3	4	5	6	7	8
1	111	100	95		73		27		73		
2	211	95	90		73		22		73		
3	311	130	105		96		34		96		

DAY PLAN

PLAN #	EVENT	ACTION PLAN	START TIME
1	1	4	12:00 AM
1	2	2	6:30 AM
1	3	1	9:30 AM
1	4	3	2:30 PM
1	5	1	7:30 PM
1	6	4	11:00 PM
2	1	4	12:00 AM
2	2	1	6:00 AM
2	3	2	9:00 AM
2	4	1	6:30 PM
2	5	4	11:00 PM

ACTION PLAN

PLAN #	PATTERN	FLASH	MAX
1	1	NO	MAX 1
2	2	NO	MAX 2
3	3	NO	MAX 3
99	254-FREE	NO	MAX 1

SCHEDULE PLAN

SCH #	DAY PLAN	DAYS	DATES
1	1	M - F	1-31
1	2	SA, SU	1-31

CONDUIT SCHEDULE

LOCATION	2"	2.5"	3"	DESCRIPTION
POWER TO STANCHION		50		POWER
STANCHION TO CC	14			POWER
CC TO MAP-13	22			SIGNAL\LIGHTING
CC TO MAP-13	22			DETECTION
CC TO MAP-13	22			FUTURE USE
CC TO MAP-13	22			FUTURE USE
CC TO JB-24			19	SIGNAL\LIGHTING
CC TO JB-24			19	DETECTION
CC TO JB-24			19	FUTURE USE
JB-24 TO JB-25			10	SIGNAL\LIGHTING
JB-24 TO JB-25			10	DETECTION
JB-24 TO JB-25			10	FUTURE USE
JB-24 TO JB-25			10	FUTURE USE
JB-25 TO PP-12	17			PEDESTRIAN
JB-25 TO PP-12	17			FUTURE USE
JB-25 TO JB-26			25	SIGNAL\LIGHTING
JB-25 TO JB-26			25	DETECTION
JB-25 TO JB-26			25	FUTURE USE
JB-25 TO JB-26			25	FUTURE USE
JB-26 TO MAP-14	16			SIGNAL\LIGHTING
JB-26 TO MAP-14	16			DETECTION
JB-26 TO MAP-14	16			FUTURE USE
JB-26 TO MAP-14	16			FUTURE USE
JB-26 TO JB-27	38			PEDESTRIAN
JB-26 TO JB-27	38			FUTURE USE
JB-27 TO PP-13	12			PEDESTRIAN
JB-27 TO PP-13	12			FUTURE USE
SUBTOTAL	300	50	197	
ROUNDING	25	5	13	
TOTAL	325	55	210	

NOTE:

PAYMENT FOR WIRED CONDUIT INSTALLED INSIDE UNDERGROUND HDPE CASING PIPE SHALL BE INCIDENTAL TO ITEM 678.25 - ELECTRICAL CONDUIT SLEEVE. CONDUIT SHOWN IN CONDUIT SCHEDULE REFLECT LENGTH OF CONDUIT OUTSIDE LIMITS OF CONDUIT SLEEVE.

MS-521: US 7 - QUEEN CITY PARK ROAD

PROJECT NAME: SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER: NHG SGNL(51) C/2

FILE NAME: layout 15b.dgn
PROJECT LEADER: T. SISSON
DESIGNED BY: K. RECORD
TRAFFIC SIGNAL LAYOUT SHEET 11

PLOT DATE: 10/28/2020
DRAWN BY: K. RECORD
CHECKED BY: T. SISSON
SHEET 49 OF 74

TRAFFIC CONTROL SIGNAL SYSTEM, INTERSECTION (US ROUTE 7 & SWIFT STREET)
SEE LIST OF MAJOR EQUIPMENT, THIS SHEET

MAST ARM POLES
STA. 91+35, LT (MAP-15)
STA. 91+97, RT (MAP-16)

PEDESTRIAN PEDESTAL POLE
STA. 91+14, RT (PP-15)
STA. 92+06, RT (PP-16)

PEDESTRIAN SIGNAL HEAD
STA. 91+14, RT
STA. 92+06, RT

POWER DROP STANCHION
STA, 91+80, RT

TRAFFIC CONTROL SIGNAL SYSTEM, INTERSECTION (US ROUTE 7 & SWIFT STREET)(ATSPM)
SEE LIST OF MAJOR EQUIPMENT, THIS SHEET

CONTROLLER CABINET (GROUND MOUNTED)
STA. 91+95, RT

TRAFFIC SIGNAL CONTROLLER
STA. 91+95, RT

REMOVAL OF TRAFFIC CONTROL SIGNAL SYSTEM (US ROUTE 7 & SWIFT STREET)
SEE PROJECT SPECIAL PROVISIONS SALVAGED EQUIPMENT MEMO

WIRED CONDUIT (2") (PVC) (SCH. 80)
SEE TRAFFIC SIGNAL LAYOUT SHEET 12

WIRED CONDUIT (2.5") (PVC) (SCH. 80)
SEE TRAFFIC SIGNAL LAYOUT SHEET 12

WIRED CONDUIT (3") (PVC) (SCH. 80)
SEE TRAFFIC SIGNAL LAYOUT SHEET 12

ELECTRICAL CONDUIT SLEEVE (12" HDPE CASING)
STA. 91+20, LT - STA. 91+23, RT (110')
STA. 91+23, RT - STA. 91+86, RT (53')

SPECIAL PROVISION (JUNCTION BOX, HEAVY DUTY)
STA. 91+20, LT (JB-28)
STA. 91+86, RT (JB-29)
STA. 91+23, RT (JB-30)

LUMINAIRE
STA. 91+35, LT (SL-11)
STA. 91+97, RT (SL-12)

BRACKET ARM
STA. 91+35, LT (SL-11)(16')
STA. 91+97, RT (SL-12)(16')

REMOVE STREET LIGHT ASSEMBLY
STA. 91+02, LT

TRAFFIC SIGNS, TYPE A
5 - SEE TRAFFIC SIGN SUMMARY SHEETS

REMOVING SIGNS
STA. 91+96, RT (SWIFT ST)

6 INCH WHITE LINE
STA. 91+00 - STA. 91+38, RT
STA. 91+77 - STA. 91+83, RT
STA. 91+10 - STA. 91+30, LT

6 INCH YELLOW LINE
STA. 91+55 - STA. 91+57, RT

24 INCH STOP BAR
STA. 90+90, RT
STA. 91+73, RT
STA. 92+08, LT

CROSSWALK MARKINGS
STA. 91+17, RT - STA. 91+97, RT

PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH
AS NEEDED

REMOVING AND RESETTING CURB
AS NEEDED

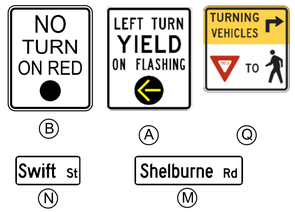
CAST-IN-PLACE CONCRETE CURB, TYPE B
AS NEEDED

DETECTABLE WARNING SURFACE
AS NEEDED

SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)
AS NEEDED

SPECIAL PROVISION (LUMINAIRE, LED RETROFIT)
STA. 91+22, LT
STA. 92+40, LT
STA. 93+13, RT
STA. 93+80, RT

SIGN DETAIL



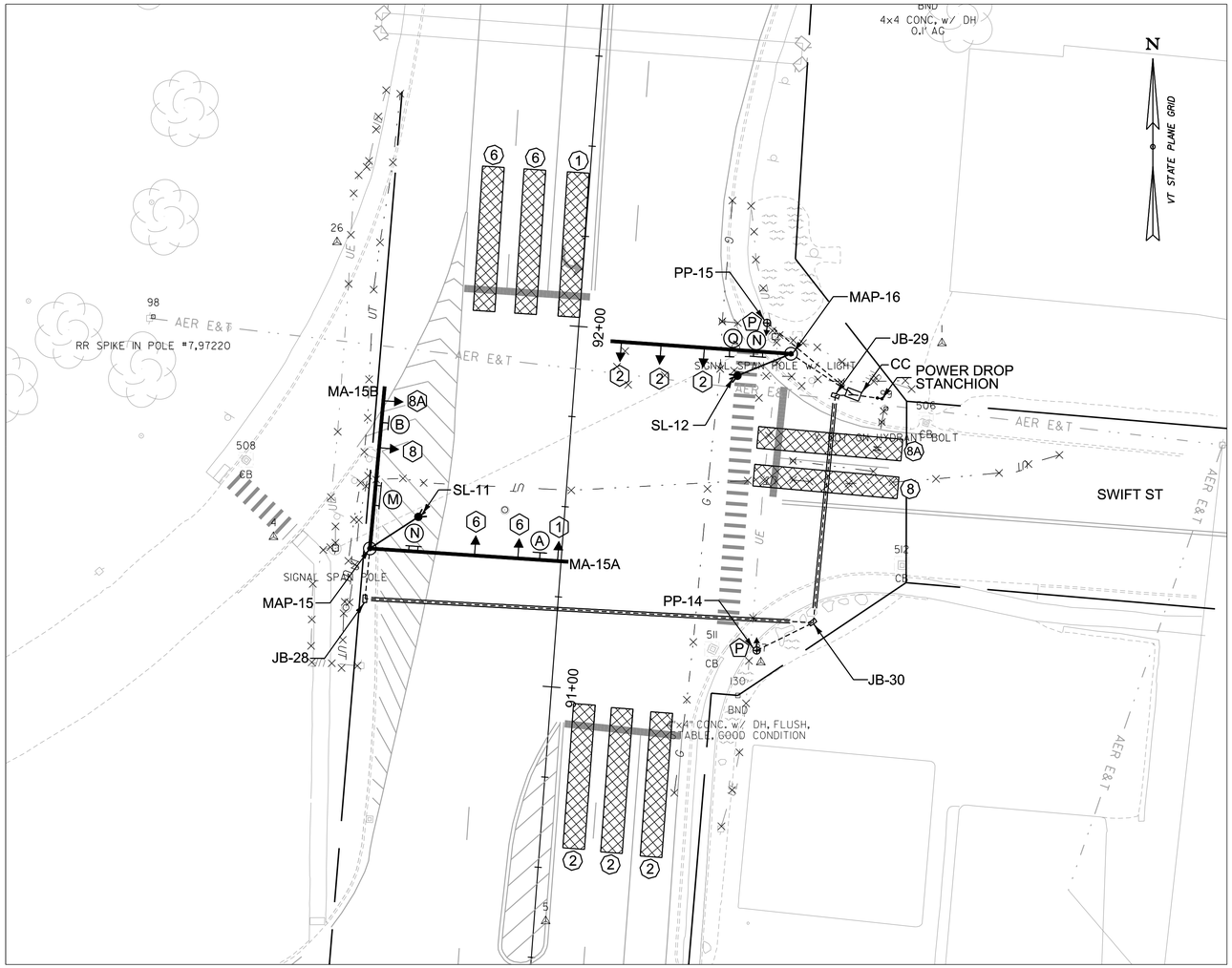
SEE SIGN DETAILS SHEET

LIST OF MAJOR EQUIPMENT (ATSPM)

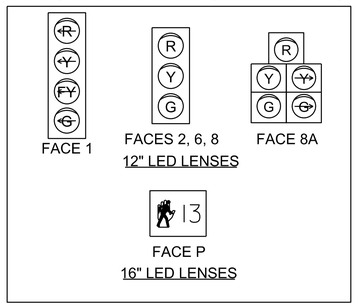
678.15 - TRAFFIC CONTROL SIGNAL SYSTEM, INTERSECTION (US ROUTE 7 & SWIFT STREET)(ATSPM)	QUANTITY
TRAFFIC SIGNAL CABINET WITH 15-INCH EXTENSION BASE	1
TRAFFIC SIGNAL CONTROLLER	1
ADVANCED DETECTOR ASSEMBLY	2
DETECTOR MOUNTING BRACKET	2
TRAFFIC MONITORING 360 DEGREE CAMERA	1
5.8 GHz ETHERNET RADIO	2

LIST OF MAJOR EQUIPMENT

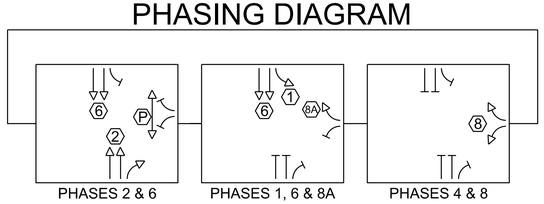
678.15 - TRAFFIC CONTROL SIGNAL SYSTEM, INTERSECTION (US 7 & SWIFT ST)	QUANTITY
STEEL SIGNAL MAST ARM POLE	2
STEEL SIGNAL MAST ARM	3
SMART MALFUNCTIONING MONITORING UNIT	1
BUS INTERFACE UNIT	1
GPS CLOCK	1
STOP BAR DETECTOR ASSEMBLY	3
STOP BAR DETECTION BRACKET	3
DETECTION PROCESSOR	1
ACCESSIBLE PEDESTRIAN PUSH BUTTON ASSEMBLY	2
COUNTDOWN PEDESTRIAN SIGNAL HEADS	2
PEDESTRIAN PEDESTAL POLE ON NEW FOUNDATION	2
3-SECTION SIGNAL HEADS	6
4-SECTION SIGNAL HEADS	1
5-SECTION SIGNAL HEADS	1
SIGNAL HEAD BRACKETS	8
OPTICAL PREEMPTION DETECTORS	2
OPTICAL PREEMPTION SIGNAL PROCESSOR CARD	1
PREEMPTION AC STROBE	2
POWER STANCHION	1
HARDENED UNMANAGED 8-PORT NETWORK SWITCH	1
BLUETOOTH ROAD SIDE UNIT	1



PROPOSED SIGNAL FACE ARRANGEMENTS



PHASING DIAGRAM



TRAFFIC SIGNAL LEGEND	
JB	JUNCTION BOX
CC	CONTROLLER CABINET
PP	PEDESTRIAN PEDESTAL POST
→(2)	SIGNAL HEAD WITH PHASE NO.
→(P)	PEDESTRIAN SIGNAL HEAD WITH PED PHASE
----	WIRED CONDUIT
═══	WIRED CONDUIT IN ELECTRICAL CONDUIT SLEEVE
—(A)	MAST ARM-MOUNTED SIGN
(2A)	STOP BAR DETECTION AREA
—●	LUMINAIRE ON BRACKET ARM

NOTES:

1. ITEMS LISTED ARE APPROXIMATE LOCATIONS AND MAY BE MODIFIED BY THE ENGINEER IN THE FIELD.
2. SIDEWALK, DETECTABLE WARNING SURFACE, CURBING AND PAVEMENT SHALL BE REPLACED AS NECESSARY IN LOCATIONS WHERE EXISTING SIDEWALK, CURBING AND PAVEMENT ARE IMPACTED BY THE INSTALLATION OF ELECTRICAL CONDUIT SLEEVES OR AS DIRECTED BY THE ENGINEER. PAYMENT FOR EACH ITEM WILL BE PAID FOR UNDER EACH CONTRACT ITEM.

MS-522: US 7 - SWIFT ST

PROJECT NAME: SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER: NHG SGNL(51) C/2

FILE NAME: layout 16a.dgn
PROJECT LEADER: T. SISSON
DESIGNED BY: K. RECORD
TRAFFIC SIGNAL LAYOUT SHEET 12

PLOT DATE: 10/28/2020
DRAWN BY: K. RECORD
CHECKED BY: T. SISSON
SHEET 50 OF 74

CONTROLLER TIMING CHART

PHASE	1	2	3	4	5	6	7	8
IN USE	X	X				X		X
MOVEMENT	SB	NB				SB		WB
MIN. GREEN	5	8				8		5
MAX 2 - GREEN	14	31				51		32
MAX 1 - GREEN	14	44				64		24
MAX 3 - GREEN	20	46				64		30
YELLOW	4	4				4		4
ALL RED	2	2				2		2
VEHICLE EXT	3	3				3		3
RECALL MODE		SOFT				SOFT		
WALK		7				7		
PED CLEAR		26				26		
DELAY GREEN		7				7		
COORDINATED		X				X		

PREEMPTION TIMINGS

	PREEMPTOR		
	3	4	
DIRECTION	SB	NB	
HOLD PHASE	1 & 6	2	
DET. LOCK	YES	YES	
DURATION TIME	30	30	
MIN. GREEN	5	5	
HOLD GREEN	12	12	
HOLD YELLOW	4	4	
HOLD RED	2	2	

SPLIT PHASES/SPLIT TIMINGS

PATTERN	COS	CYCLE	OFFSET	1	2	3	4	5	6	7	8
1	111	100	0	20	60				80		20
2	211	95	0	20	37				57		38
3	311	130	0	24	80				104		26

DAY PLAN

PLAN #	EVENT	ACTION PLAN	START TIME
1	1	4	12:00 AM
1	2	2	6:30 AM
1	3	1	9:30 AM
1	4	3	2:30 PM
1	5	1	7:30 PM
1	6	4	11:00 PM
2	1	4	12:00 AM
2	2	1	6:00 AM
2	3	2	9:00 AM
2	4	1	6:30 PM
2	5	4	11:00 PM

ACTION PLAN

PLAN #	PATTERN	FLASH	MAX
1	1	NO	MAX 1
2	2	NO	MAX 2
3	3	NO	MAX 3
99	254-FREE	NO	MAX 1

SCHEDULE PLAN

SCH #	DAY PLAN	DAYS	DATES
1	1	M - F	1-31
1	2	SA, SU	1-31

CONDUIT SCHEDULE

LOCATION	2"	2.5"	3"	DESCRIPTION
POLE TO STANCHION		120		POWER
STANCHION TO CC	15			POWER
CC TO MAP-16	26			SIGNAL\LIGHTING
CC TO MAP-16	26			DETECTION
CC TO MAP-16	26			FUTURE USE
CC TO MAP-16	26			FUTURE USE
CC TO JB-29			12	SIGNAL\LIGHTING
CC TO JB-29			12	DETECTION
CC TO JB-29			12	FUTURE USE
CC TO PP-15	38			PEDESTRIAN
CC TO PP-15	38			FUTURE USE
JB-29 TO JB-30			12	SIGNAL\LIGHTING
JB-29 TO JB-30			12	DETECTION
JB-29 TO JB-30			12	FUTURE USE
JB-29 TO JB-30			12	FUTURE USE
JB-30 TO PP-14	25			PEDESTRIAN
JB-30 TO PP-14	25			FUTURE USE
JB-30 TO JB-28			20	SIGNAL\LIGHTING
JB-30 TO JB-28			20	DETECTION
JB-30 TO JB-28			20	FUTURE USE
JB-30 TO JB-28			20	FUTURE USE
JB-28 TO MAP-15	20			SIGNAL\LIGHTING
JB-28 TO MAP-15	20			DETECTION
JB-28 TO MAP-15	20			FUTURE USE
JB-28 TO MAP-15	20			FUTURE USE
SUBTOTAL	325	120	164	
ROUNDING	25	10	16	
TOTAL	350	130	180	

NOTE:

PAYMENT FOR WIRED CONDUIT INSTALLED INSIDE UNDERGROUND HDPE CASING PIPE SHALL BE INCIDENTAL TO ITEM 678.25 - ELECTRICAL CONDUIT SLEEVE. CONDUIT SHOWN IN CONDUIT SCHEDULE REFLECT LENGTH OF CONDUIT OUTSIDE LIMITS OF CONDUIT SLEEVE.

MS-522: US 7 - SWIFT ST

PROJECT NAME: SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER: NHG SGNL(51) C/2

FILE NAME: layout 16b.dgn
PROJECT LEADER: T. SISSON
DESIGNED BY: K. RECORD
TRAFFIC SIGNAL LAYOUT SHEET 13

PLOT DATE: 10/28/2020
DRAWN BY: K. RECORD
CHECKED BY: T. SISSON
SHEET 51 OF 74

TRAFFIC CONTROL SIGNAL SYSTEM, INTERSECTION (US ROUTE 7 & GREEN MOUNTAIN DRIVE)
SEE LIST OF MAJOR EQUIPMENT, THIS SHEET

MAST ARM POLE
STA. 27+79, RT (MAP-17)

PEDESTRIAN SIGNAL HEAD & PUSH BUTTON
STA. 27+13, RT

PEDESTRIAN PEDESTAL POLE
STA. 27+13, RT (PP-16)

TRAFFIC SIGN, TYPE A
RIGHT TURN ON RED MUST YIELD TO U-TURN (MA-17)

RESETTING SIGNS
SHELBURNE RD (MA-17)

WIRED CONDUIT (2")(SCH. 80)
SEE CONDUIT SCHEDULE, THIS SHEET

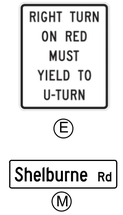
LIST OF MAJOR EQUIPMENT

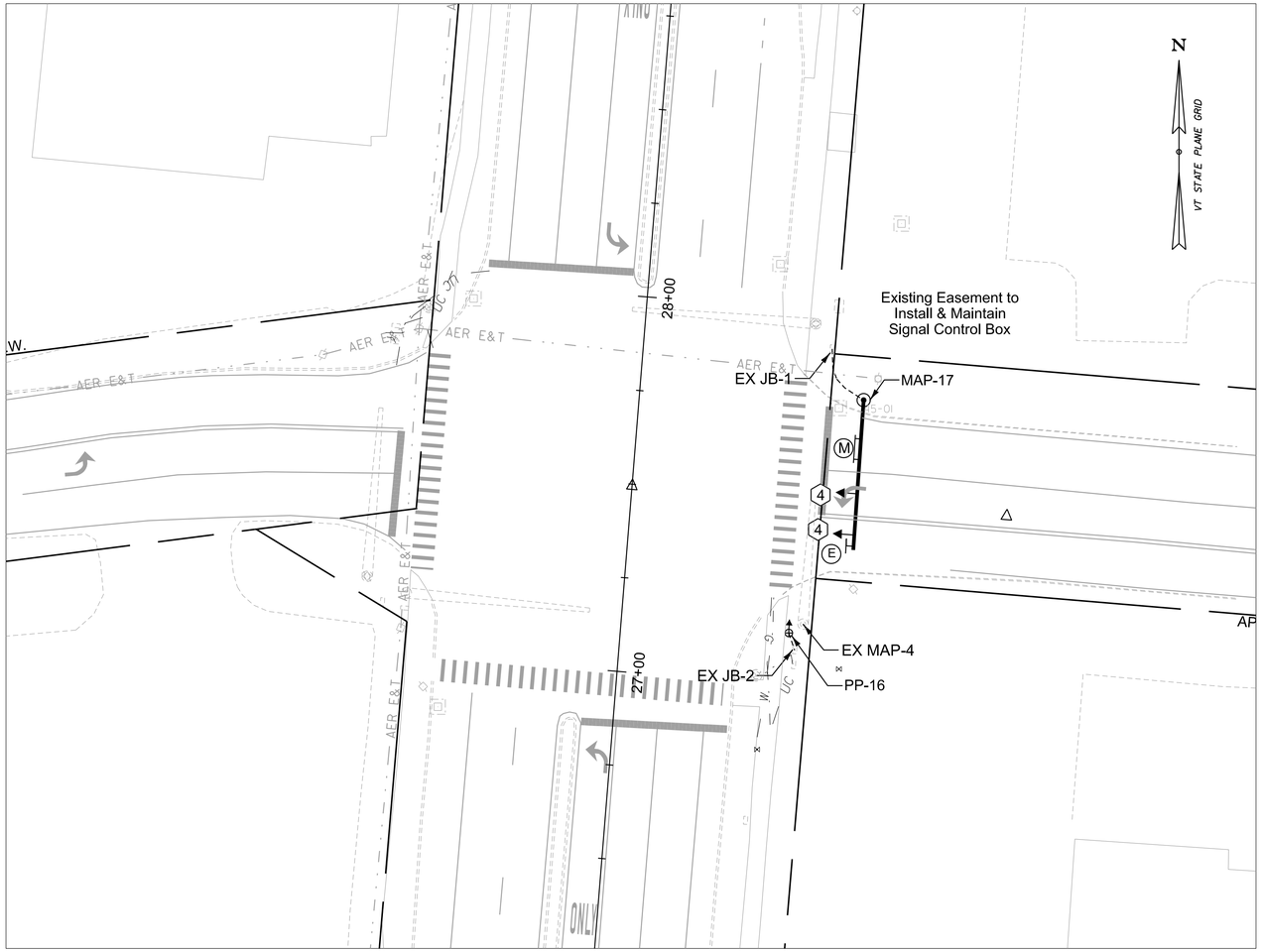
678.15 - TRAFFIC CONTROL SIGNAL SYSTEM, INTERSECTION (US ROUTE 7 & GREEN MOUNTAIN DRIVE)	QUANTITY
STEEL SIGNAL MAST ARM POLE	1
STEEL SIGNAL MAST ARM	1
ACCESSIBLE PEDESTRIAN PUSH BUTTON ASSEMBLY	1
COUNTDOWN PEDESTRIAN SIGNAL HEADS	1
PEDESTRIAN PEDESTAL POLE ON NEW FOUNDATION	1
3-SECTION SIGNAL HEADS	2
SIGNAL HEAD BRACKETS	2

CONDUIT SCHEDULE		
LOCATION	**2"**	**DESCRIPTION**
MAP-20 TO EX JB-1	23	SIGNAL
MAP-20 TO EX JB-1	23	DETECTION
MAP-20 TO EX JB-1	23	FUTURE USE
PP-17 TO EX JB-2	13	PEDESTRIAN
PP-17 TO EX JB-2	13	FUTURE USE
SUBTOTAL	95	
ROUNDING	10	
TOTAL	105	

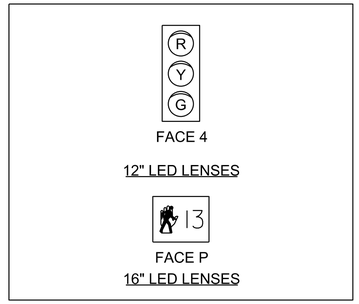
NOTES:
1. ITEMS LISTED ARE APPROXIMATE LOCATIONS AND MAY BE MODIFIED BY THE ENGINEER IN THE FIELD.
2. EXISTING JUNCTION BOXES AND CONDUIT SHALL BE USED FOR WIRING UNLESS OTHERWISE NOTED IN THE PLANS.
3. EXISTING MAP-4 SHALL BE REMOVED. THE EXISTING FOUNDATION SHALL HAVE THE TOP TWO FEET REMOVED AND FILLED IN. CONDUIT SHALL BE ABANDONED IN PLACE AND CAPPED. PAYMENT SHALL BE INCIDENTAL TO ITEM 678.45 REMOVAL OF EXISTING TRAFFIC CONTROL SIGNAL SYSTEM.

SIGN DETAIL





PROPOSED SIGNAL FACE ARRANGEMENTS



TRAFFIC SIGNAL LEGEND	
JB	JUNCTION BOX
CC	CONTROLLER CABINET
PP	PEDESTRIAN PEDESTAL POST
→(2)	SIGNAL HEAD WITH PHASE NO.
→(P)	PEDESTRIAN SIGNAL HEAD WITH PED PHASE
----	WIRED CONDUIT
	WIRED CONDUIT IN ELECTRICAL CONDUIT SLEEVE
→(A)	MAST ARM-MOUNTED SIGN
(2A)	STOP BAR DETECTION AREA

MS-516: US 7 - GREEN MOUNTAIN DR

PROJECT NAME: SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER: NHG SGNL(51) C/2

FILE NAME: layout 17a.dgn
PROJECT LEADER: T. SISSON
DESIGNED BY: K. RECORD
TRAFFIC SIGNAL LAYOUT SHEET 14

PLOT DATE: 10/28/2020
DRAWN BY: K. RECORD
CHECKED BY: T. SISSON
SHEET 52 OF 74

Traffic Signal System Notes

A.NEW TRAFFIC SIGNAL EQUIPMENT

1. ALL SIGNAL HEAD HOUSINGS SHALL BE 12" POLYCARBONATE. THE SIGNAL HEAD EQUIPMENT SHALL BE FLAT BLACK AND INCLUDE FLAT BLACK VISORS.
2. ALL SIGNAL HEADS SHALL HAVE FLAT BLACK LOUVERED BACK PLATES WITH A 2-INCH RETROREFLECTIVE TAPE BORDER.
3. ALL SIGNAL HEADS SHALL HAVE RED, YELLOW, AND GREEN L.E.D. INDICATORS WITH A VISIBLE SPREAD OF 80 DEGREES.
4. ALL SIGNAL HEADS SHALL BE MOUNTED ON THE BRACKET SUCH THAT THE MIDDLE ONE-THIRD OF THE SIGNAL HEAD ALIGNS WITH THE MAST ARM.
5. THE TRAFFIC SIGNAL CONTROLLER SHALL BE AN ECONOLITE COBALT (NEMA TS2, TYPE 2) WITH A CONNECTED VEHICLE COPROCESSOR (CVCP) MODULE IN A NEMA P44 TRAFFIC SIGNAL CONTROL CABINET WITH A 15-INCH BASE EXTENSION INSTALLED AT THE LOCATION SHOWN ON THE PLANS. THE CABINET AND BASE EXTENSIONS SHALL BE FLAT BLACK.
6. THE CONCRETE CABINET FOUNDATION SHALL HAVE A 18"X12" OPENING FOR SIGNAL CONDUIT LOCATED IN THE CENTER.
7. THE TRAFFIC SIGNAL CONTROL CABINET SHALL BE ORIENTED SUCH THAT THE DOOR DOES NOT FACE THE ROADWAY.
8. RELATED TRAFFIC SIGNAL EQUIPMENT SUCH AS THE BUS INTERFACE UNIT (BIU) AND THE MALFUNCTION MANAGEMENT UNIT (MMU) SHALL BE ECONOLITE BRAND.
9. ALL SIGNAL EQUIPMENT AND SIGNS MOUNTED ON CANTILEVERED MAST ARMS SHALL HAVE SAFETY CABLES.
10. ACCESSIBLE PEDESTRIAN SIGNALS SHALL INCLUDE R10-3E SIGN.
11. A DISCONNECT BREAKER FOR EACH CIRCUIT SHALL BE INSTALLED IN A RAINPROOF (NEMA 3R), LOCKED CABINET ON A STANCHION NEXT TO OR BELOW THE METER SOCKET. IF STREET LIGHTING IS PRESENT, THE TRAFFIC SIGNAL CIRCUITS MUST BE SEPARATE FROM THE STREET LIGHTING CIRCUITS. ALL METER DISCONNECTS SHALL HAVE BYPASS. THE FACE OF THE BREAKER SHALL FACE AWAY FROM TRAFFIC ON THE STANCHION.

B.TRAFFIC SIGNAL OPERATIONS

1. SIGNAL TIMINGS SHOWN ON THE PLANS MAY REQUIRE FINE-TUNING IN THE FIELD BASED ON TRAFFIC OBSERVATIONS AND/OR ADDITIONAL FIELD STUDIES.
2. SWITCH OVER TO INSTALLED SIGNAL SYSTEM SHALL NOT OCCUR DURING PEAK TRAFFIC PERIODS. UNIFORMED TRAFFIC OFFICERS SHALL CONTROL TRAFFIC DURING THE SWITCH OVER.
3. ALL SIGNALS SHALL DWELL ON US ROUTE 7 UNLESS OTHERWISE NOTED.
4. THE US ROUTE 7 THRU PHASE SHALL BE USED FOR THE START-UP PHASE FOLLOWING FLASH OPERATIONS.

C. VEHICLE DETECTION

1. STOP BAR AND ADVANCE VEHICLE DETECTOR LOCATIONS SHALL BE DETERMINED BY THE CONTRACTOR IN ACCORDANCE WITH THE MANUFACTURER'S GUIDANCE FOR THE TYPE OF DETECTOR SUPPLIED. THE CONTRACTOR SHALL SUBMIT PROPOSED MOUNTING LOCATIONS AND DOCUMENTATION OF CONFORMANCE WITH THE MANUFACTURER'S GUIDANCE TO THE ENGINEER PRIOR TO INSTALLATION.
2. ALL VEHICLE DETECTORS SHALL BE PLACED SUCH THAT OCCLUSION IS MINIMIZED AND PHASING IS NOT NEGATIVELY AFFECTED.
3. STOP BAR VEHICLE DETECTION ZONES SHALL EXTEND FIVE FEET PAST THE FINAL, PERMANENT STOP BAR.
4. ADVANCED VEHICLE DETECTION ZONES SHALL BE A MINIMUM OF 350 FEET UPSTREAM OF THE FINAL, PERMANENT STOP BAR.
5. DILEMMA ZONE DETECTION BY THE ADVANCED VEHICLE DETECTION SYSTEM SHALL PROVIDE DETECTION OF RANGE, SPEED AND ESTIMATED TIME OF ARRIVAL OF APPROACHING VEHICLES IN A CONTINUOUS RANGE OF 200 TO 900 FT FROM THE FINAL LOCATION OF THE DETECTOR UNIT.
6. THERE SHALL BE NO WIRING SPLICES BETWEEN THE VEHICLE DETECTORS AND THE TRAFFIC SIGNAL CONTROLLER EQUIPMENT UNLESS IN A MANUFACTURER RECOMMENDED JUNCTION BOX.
7. THE VEHICLE DETECTION SYSTEM SHALL BE WAVETRONIX SMARTSENSOR MATRIX AND WAVETRONIX SMARTSENSOR ADVANCED EXTENDED RANGE.

D. MAST ARM POLE FOUNDATIONS

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FOUNDATION DESIGN. FOUNDATIONS SHALL BE DESIGNED IN ACCORDANCE WITH THE MREI 10-01 GUIDELINES. IN ADDITION TO FABRICATION DRAWINGS, THE BORING LOG DESIGN CRITERIA AND DESIGN CALCULATIONS SHALL BE SUBMITTED AS WORKING DRAWINGS IN ACCORDANCE WITH SECTION 105.03. ADDITIONAL REQUIREMENTS CAN BE FOUND IN THE TRAFFIC SIGNAL GENERAL NOTES.

E. TRAFFIC SIGNAL CONDUIT

1. WHEN CONDUIT IS PLACED BELOW THE ROADWAY, IT SHALL BE PLACED IN A HDPE SLEEVE. SIZE AND PAYMENT METHOD ARE SHOWN IN THE LAYOUT SHEETS.
2. ALL CONDUIT SHALL BE FILLED WITH STEEL WOOL PRIOR TO BEING CAPPED.

F. COMMUNICATION EQUIPMENT

1. THE CONTRACTOR IS RESPONSIBLE FOR PURCHASING AND INSTALLING A NETWORK SWITCH AT EACH INTERSECTION. COORDINATION WITH VTRANS TRAFFIC SIGNAL OPERATIONS SECTION WILL BE REQUIRED TO ESTABLISH CONNECTION.
2. SWITCHES SHALL BE AN UNMANAGED 8-PORT HARDENED UNIT.

G. EMERGENCY PRE-EMPTION

1. EMERGENCY PREEMPTION RECEIVER AND STROBE LOCATIONS SHALL BE DETERMINED BY THE CONTRACTOR IN ACCORDANCE WITH THE MANUFACTURER'S GUIDANCE, IF AVAILABLE. THE CONTRACTOR SHALL SUBMIT PROPOSED MOUNTING LOCATIONS AND DOCUMENTATION OF CONFORMANCE WITH THE MANUFACTURER'S GUIDANCE TO THE ENGINEER PRIOR TO INSTALLATION.
2. THE CONTRACTOR SHALL COORDINATE WITH LOCAL EMERGENCY RESPONDERS TO FIELD TEST AND VERIFY THAT EQUIPMENT WORKS PROPERLY. VERIFICATION OF EQUIPMENT WILL BE REQUIRED BEFORE THE END OF THE 30-DAY TEST PERIOD FOR EACH INTERSECTION.
3. EMERGENCY PREEMPTION EQUIPMENT SHALL BE OPTICOM GTT BRAND OR APPROVED EQUAL.

H. BLUETOOTH DEVICE

1. BLUETOOTH DEVICES SHALL BE BLUETOAD SPECTRA DSRC ROADSIDE UNIT. DEVICES SHALL BE POWERED OVER ETHERNET. UNIT MUST BE CAPABLE OF SENSING BOTH BLUETOOTH (2.4 GHZ) AND DEDICATED SHORT RANGE COMMUNICATIONS (DSRC, 5.9 GHZ).

I. TRAFFIC MONITORING CAMERA

1. TRAFFIC MONITORING CAMERA SHALL BE IP-ADDRESSABLE AND HAVE A 360-DEGREE VIEW ANGLE.
2. THE CAMERA SHALL BE AN AXIS Q6055-E PTZ DOME CAMERA OR APPROVED EQUAL.

J. ETHERNET RADIO

1. ETHERNET RADIOS SHALL BE UBIQUITI AIRMAX NANOBEAM 5AC UNIT. UNITS SHALL BE DEDICATED WIFI RADIOS WITH A 5 GHZ PROCESSOR.

K. GENERAL

1. A UNIFORMED TRAFFIC OFFICER WITH A BLUE LIGHT SHALL BE PRESENT DURING ALL LANE CLOSURES, WHEN THE SIGNAL IS IN FLASH OPERATION, AND WHEN THE SIGNAL IS DARK.

PROJECT NAME:	SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER:	NHG SGNL(51) C/2

FILE NAME:	signal notes.dgn	PLOT DATE:	10/28/2020
PROJECT LEADER:	T. SISSON	DRAWN BY:	K. RECORD
DESIGNED BY:	K. RECORD	CHECKED BY:	T. SISSON
TRAFFIC SIGNAL SYSTEM NOTES		SHEET	53 OF 74

Overhead Signal Support General Notes

A. DESIGN GUIDANCE

1. OVERHEAD SIGNAL SUPPORTS SHALL CONFORM TO AASHTO'S "SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS", DATED 2013.

B. DESIGN CALCULATION CRITERIA

1. THE DESIGN CALCULATIONS SHALL TAKE INTO ACCOUNT THE FOLLOWING CRITERIA:
   a. STRUCTURE CRITERIA
      - DESIGN LIFE AND RECURRANCE INTERVAL: 50 YEARS
      - WIND LOAD: 90 M.P.H.; REFER TO ASCE 7-05 TO VERIFY IF THE SITE IS WITHIN THE SPECIAL WIND REGION AND IF CONFIRMED, USE A WIND LOAD OF 120 MPH

   b. FATIGUE CRITERIA
      - FATIGUE CATEGORY: 2 FOR STRUCTURES LOCATED ON ROADWAYS WITH A SPEED LIMIT GREATER THAN 35 MPH, 3 FOR STRUCTURES LOCATED ON ROADWAYS WITH A SPEED LIMIT LESS THAN OR EQUAL TO 35 MPH.
      - VORTEX SHEDDING: NOT REQUIRED
      - NATURAL WIND GUSTS: INCLUDE
      - TRUCK INDUCED WIND GUSTS: INCLUDE FOR ROADWAYS WHERE THE POSTED SPEED LIMIT FOR THE MAINLINE APPROACHES ARE 40 M.P.H. OR GREATER
      - GALLOPING: DO NOT INCLUDE

   c. FOUNDATION CRITERIA
      - CONCRETE: CONCRETE, CLASS B, VTrans' "STANDARD SPECIFICATIONS FOR CONSTRUCTION", DATED 2018, SECTION 541.
      - REINFORCING STEEL: REINFORCING STEEL, LEVEL I VTrans' "STANDARD SPECIFICATIONS FOR CONSTRUCTION", DATED 2018, SECTION 507.
      - GEOTECHNICAL SOIL RESISTANCES TO BE DETERMINED BY CONTRACTOR;

C. ANCHOR BOLTS

1. GALVANIZED ANCHOR BOLTS WITH TWO HEXAGON NUTS AND TWO WASHERS PER BOLT SHALL BE FURNISHED WITH EACH POLE. ANCHOR BOLT PLATES, WHEN USED, SHALL ALSO BE GALVANIZED.

2. A MINIMUM OF SIX ANCHOR BOLTS SHALL BE PROVIDED AT EACH SINGLE UPRIGHT POLE FOUNDATION. ANCHOR BOLTS SHALL BE TIGHTENED IN ACCORDANCE WITH SUBSECTION 677.03.

3. ANCHOR BOLTS SHALL MEET THE REQUIREMENTS OF SUBSECTION 714.09

4. AFTER INSTALLATION, A MINIMUM OF TWO THREADS ON THE TOP OF THE BOLT SHALL BE EXPOSED ABOVE THE NUT.

D. FLANGE BOLTS

1. ALL FLANGE BOLTS, HEX NUTS, AND WASHERS SHALL CONFORM TO SUBSECTION 714.05.

2. FLANGE BOLTS SHALL BE CAPABLE OF RESISTING 133% OF THE FULL DESIGN STRESS OF THE TUBE AT ITS YIELD STRENGTH STRESS.

3. FLANGE BOLTS SHALL BE TENSIONED IN ACCORDANCE WITH SUBSECTION 506.19. DIRECT TENSION INDICATORS ARE REQUIRED.

E. U-BOLTS

1. U-BOLTS AND ASSOCIATED HARDWARE SHALL CONFORM TO SUBSECTION 714.04 AND GALVANIZED IN ACCORDANCE WITH SUBSECTION 726.08.

F. STEEL FOR SIGNAL STRUCTURES

1. ALL MATERIAL GREATER THAN ½" THICK SHALL MEET THE CHARPY V-NOTCH IMPACT REQUIREMENTS FOR THE SPECIFIED MATERIAL. TESTING AND SAMPLING SHALL BE IN ACCORDANCE WITH AASHTO T 243.

2. PIPE AND TUBES SHALL MEET THE REQUIREMENTS OF ONE OF THE FOLLOWING SPECIFICATIONS:

   a. CANTILEVER MAST ARM STRUCTURE:
      - ASTM A595, GRADE A: WELDED, ROUND, TAPERED STEEL TUBE
      - ASTM A1011, GRADE 50: WELDED, ROUND, TAPERED STEEL TUBE

   b. NON-CANTILEVERED OVERHEAD SIGNAL STRUCTURES
      - ASTM A500, GRADE B: WELDED AND SEAMLESS STEEL PIPE (ROUNDS ONLY)
      - API 5L GRADE X42: AMERICAN PETROLIUM INSTITUE SPECIFICAITON 5L

G. PROTECTIVE COATING

1. ALL STEEL COMPONENTS, EXCEPT CONCRETE REINFORCING, ARE TO BE HOT DIPPED GALVANIZED AND POWDER COATED AFTER FABRICATION. THE ASSEMBLIES SHALL BE DESIGNED AND FABRICATED TO PERMIT GALVANIZING ON ALL INTERIOR AND EXTERIOR SURFACES AND SHALL BE FREE OF POCKETS AND OTHER STRUCTURAL OBSTRUCTIONS THAT WILL NOT PERMIT PROPER DEPOSITION OF ZINC COATING.

2. GALVANIZING SHALL BE IN ACCORDANCE WITH SECTION 752.02. POWDER COATING SHALL BE IN ACCORDANCE WITH SECTION 753.07.

H. WELDING

1. ALL WELDING SHALL BE PERFORMED PER SECTION 506.10.

2. ALL WELDS SHALL BE AT LEAST AS STRONG AS THE MATERIAL(S) BEING WELDED.

I. FOUNDATIONS

1. FOOTINGS SHALL BE DESIGNED IN ACCORDANCE WITH VTRANS MATERIALS & RESEARCH ENGINEERING INSTRUCTIONS (MREI) 10-01 "GEOTECHNICAL DESIGN PROCEDURES FOR MAST ARM AND OVERHEAD SIGN SUPPORT FOUNDATIONS" AVAILABLE ON THE AGENCY'S WEBSITE AT THE FOLLOWING ADDRESS:
   https://outside.vermont.gov/agency/vtrans/external/docs/construction/03GeotechEng/Engineering/Mast%20Arm%20and%20Overhead%20Sign%20Support%20Foundations%20MREI%2010-01%20Engineering.pdf

2. FOUNDATIONS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE FOLLOWING NOTES:

   a. A MINIMUM EMBEDMENT DEPTH OF FIVE FEET SHALL BE USED FOR ALL SPREAD FOOTING FOUNDATIONS; MEASURED FROM THE GROUND SURFACE ELEVATION TO THE BOTTOM OF THE FOOTING ELEVATION.
   b. FOR DRILLED SHAFT FOUNDATIONS, CONCRETE SHALL BE POURED AGAINST UNDISTURBED SOIL UNLESS A PERMANENT CASING IS DESIGNED FOR AND APPROPRIATE SUPPORTING CALCULATIONS ARE PROVIDED. THE TOP TWO FEET OF SOIL SHALL BE NEGLECTED FOR DESIGN PURPOSES. A DISPOSABLE CIRCULAR CONCRETE FORM, IF USED, SHALL NOT BE PLACED DEEPER THAN TWO FEET, IN ORDER NOT TO REDUCE THE FRICTION BETWEEN THE SOIL AND THE CONCRETE.
   c. AS AN ALTERNATIVE TO THE DRILLED HOLES, FOOTINGS MAY BE POURED IN EXCAVATED HOLES USING THE PROPER FORMS, WHICH MUST BE REMOVED. THE EXCAVATED HOLES SHALL BE AT LEAST TWO FEET CLEAR OF THE FOUNDATION SIDES AND ONE FOOT DEEPER THAN THE FOUNDATION. CARE SHALL BE TAKEN TO AVOID EXCAVATING AROUND THE TOP OF THE FOUNDATION. THE BACKFILL MATERIAL SHALL BE COMPACTED AS DESCRIBED IN SUBSECTION 204.05. DESIGN LIMITS AS FOR AUGURED FOOTINGS APPLIES.
   d. ANY BACKFILL PLACED ADJACENT TO THE FOOTING SHALL BE GRANULAR MATERIAL MEETING THE REQUIREMENTS FOR GRANULAR BACKFILL FOR STRUCTURES, SUBSECTION 704.08. IT SHALL BE COMPACTED AS DESCRIBED IN SUBSECTION 204.05.
   e. CONCRETE FOR THE FOUNDATION SHALL CONFORM TO THE REQUIREMENTS OF CONCRETE, SECTION 541 STRUCTURAL CONCRETE. IF DRILLED SHAFT FOUNDATIONS ARE REQUIRED, THE CONCRETE SPECIFICATIONS MAY NEED TO BE ADJUSTED FOR CONSTRUCTABILITY ISSUES. HOWEVER, IF REQUIRED, THE CONTRACTOR SHALL SUBMIT ANY CHANGES TO THE CONCRETE SPECIFICATION FOR REVIEW BY THE VTRANS PROJECT MANAGER.
   f. STEEL PILES IF USED, SHALL MEET THE REQUIREMENTS OF SECTION 505.
   g. WHEN THE DESIGN DEPTH OF A FOUNDATION CANNOT BE OBTAINED DUE TO UNFORSEEN FIELD CONDITIONS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER FOR THE MANUFACTURER TO OBTAIN A REVISED FOUNDATION DESIGN. SUCH A REVISION SHALL BE SUBMITTED TO THE VTRANS PROJECT MANAGER AND MAY REQUIRE UP TO A FOUR-WEEK REVIEW PERIOD BY VTRANS

3. SIGNAL POLES SHALL BE INSTALLED AND LEVELED. POLES SHALL BE PLUMB.

4. WIRE CLOTH SHALL BE USED TO SEAL OPENING BETWEEN THE BASE PLATE AND FOUNDATION. MATERIAL SHALL BE IN CONFORMANCE WITH SUBSECTION 678.09.

J. GROUNDING

1. EACH OVERHEAD TRAFFIC SIGNAL SUPPORT SHALL BE GROUNDED. THE GROUND SHALL CONSIST OF THE FOLLOWING:
   a. AN INTERNAL GROUND LUG OPPOSITE THE HAND HOLE.
   b. A #6 (MIN.) SOFT DRAWN COPPER GROUNDING ELECTRODE CONDUCTOR.
   c. A 5/8" X 8' (MIN.) COPPER CLAD GROUNDING ELECTRODE.

2. THE RESISTANCE TO GROUND SHALL BE 25 OHMS OR LESS.

3. ADDITIONAL GROUNDING ELECTRODES MAY BE REQUIRED. MINIMUM SPACING BETWEEN ELECTRODES SHALL BE 6'.

4. WHEN A POWER SERVICE, METER AND DISCONNECT ARE ATTACHED TO A POLE, THERE SHALL BE A CONTINUOUS GROUND WIRE FROM THE METER AND DISCONNECT WITH MAY RUN INTERNAL TO THE UPRIGHT, THROUGH THE ½" FLEXIBLE TUBING IN THE CONCRETE BASE TO THE REQUIRED GROUNDING ELECTRODE(S). THE GROUND WIRE FROM THE POLE GROUNDING LUG, CONTROLLER CABINET AND/OR LUMINAIRE MAY ATTACH TO THIS CONTINUOUS GROUNDING ELECTRODE CONDUCTOR FROM THE SERVICE METER AND DISCONNECT.

5. THE CONTRACTOR SHALL PERFORM A RESISTANCE TO GROUND TEST ON THE CONTINUOUS GROUNDING ELECTRODE CONDUCTOR FROM THE SERVICE METER AND DISCONNECT AND PROVIDE A WRITTEN STATEMENT TO THE AREA ELECTRICAL INSPECTOR THAT THE GROUNDING ELECTRODE CONDUCTOR IS CONTINUOUS FROM THE SERVICE METER AND DISCONNECT AND THE RESISTANCE TO GROUND IS 25 OHMS OR LESS.

K. POLE DETAILS

1. HORIZONTAL MEMBERS SHALL BE CAMBERED AND THE VERTICAL POLES BACK RAKED, WHERE APPLICABLE, TO THE ANTICIPATED DEAD LOAD DEFLECTION PLUS THE CAMBER, IF ANY, SPECIFIED ON THE PLANS.

L. DESIGN CALCULATION SUBMITTALS

1. AN EQUIVALENT ALTERNATE DESIGN MAY BE SUBSTITUED FOR THE DETAILS AND MATERIALS SHOWN.

2. THE DETAILS OF DESIGN FOR THE STRUCTURE AND FOUNDATION ARE TO BE SUPPLIED BY THE CONTRACTOR AND/OR BY THE MANUFACTURER, THE STRUCTURE SHALL BE DESIGNED TO RESIST THE MAXIMUM LOADING AS OUTLINED IN THE AASHTO STANDARD SPECIFICATIONS LISTED. ALL DESIGN CALCULATIONS FOR THE STRUCTURE AND THE FOUNDATION SHALL BE CHECKED AND STAMPED BY A LICENSED PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF VERMONT PRIOR TO SUBMITTAL OF THE FABRICATION DRAWINGS TO VTRANS.

3. THE CONTRACTOR SHALL SUBMIT ONE DIGITAL VERSION OF THE DESIGN CALCULATIONS TO VTRANS PROJECT MANAGER SHOWING THE FOLLOWING INFORMATION FOR EACH OF THE VERTICAL AND HORIZONTAL COMPONENTS OF THE STRUCTURE AND FOUNDATION:
   a. THE DESIGN AXIAL AND SHEAR FORCES AND BENDING AND TORSIONAL MOMENTS ACTING AT THE TOP OF THE FOUNDATION.
   b. THE DESIGN AXIAL, BENDING AND SHEAR STRESSES AND THE COMBINED STRESS RATIO.
   c. VIBRATION AND FATIGUE CALCULATIONS AS SET FORTH IN SECTION 11 OF THE AASHTO STANDARD LISTED.
   d. THE ALLOWABLE AXIAL, BENDING AND SHEAR STRESSES.
   e. ITEMS a, b AND d SHALL BE SHOWN FOR EACH OF THE GROUP LOADINGS (I, II, III) AND FOR THE BASIC WIND LOAD APPLIED TO THE TOW CASES OUTLINED IN THE AASHTO STANDARD LISTED, SECTION 1.2.5(D)(4)

4. FAILURE TO SUPPLY THE PROPER INFORMATION SHALL BE CAUSE FOR REJECTION OF THE STRUCTURE.

5. A MINIMUM OF TWO WEEKS SHALL BE REQUIRED FOR REVIEW BY VTRANS.

6. EVERY MEMBER AND CONNECTION IN A CANTILEVERED OVERHEAD TRAFFIC SIGNAL SUPPORT SHALL BE DESIGNED TO PROVIDE ADDITIONAL RESIDUAL CAPACITY FOR FUTURE MODIFICATION EQUIVALENT TO A 5-SECTION TRAFFIC SIGNAL HEAD WITH A 5-INCH LOUVERED BACKPLATE LOCATED ON THE OUTERMOST EXTENT OF THE MAST ARM.OVERHEAD SIGN STRUCTURES AND NON-CANTILEVERED TRAFFIC SIGNAL STRUCTURES SHALL BE DESIGNED TO A MAXIMUM DESIGN RATIO OF 85% FOR EVERY MEMBER AND CONNECTION.

M. FABRICATION DRAWING SUBMITTALS

1. FABRICATION DRAWINGS IN A DIGITAL FORMAT SHALL BE SUBMITTED TO VTRANS PROJECT MANAGER FOR APPROVAL PRIOR TO FABRICATION. THE FABRICATION DRAWINGS SHALL INCLUDE THE FOLLOWING INFORMATION:
   a. DETAILED DRAWING OF EACH COMPONENT OF THE STRUCTURE.
   b. MATERIAL SPECIFICATION FOR EACH COMPONENT OF THE STRUCTURE, EITHER BY COMPLETE SPECIFICATION OR REFERENCE TO THE APPLICABLE ASTM STANDARDS.
   c. NOTATION OF PROJECT NAME, PROJECT NUMBER, ROUTE NUMBER AND STRUCTURE STATIONING TO BE INCLUDED ON EACH SHEET.
   d. DETAILS FOR LOCATION OF SIGNS/SIGNALS AND ATTACHMENT HARDWARE FOR THE SUPPORT STRUCTURE.
   e. ALL ELEVATION AND DIMENSIONS NECESSARY TO PROVIDE A COMPLETE SET OF RECORD PLANS.
   f. DEAD LOAD DEFLECTION AND CAMBER INFORMATION.
   g. WELDING DETAILS AND PROCEDURES ARE REQUIRED FOR ALL WELDS. PROCEDURES SHALL BE SUBMITTED FOR APPROVAL WITH REFERENCE TO EACH WELD IDENTIFIED ON THE FABRICATION DRAWINGS. SEE SUBSECTION 506.10 FOR MORE INFORMATION.
   h. BOLT TENSIONING REQUIREMENTS.

N. ADDITIONAL INFORMATION

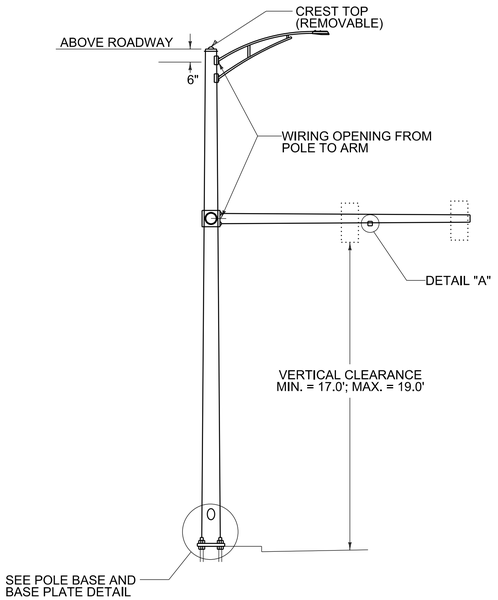
1. THE TRAFFIC SIGNALS SHALL BE MOUNTED TO THE ARM OR POLE USING A FIXED MOUNT SYSTEM, UNLESS OTHERWISE NOTED ON THE CROSS SECTION SHEET.

2. BASE PLATES SHALL BE STAMPED WITH POLE INFORMATION INCLUDING: POLE DIAMETER, HEIGHT, YIELD STRENGTH, AND GAUGE; ARM INFORMATION SHALL INCLUDE: HORIZONTAL MEMBER DIAMETER, LENGTH, YIELD STRENGTH, AND GAUGE. THE INFORMATION SHALL BE STAMPED ON A METAL TAG RIVETED TO THE POLE NEAR THE HAND HOLE.

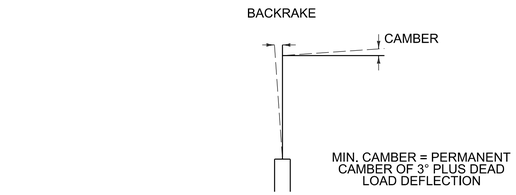
PROJECT NAME:	SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER:	NHG SGNL(51) C/2

FILE NAME: general notes.dgn		PLOT DATE:	10/28/2020
PROJECT LEADER:	T. SISSON	DRAWN BY:	K. RECORD
DESIGNED BY:	K. RECORD	CHECKED BY:	T. SISSON
TRAFFIC SIGNAL GENERAL NOTES		SHEET 54	OF 74

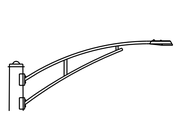
MAST ARM, POLE & FOOTING DETAILS



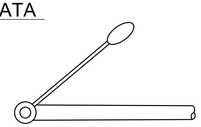
TYPE B MAST POLE & ARM



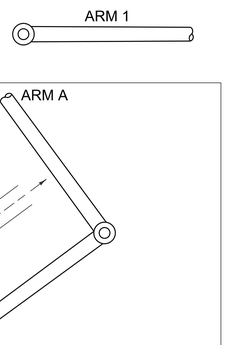
CAMBER DATA



LUMINAIRE ARM RISE

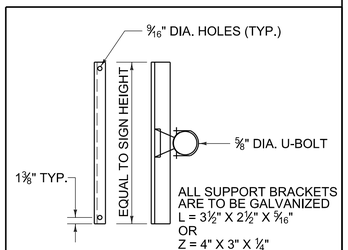


LUMINAIRE ORIENTATION



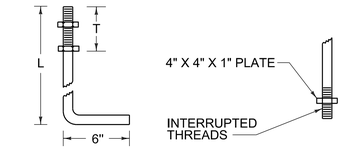
BACKRAKE DATA

SITE SPECIFIC DETAIL



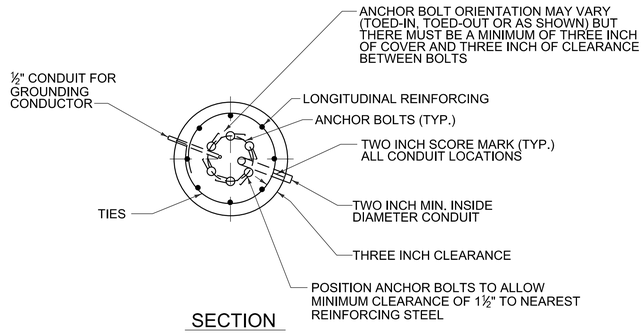
SIGN ON SINGLE MAST ARM

SIGN BRACKET DETAILS

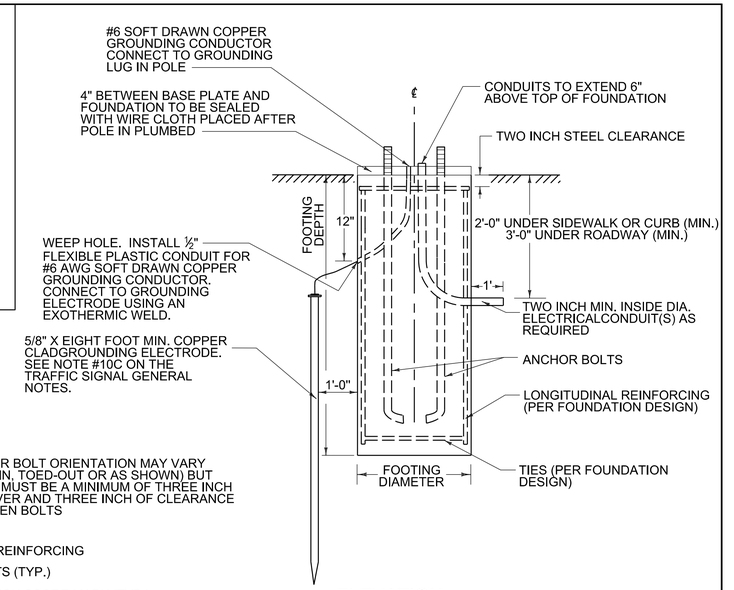


ANCHOR BOLT DETAIL

NOTE:
1. SEE SECTION 678.09 FOR MORE INFORMATION REGARDING BOLT TIGHTENING.

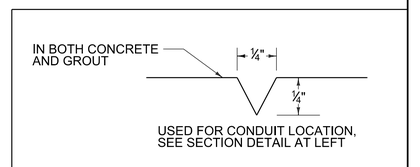


SECTION



ELEVATION

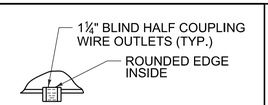
MAST POLE FOOTING DETAIL
(SPREAD FOOTINGS OR PILES ARE OPTIONAL)



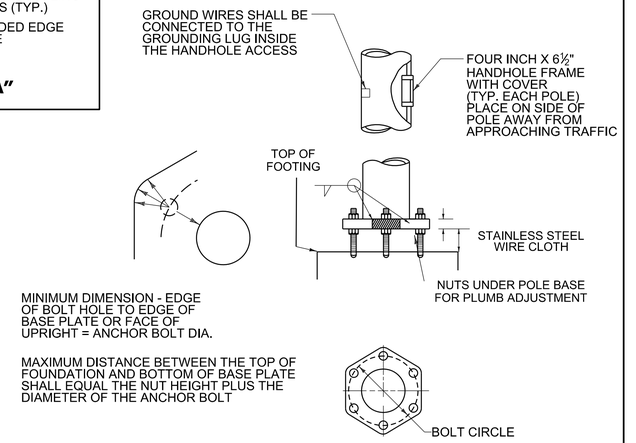
2" SCORE MARK DETAIL

NOTES

1. SEE TRAFFIC SIGNAL GENERAL NOTES FOR ADDITIONAL INFORMATION.
2. MANUFACTURER TO DETERMINE TYPE OF STRUCTURE REQUIRED.
3. MONOTUBES SHALL NOT BE USED FOR SIGNS OVER 10' HIGH.
4. MINIMUM CLEARANCE FROM SIGNS TO ANY TRAVEL LANE SHALL BE 17'.
5. CONTRACTOR SHALL VERIFY ALL GROUND ELEVATIONS.
6. LUMINAIRES, ALL ASSOCIATED EQUIPMENT AND LABOR TO INSTALL SHALL BE PAID FOR UNDER CONTRACT ITEM NOS. 679.45, 679.47 AND 679.50.



DETAIL "A"



POLE BASE AND BASE PLATE DETAIL

PROJECT NAME:	SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER:	NHG SGNL(51) C/2

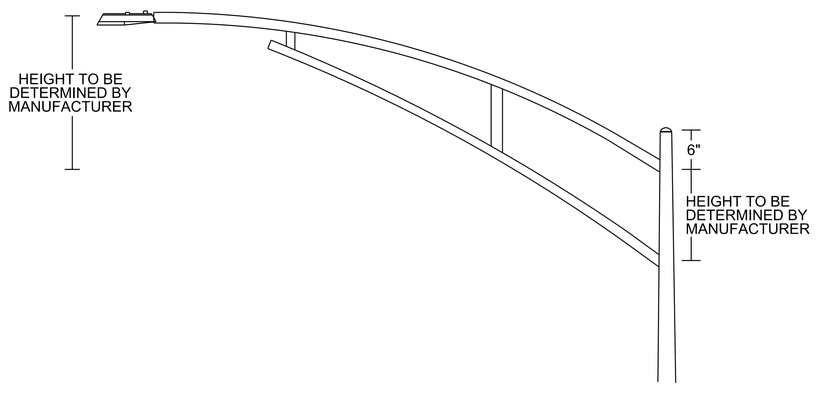
FILE NAME:	Mast Arm and Footing Detail.dgn	PLOT DATE:	10/28/2020
PROJECT LEADER:	T. SISSON	DRAWN BY:	M. GIBSON-DAVIS
DESIGNED BY:	K. RECORD	CHECKED BY:	T. SISSON
MAST ARM AND FOOTING DETAILS		SHEET	55 OF 74

Street Lighting General Notes

1. STREET LIGHT ASSEMBLIES SHALL BE PAINTED FLAT BLACK AND HAVE FLAT BLACK HOUSINGS. FINISHES SHALL BE PER SECTION 679 OF THE VTRANS STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2018.

2. LUMINAIRES
   A. LUMINAIRES SHALL BE ONE OF THE FOLLOWING ONLY:
      1. CREE LEDWAY IP-SERIES
      2. HOLOPHANE LEDGENDS SERIES
      3. LRL LED NXT SERIES
   B. NO SUBSTITUTIONS FOR LUMINAIRES SHALL BE ALLOWED.
   C. ALL LUMINAIRE HOUSINGS SHALL BE EQUIPPED WITH BIRD SPIKES.

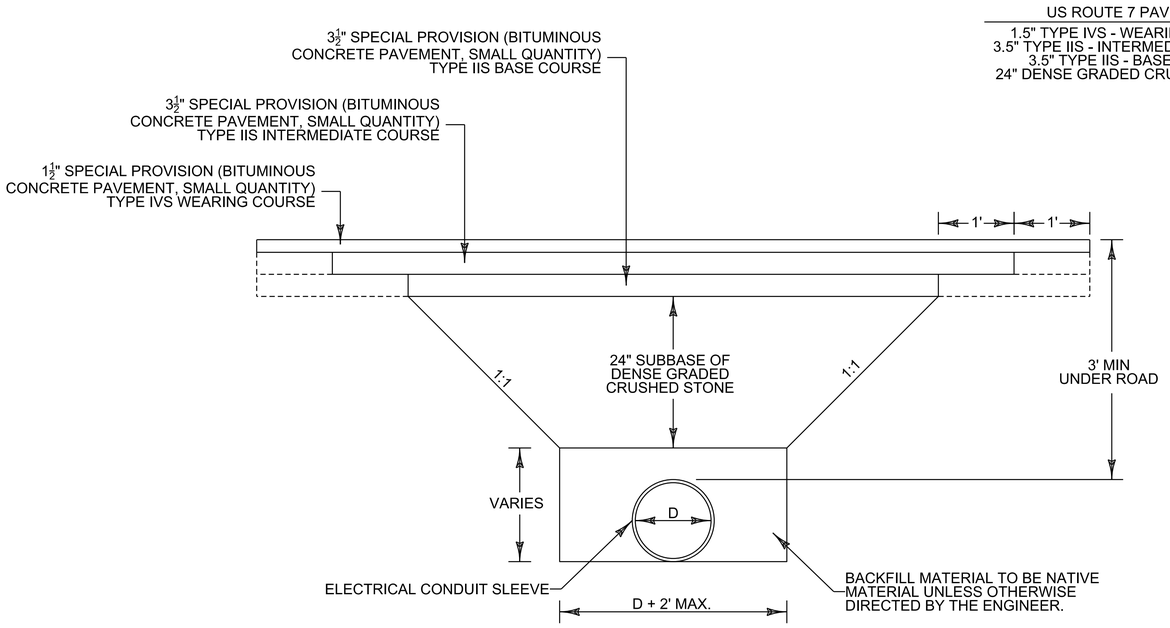
3. WIRING AND GROUNDING
   A. CIRCUIT CONDUCTORS SHALL BE CLEARLY INDENTIFIED BY CORROSION RESISTANT TAGS INDICATING CIRCUIT NUMBER AND PANEL SOURCES AT EVERY LIGHT POLE AND HANDHOLE.
   B. ALL CONDUIT MUST INCLUDE A GROUNDING CONDUCTOR. RIGID STEEL CONDUIT SHALL BE PROPERLY CONNECTED AT THE JOINTS SO AS TO BE WATERTIGHT AND MAINTAIN ELECTRICAL CONTINUITY AND HAVE GROUNDING BUSHINGS SO AS TO ACT AS A GROUNDING CONDUCTOR.
   C. THE GROUNDING CONDUCTOR SHALL BE CONTINUOUS.
   D. ALUMINUM WIRE SHALL NOT BE USED FOR GROUND WIRE.



LUMINAIRE BRACKET ARM DETAIL
NOT TO SCALE

PROJECT NAME:	SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER:	NHG SGNL(51) C/2
FILE NAME: lighting notes.dgn	PLOT DATE: 10/28/2020
PROJECT LEADER: T. SISSON	DRAWN BY: K. RECORD
DESIGNED BY: K. RECORD	CHECKED BY: T. SISSON
STREET LIGHTING NOTES	SHEET 56 OF 74

DETAIL SHEET

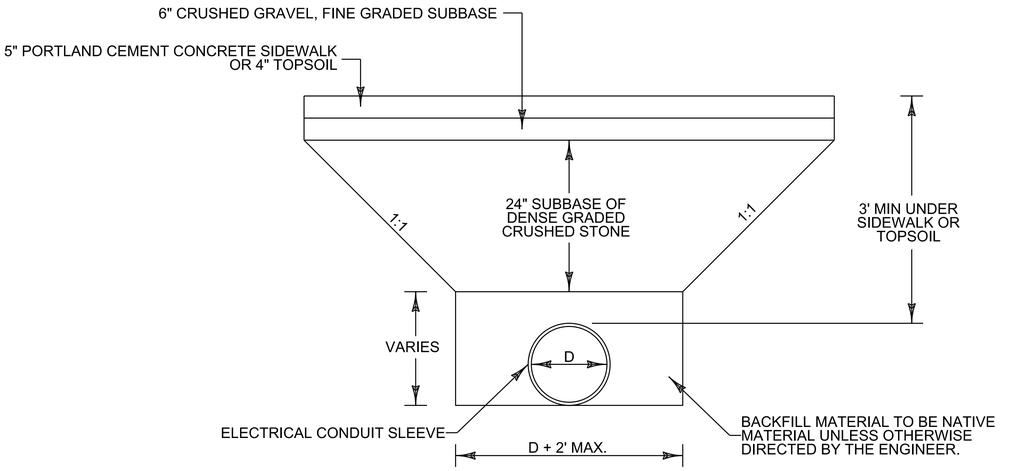


US ROUTE 7 PAVEMENT

1.5" TYPE IVS - WEARING COURSE
3.5" TYPE IIS - INTERMEDIATE COURSE
3.5" TYPE IIS - BASE COURSE
24" DENSE GRADED CRUSHED STONE

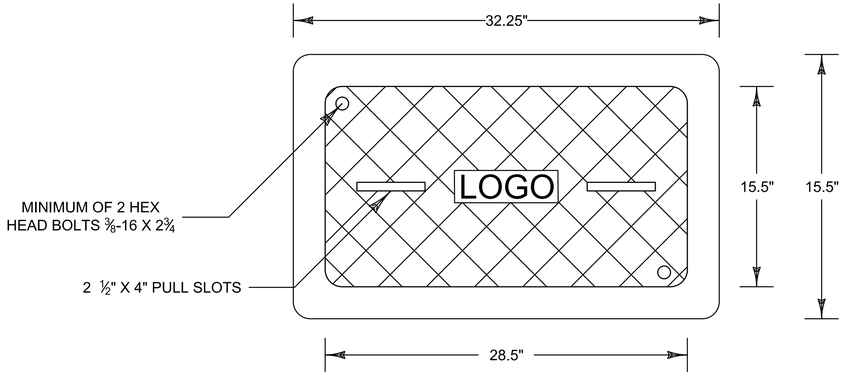
TYPICAL TRENCH EXCAVATION DETAIL FOR ROADWAY

NOT TO SCALE



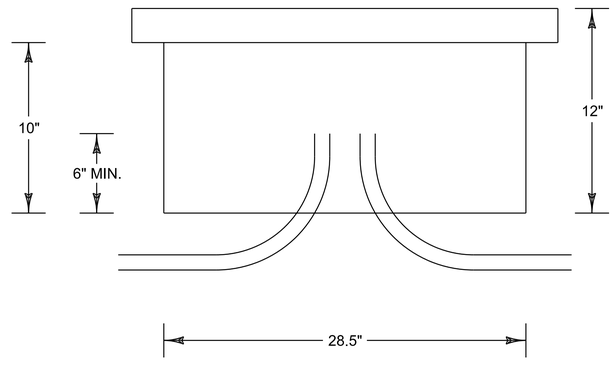
TYPICAL TRENCH EXCAVATION DETAIL FOR SIDEWALK/GREEN BELT

NOT TO SCALE



PLAN VIEW

DIMENSIONS SHOWN ARE MINIMUM SIZE REQUIREMENTS
NOT TO SCALE



ELEVATION VIEW

DIMENSIONS SHOWN ARE MINIMUM SIZE REQUIREMENTS
NOT TO SCALE

JUNCTION BOX NOTES:

1. JUNCTION BOX SHALL BE CONSTRUCTED WITH PRECAST MONOLITHIC POLYMER CONCRETE.
2. CONDUIT SIZE SHALL BE AS SHOWN ON THE PLANS.
3. EXCAVATION FOR JUNCTION BOX SHALL INCLUDE EXCAVATION OF AN AREA ONE FOOT OUTSIDE AND EXTENDING ONE FOOT BELOW THE FINISH GRADE OF THE BOTTOM OF THE JUNCTION BOX. ONE FOOT OF GRANULAR MATERIAL THAT MEETS THE REQUIREMENTS OF SUBSECTION 703.04, SHALL BE PLACED IN THE EXCAVATED AREA AND PROPERLY COMPACTED PRIOR TO INSTALLATION. COMPACTION SHALL MEET REQUIREMENTS OF SUBSECTION 301.06. WHERE NECESSARY AND AT THE DISCRETION OF THE ENGINEER, A DRAINAGE PIPE (MINIMUM 3" PERFORATED PVC) SHALL BE PROVIDED FROM THE JUNCTION BOX TO THE NEAREST APPROPRIATE OUTLET. ANY EXCAVATION AND DRAINAGE SHALL BE INCIDENTAL TO 900.620 SPECIAL PROVISION (JUNCTION BOX, HEAVY DUTY).
4. A SUFFICIENT COVER GASKET SHALL BE PROVIDED TO REDUCE THE INFLOW OF FLUIDS.
5. WHEN INSTALLING ON SLOPES, JUNCTION BOXES SHALL BE TIPPED TO MATCH THE EXISTING SLOPE UP TO A 1 ON 4 SLOPE. EXCAVATED MATERIAL SHALL BE USED TO SHAPE AROUND THE LOW SIDE OF THE BOX TO THE SATISFACTION OF THE ENGINEER AND SHALL BE MOW-ABLE. IF SUFFICIENT MATERIAL IS NOT AVAILABLE, MATERIAL MEETING THE REQUIREMENTS OF EARTH BORROW (SUBSECTION 703.02) SHALL BE USED. PAYMENT SHALL BE CONSIDERED INCIDENTAL TO 900.620 SPECIAL PROVISION (JUNCTION BOX, HEAVY DUTY).
6. ALL COVERS SHALL BE FLUSH WITH THE BOXES AND FRAMES.
7. ALL JUNCTION BOX COVERS SHALL BE SKID RESISTANT.
8. ALL COVERS SHALL HAVE THE LOGO PUNCHED, FORMED OR STAMPED INTO A FLAT RECTANGULAR AREA. MINIMUM LETTER HEIGHT IS ½". MINIMUM DEPTH IS 1/16". THE LOGO ON THE COVERS SHALL READ TRAFFIC SIGNAL UNLESS OTHERWISE NOTED ON THE PLANS.
9. DIMENSIONS SHOWN ARE MINIMUM SIZE REQUIRED. EQUIVALENT JUNCTION BOX OF LARGER DIMENSIONS MAY BE USED.
10. ALL JUNCTION BOX SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 678.
11. ALL JUNCTION BOXES SHALL MEET THE ANSI/SCTE 77-2007, TIER 22 SPECIFICATION FOR UNDERGROUND ENCLOSURE INTEGRITY.
12. ALL CONDUIT SHALL BE FILLED WITH STEEL WOOL AND DUCT SEALED.

PROJECT NAME:	SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER:	NHG SGNL(51) C/2
FILE NAME: Junction Box Detail.dgn	PLOT DATE: 10/28/2020
PROJECT LEADER: T. SISSON	DRAWN BY: M. GIBSON-DAVIS
DESIGNED BY: K. RECORD	CHECKED BY: T. SISSON
DETAIL SHEET	SHEET 57 OF 74

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET 1

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS			NEW & SALVAGED SIGNS				EXIST POST		NO. OF POSTS	NEW SIGN POSTS																	REMARKS	SIGN DETAIL		
		EA	WIDTH (in)	HEIGHT (in)	"A"	"B"	SALV SIGN	SALV TIS	RETAIN	SALVAGE		FLANGED CHANNEL lb/ft			SQUARE STEEL (in) lb/ft			ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (in) lb/ft			FOUND-ATION	TUBULAR STEEL Ø (in) lb/ft				W-SHAPE STEEL FTG. SIZE		WEIGHT	POST SIZE	SIGN FRAME REQUIRED		DETAIL IN SHSM	DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
															2.0	2.0	2.5			3.0	4.0	4.0 MOD		3.0	3.5	4.0	5.0	24"	30"							
												1.12	2.0	3.0	2.16	2.42	3.35			1.3	1.7	1.7		7.6	9.0	10.8	14.6								
												OPTION ITEMS																								
MA 1A	LEFT TURN YIELD ON FLASHING	1	30	36	7.5																												MOUNT TO MAST ARM 1A R10-101		64	
MA 1A	Fayette Dr	1	72	24	12																												MOUNT TO MAST ARM 1A D3-1		64	
MA 1A	Fayette Dr	1	72	24	12																												MOUNT TO MAST ARM 1A D3-1		64	
MA 1A	TURNING VEHICLES TO	1	30	30	6.25																												MOUNT TO MAST ARM POLE #1 R10-15R	SHSM		
MA 1B	Shelburne Rd	1	90	24	15																												MOUNT TO MAST ARM 1B D3-1		64	
MA 1B	TURNING VEHICLES TO	1	30	30	6.25																												MOUNT TO MAST ARM 1B R10-15R	SHSM		
MA 2	LEFT TURN YIELD ON FLASHING	1	30	36	7.5																												MOUNT TO MAST ARM 2 R10-101		64	
MA 2	McIntosh Ave	1	84	24	14																												MOUNT TO MAST ARM 2 D3-1		64	
MA 2	McIntosh Ave	1	84	24	14																												MOUNT TO MAST ARM 2 D3-1		64	
MA 2	TURNING VEHICLES TO	1	30	30	6.25																												MOUNT TO MAST ARM POLE #2 R10-15R	SHSM		
MA 3	Shelburne Rd	1	90	24	15																												MOUNT TO MAST ARM 3 D3-1		64	
MA 3	TURNING VEHICLES TO	1	30	30	6.25																												MOUNT TO MAST ARM POLE #3 R10-15R	SHSM		
					122							FT	FT	FT	FT	FT	FT		EA	LB	LB	LB		LB	LB	LB	LB								
					SF 122	SF	EA	SF				FT			FT					LB			EA	LB				EA	EA	LB					

SHM = 2004 FHWA STANDARD HIGHWAY SIGNS & MARKINGS/2012 SUPP.
FYG = FLUORESCENT YELLOW GREEN

FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE TRAFFIC & SAFETY DIVISION'S "SIGN POST DESIGN GUIDELINE."

SHEET TOTALS

PROJECT NAME: SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER: NHG SGNL(51) C/2

FILE NAME: tss01-06.dgn
PROJECT LEADER: T. SISSON
DESIGNED BY: K. RECORD
TRAFFIC SIGN SUMMARY SHEET 01

PLOT DATE: 10/28/2020
DRAWN BY: M. GIBSON-DAVIS
CHECKED BY: T. SISSON
SHEET 58 OF 74

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET 2

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS			NEW & SALVAGED SIGNS				EXIST POST		NO. OF POSTS	NEW SIGN POSTS																		REMARKS	SIGN DETAIL		
		EA	WIDTH (in)	HEIGHT (in)	"A"	"B"	SALV SIGN	SALV TIS	RETAIN	SALVAGE		FLANGED CHANNEL lb/ft			SQUARE STEEL (in) lb/ft			ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (in) lb/ft			FOUND-ATION	TUBULAR STEEL Ø (in) lb/ft				W-SHAPE STEEL FTG. SIZE		WEIGHT	POST SIZE	SIGN FRAME REQUIRED		DETAIL IN SHSM	DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
															2.0	2.0	2.5			3.0	4.0	4.0 MOD		3.0	3.5	4.0	5.0	24"	30"							
												1.12	2.0	3.0	2.16	2.42	3.35			1.3	1.7	1.7		7.6	9.0	10.8	14.6									
												OPTION ITEMS																										
MA 4A	Saturn Way PVT	1	102	24	17																										MOUNT TO MAST ARM 4A D3-1		64	
MA 4A	Saturn Way PVT	1	102	24	17																										MOUNT TO MAST ARM 4A D3-1		64	
MA 4A	LEFT TURN YIELD ON FLASHING	1	30	36	7.5																										MOUNT TO MAST ARM 4A R10-101		64	
MA 4A	TURNING VEHICLES TO	1	30	30	6.25																										MOUNT TO MAST ARM POLE #4 R10-15R	SHSM		
MA 4B	Shelburne Rd	1	90	24	15																										MOUNT TO MAST ARM 4B D3-1		64	
MA 5	LEFT TURN YIELD ON FLASHING	1	30	36	7.5																										MOUNT TO MAST ARM 5 R10-101		64	
MA 5	Baldwin Ave	1	84	24	14																										MOUNT TO MAST ARM 5 D3-1		64	
MA 5	Baldwin Ave	1	84	24	14																										MOUNT TO MAST ARM 5 D3-1		64	
MA 5	TURNING VEHICLES TO	1	30	30	6.25																										MOUNT TO MAST ARM 5 R10-15R	SHSM		
MA 6	Shelburne Rd	1	90	24	15																										MOUNT TO MAST ARM 6 D3-1		64	
MA 6	TURNING VEHICLES TO	1	30	30	6.25																										MOUNT TO MAST ARM POLE #6 R10-15R	SHSM		
MA 7	LEFT TURN YIELD ON FLASHING	1	30	36	7.5																										MOUNT TO MAST ARM 7 R10-101		64	
					133.25							FT	FT	FT	FT	FT	FT		EA	LB	LB	LB		LB	LB	LB	LB									
SHEET TOTALS					SF 133.25	SF	EA	SF				FT			FT					LB			EA	LB				EA	EA	LB						

SHM = 2004 FHWA STANDARD HIGHWAY SIGNS & MARKINGS/2012 SUPP.
FYG = FLUORESCENT YELLOW GREEN

FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE TRAFFIC & SAFETY DIVISION'S "SIGN POST DESIGN GUIDELINE."

PROJECT NAME: SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER: NHG SGNL(51) C/2

FILE NAME: tss01-06.dgn
PROJECT LEADER: T. SISSON
DESIGNED BY: K. RECORD
TRAFFIC SIGN SUMMARY SHEET 02

PLOT DATE: 10/28/2020
DRAWN BY: M. GIBSON-DAVIS
CHECKED BY: T. SISSON
SHEET 59 OF 74

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET 3

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS			NEW & SALVAGED SIGNS				EXIST POST		NO. OF POSTS	NEW SIGN POSTS																		REMARKS	SIGN DETAIL		
		EA	WIDTH (in)	HEIGHT (in)	"A"	"B"	SALV SIGN	SALV TIS	RETAIN	SALVAGE		FLANGED CHANNEL lb/ft			SQUARE STEEL (in) lb/ft			ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (in) lb/ft			FOUND-ATION	TUBULAR STEEL Ø (in) lb/ft				W-SHAPE STEEL FTG. SIZE		WEIGHT	POST SIZE	SIGN FRAME REQUIRED		DETAIL IN SHSM	DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
															2.0	2.0	2.5			3.0	4.0	4.0 MOD		3.0	3.5	4.0	5.0	24"	30"							
												1.12	2.0	3.0	2.16	2.42	3.35			1.3	1.7	1.7		7.6	9.0	10.8	14.6									
												OPTION ITEMS																								
MA 7	Hannafords Dr PVT	1	120	24	20																												MOUNT TO MAST ARM 7 D3-1		64	
MA 7	Hannafords Dr PVT	1	120	24	20																												MOUNT TO MAST ARM 7 D3-1		64	
MA 7	TURNING VEHICLES TO	1	30	30	6.25																												MOUNT TO MAST ARM 7 R10-15R	SHSM		
MA 8	Shelburne Rd	1	90	24	15																												MOUNT TO MAST ARM 8 D3-1		64	
MA 9	LEFT TURN YIELD ON FLASHING	1	30	36	7.5																												MOUNT TO MAST ARM 9 R10-101		64	
MA 9	Laurel Hill Dr	1	84	24	14																												MOUNT TO MAST ARM 9 D3-1		64	
MA 9	TURNING VEHICLES TO	1	30	30	6.25																												MOUNT TO MAST ARM 9 R10-15R	SHSM		
MA 10	Shelburne Rd	1	90	24	15																												MOUNT TO MAST ARM 10 D3-1		64	
MA 10	TURNING VEHICLES TO	1	30	30	6.25																												MOUNT TO MAST ARM POLE #10 R10-15R	SHSM		
MA 11A	LEFT TURN YIELD ON FLASHING	1	30	36	7.5																												MOUNT TO MAST ARM 11A R10-101		64	
MA 11A	TURNING VEHICLES TO	1	30	30	6.25																												MOUNT TO MAST ARM 11A R10-15R	SHSM		
					138							FT	FT	FT	FT	FT	FT		EA	LB	LB	LB		LB	LB	LB	LB								
SHEET TOTALS					SF 138	SF	EA	SF				FT			FT					LB			EA	LB				EA	EA	LB					

SHM = 2004 FHWA STANDARD HIGHWAY SIGNS & MARKINGS/2012 SUPP.
FYG = FLUORESCENT YELLOW GREEN

FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE TRAFFIC & SAFETY DIVISION'S "SIGN POST DESIGN GUIDELINE."

PROJECT NAME: SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER: NHG SGNL(51) C/2

FILE NAME: tss01-06.dgn
PROJECT LEADER: T. SISSON
DESIGNED BY: K. RECORD
TRAFFIC SIGN SUMMARY SHEET 03

PLOT DATE: 10/28/2020
DRAWN BY: M. GIBSON-DAVIS
CHECKED BY: T. SISSON
SHEET 60 OF 74

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET 4

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS			NEW & SALVAGED SIGNS				EXIST POST		NEW SIGN POSTS																	REMARKS	SIGN DETAIL		
		EA	WIDTH (in)	HEIGHT (in)	"A"	"B"	SALV SIGN	SALV TIS	RETAIN	SALVAGE	NO. OF POSTS	FLANGED CHANNEL lb/ft			SQUARE STEEL (in) lb/ft			ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (in) lb/ft			FOUND-ATION	TUBULAR STEEL Ø (in) lb/ft				W-SHAPE STEEL FTG. SIZE		WEIGHT	POST SIZE	SIGN FRAME REQUIRED		DETAIL IN SHSM	DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
												1.12	2.0	3.0	2.16	2.42	3.35			3.0	4.0	4.0 MOD		3.0	3.5	4.0	5.0	24"	30"							
												OPTION ITEMS								1.3	1.7	1.7		7.6	9.0	10.8	14.6									
MA 11B	Shelburne Rd	1	90	24	15																												MOUNT TO MAST ARM 11B D3-1		64	
MA 12A	LEFT TURN YIELD ON FLASHING	1	30	36	7.5																												MOUNT TO MAST ARM 12A R10-101		64	
MA 12A	Brewer Pkwy	1	84	24	14																												MOUNT TO MAST ARM 12A D3-1		64	
MA 12A	Brewer Pkwy	1	84	24	14																												MOUNT TO MAST ARM 12A D3-1		64	
MA 12A	TURNING VEHICLES TO	1	30	30	6.25																												MOUNT TO MAST ARM 12A R10-15R	SHSM		
MA 12B	Shelburne Rd	1	90	24	15																												MOUNT TO MAST ARM 12B D3-1		64	
MA 13		1	36	36	9.0																												MOUNT TO MAST ARM 13 R3-1	SHSM		
STA. 85+55, RT	BIKE ROUTE Spear St	1	24	18	3.0						1					X		X															D11-1			131B
		1	24	6	1.0																												D1-1b		64	
	BIKE ROUTE Downtown 3	1	24	18	3.0																												D11-1			131B
		1	24	6	1.0																												D1-1B (R)			131B
STA. 87+21, LT	BIKE ROUTE Spear St	1	24	18	3.0						1					X		X															D11-1			131B
		1	24	6	1.0																												D1-1b		64	
	BIKE ROUTE Downtown	1	24	18	3.0																												D11-1			131B
		1	24	6	1.0																												D1-1b		64	
SHEET TOTALS					SF 96.75	SF	EA	SF				FT	FT	FT	FT	FT 30	FT		EA	LB	LB	LB		LB	LB	LB	LB	EA	EA	LB						

SHM = 2004 FHWA STANDARD HIGHWAY SIGNS & MARKINGS/2012 SUPP.
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FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE TRAFFIC & SAFETY DIVISION'S "SIGN POST DESIGN GUIDELINE."

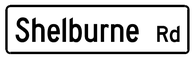
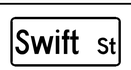
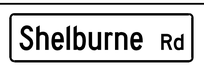
PROJECT NAME: SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER: NHG SGNL(51) C/2

FILE NAME: tss01-06.dgn
PROJECT LEADER: T. SISSON
DESIGNED BY: K. RECORD
TRAFFIC SIGN SUMMARY SHEET 03

PLOT DATE: 10/28/2020
DRAWN BY: M. GIBSON-DAVIS
CHECKED BY: T. SISSON
SHEET 61 OF 74

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET 5

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS EA	WIDTH (in)	HEIGHT (in)	NEW & SALVAGED SIGNS "A"	"B"	SALV SIGN	SALV TIS	EXIST POST RETAIN	EXIST POST SALVAGE	NO. OF POSTS	NEW SIGN POSTS: FLANGED CHANNEL lb/ft 1.12	2.0	3.0	SQUARE STEEL (in) 2.0 lb/ft 2.16	2.0 lb/ft 2.42	2.5 lb/ft 3.35	ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (in) 3.0 lb/ft 1.3	4.0 lb/ft 1.7	4.0 MOD lb/ft 1.7	FOUND-ATION	TUBULAR STEEL Ø (in) 3.0 lb/ft 7.6	3.5 lb/ft 9.0	4.0 lb/ft 10.8	5.0 lb/ft 14.6	W-SHAPE STEEL FTG. SIZE 24"	FTG. SIZE 30"	WEIGHT	POST SIZE	SIGN FRAME REQUIRED	REMARKS	SIGN DETAIL DETAIL IN SHSM	DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
												OPTION ITEMS																										
MA 14A		1	36	36	9.0																													MOUNT TO MAST ARM 14A R3-2	SHSM		
MA 14B		1	90	24	15																													MOUNT TO MAST ARM 14B D3-1		64	
MA 14B		1	30	30	6.25																													MOUNT TO MAST ARM 14B R10-15R	SHSM		
STA. 87+32, RT		1	24	18	3.0						1					X		X																D11-1			131B
		1	24	6	1.0																													D1-1B (L)			131B
		1	24	18	3.0																													D11-1			131B
		1	24	6	1.0																													D1-1B (R)			131B
QUEEN CITY PARKWAY		2	36	30	7.5						4					X		X																VR-925 SEE NOTE 4 ON TRAFFIC SIGNAL LAYOUT SHEET 9			145A
MA 15A		1	30	36	7.5																													MOUNT TO MAST ARM 15A R10-101		64	
MA 15A		1	54	24	9.0																													MOUNT TO MAST ARM 15A D3-1		64	
MA 15B		1	90	24	15																													MOUNT TO MAST ARM 15B D3-1		64	
MA 16		1	54	24	9.0																													MOUNT TO MAST ARM 16 D3-1		64	
MA 17		1	30	36	7.5																													MOUNT TO MAST ARM 17 R10-30	SHSM		
MA 17		1																																RE-MOUNT TO MAST ARM 17			
					93.75							FT	FT	FT	FT	FT 75	FT		EA	LB	LB	LB		LB	LB	LB	LB									
SHEET TOTALS					SF 93.75	SF	EA	SF				FT			FT 75					LB			EA	LB				EA	EA	LB						

SHM = 2004 FHWA STANDARD HIGHWAY SIGNS & MARKINGS/2012 SUPP.
FYG = FLUORESCENT YELLOW GREEN

FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE TRAFFIC & SAFETY DIVISION'S "SIGN POST DESIGN GUIDELINE."

PROJECT NAME: SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER: NHG SGNL(51) C/2

FILE NAME: tss01-06.dgn
PROJECT LEADER: T. SISSON
DESIGNED BY: K. RECORD
TRAFFIC SIGN SUMMARY SHEET 04

PLOT DATE: 10/28/2020
DRAWN BY: M. GIBSON-DAVIS
CHECKED BY: T. SISSON
SHEET 62 OF 74

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET 6

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS			NEW & SALVAGED SIGNS				EXIST POST		NEW SIGN POSTS																	REMARKS	SIGN DETAIL		
		EA	WIDTH (in)	HEIGHT (in)	"A"	"B"	SALV SIGN	SALV TIS	RETAIN	SALVAGE	NO. OF POSTS	FLANGED CHANNEL lb/ft			SQUARE STEEL (in) lb/ft			ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (in) lb/ft			FOUND-ATION	TUBULAR STEEL Ø (in) lb/ft				W-SHAPE STEEL FTG. SIZE		WEIGHT	POST SIZE	SIGN FRAME REQUIRED		DETAIL IN SHSM	DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
															2.0	2.0	2.5			3.0	4.0	4.0 MOD		3.0	3.5	4.0	5.0	24"	30"							
												1.12	2.0	3.0	2.16	2.42	3.35			1.3	1.7	1.7		7.6	9.0	10.8	14.6									
												OPTION ITEMS																									
	SHEET 1 TOTAL				122																															
	SHEET 2 TOTAL				133.25																															
	SHEET 3 TOTAL				138																															
	SHEET 4 TOTAL				96.75											30																				
	SHEET 5 TOTAL				93.75				1							75																				
					592.25							FT	FT	FT	FT	75 FT	FT		EA	LB	LB	LB		LB	LB	LB	LB									
	SHEET TOTALS				SF 592.25	SF	EA	SF				FT			FT 75					LB			EA	LB				EA	EA	LB					

SHM = 2004 FHWA STANDARD HIGHWAY SIGNS & MARKINGS/2012 SUPP.
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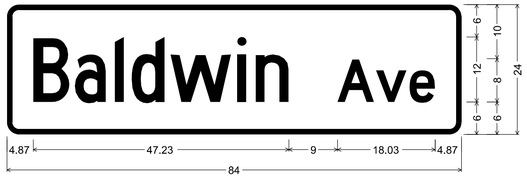
FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE TRAFFIC & SAFETY DIVISION'S "SIGN POST DESIGN GUIDELINE."

PROJECT NAME: SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER: NHG SGNL(51) C/2

FILE NAME: tss01-06.dgn
PROJECT LEADER: T. SISSON
DESIGNED BY: K. RECORD
TRAFFIC SIGN SUMMARY SHEET 04

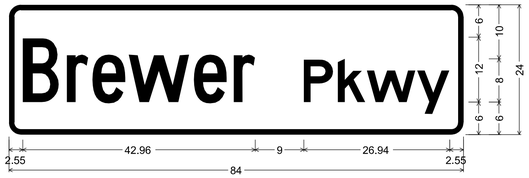
PLOT DATE: 10/28/2020
DRAWN BY: M. GIBSON-DAVIS
CHECKED BY: T. SISSON
SHEET 63 OF 74

SIGN DETAILS



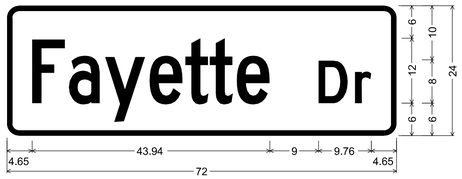
2.25" Radius, 1.00" Border, White on, Blue;
"Baldwin", C 2K 80% spacing; "Ave", D 2K 80% spacing;

D3-1



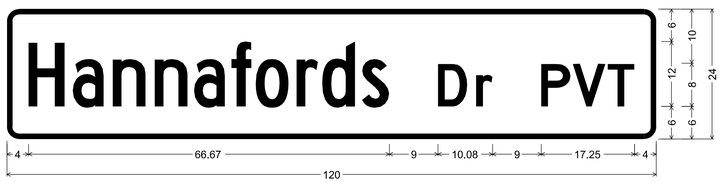
2.25" Radius, 1.00" Border, White on, Blue;
"Brewer", C 2K 80% spacing; "Pkwy", D 2K 80% spacing;

D3-1



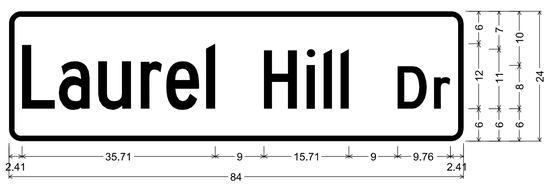
2.25" Radius, 1.00" Border, White on, Blue;
"Fayette", C 2K 80% spacing; "Dr", D 2K 80% spacing;

D3-1



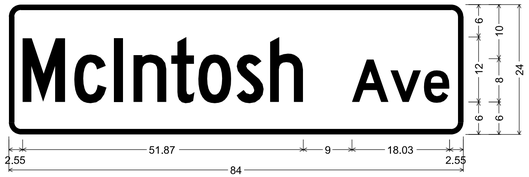
2.25" Radius, 1.00" Border, White on, Blue;
"Hannafords", C 2K 80% spacing; "Dr", D 2K; "PVT", D 2K 80% spacing;

D3-1



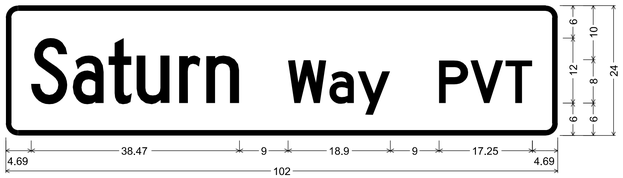
2.25" Radius, 1.00" Border, White on, Blue;
"Laurel", C 2K 80% spacing; "Hill", C 2K 80% spacing;
"Dr", D 2K 80% spacing;

D3-1



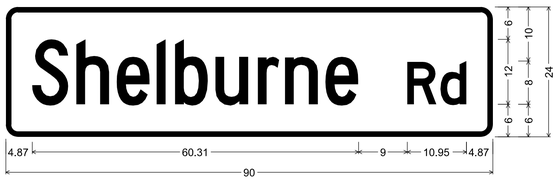
2.25" Radius, 1.00" Border, White on, Blue;
"McIntosh", C 2K 80% spacing; "Ave", D 2K 80% spacing;

D3-1



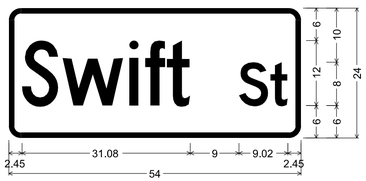
2.25" Radius, 1.00" Border, White on, Blue;
"Saturn", C 2K 80% spacing; "Way", D 2K 80% spacing; "PVT", D 2K 80% spacing;

D3-1



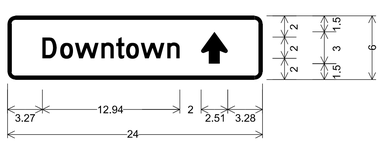
2.25" Radius, 1.00" Border, White on, Blue;
"Shelburne", C 2K 80% spacing; "Rd", D 2K 80% spacing;

D3-1



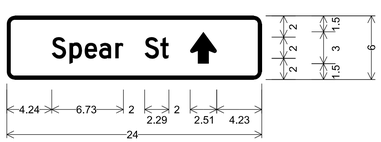
2.25" Radius, 1.00" Border, White on, Blue;
"Swift", C 2K 80% spacing;
"St", D 2K 80% spacing;

D3-1



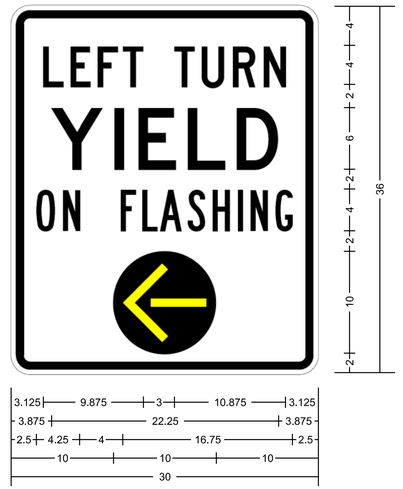
0.75" Radius, 0.38" Border, White on, Green;
"Downtown", D 2K;
Standard Arrow Custom 3.00" X 2.51" 90';

D1-1b



0.75" Radius, 0.38" Border, White on, Green;
"Spear", D 2K; "St", D 2K;
Standard Arrow Custom 3.00" X 2.51" 90';

D1-1b



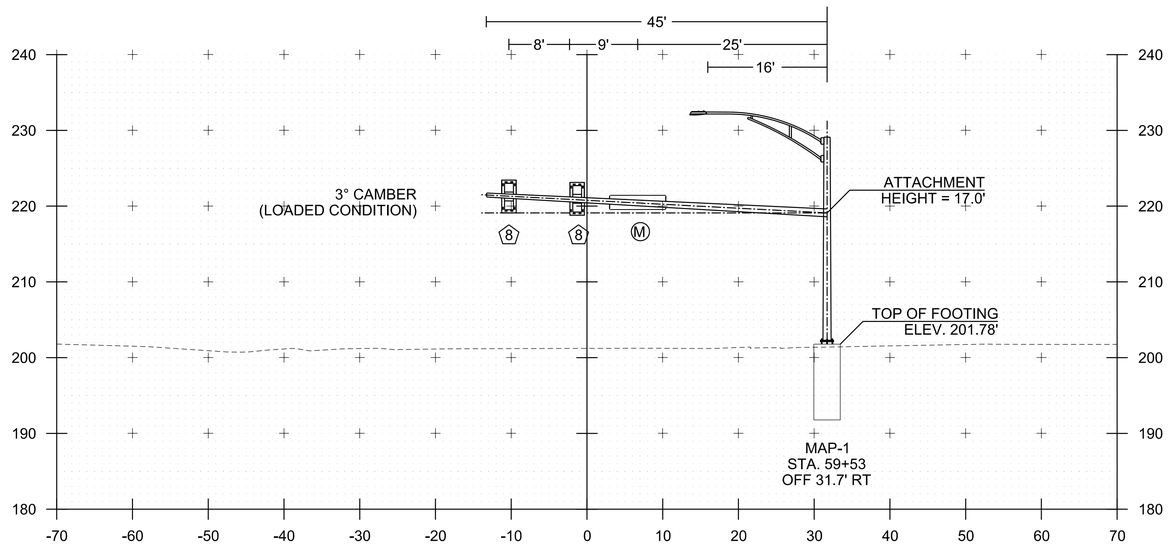
R10-101 (30X36-STD) WHT;
1.875" RADIUS, 0.75" BORDER, 0.5" INDENT, BLACK ON WHITE
"LEFT TURN" C; "YIELD" D; "ON FLASHING" B;
FYA SYMBOL

R10-101
NOT TO SCALE

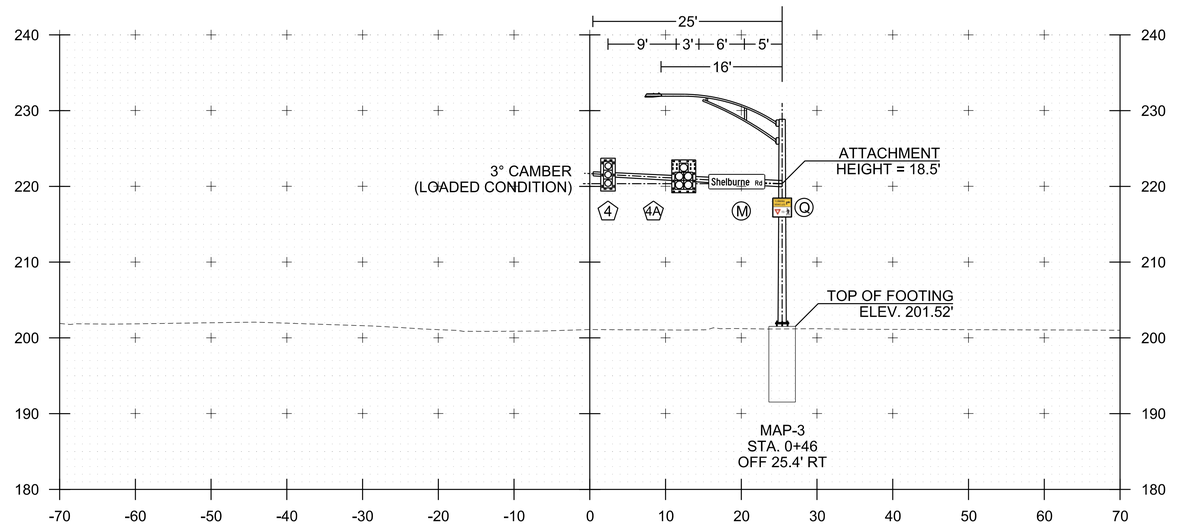
STREET NAME SIGN NOTES:

1. THE SIGN BASE MATERIAL USED FOR THE STREET SIGNS SHALL BE FLAT SHEET ALUMINUM BLADES. EXTRUDED ALUMINUM WILL NOT BE ACCEPTED.
2. THE MATERIAL FOR THE BLADES SHALL BE FLAT SHEET ALUMINUM WITH MINIMUM THICKNESS OF 0.125 INCH. HARDWARE FOR MOUNTING SIGNS TO POST SHALL BE INCIDENTAL TO OTHER ITEMS. MOUNTING METHOD WILL BE AS SHOWN ON THE PLANS.
3. ALL STREET NAME SIGN BASE MATERIAL ON THIS SHEET SHALL HAVE WHITE RETROREFLECTIVE ASTMTYPE III (MINIMUM) TEXT ON A BLUE RETROREFLECTIVE ASTM TYPE III (MINIMUM) BACKGROUND. THE COLORS SHALL CONFORM TO THE CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

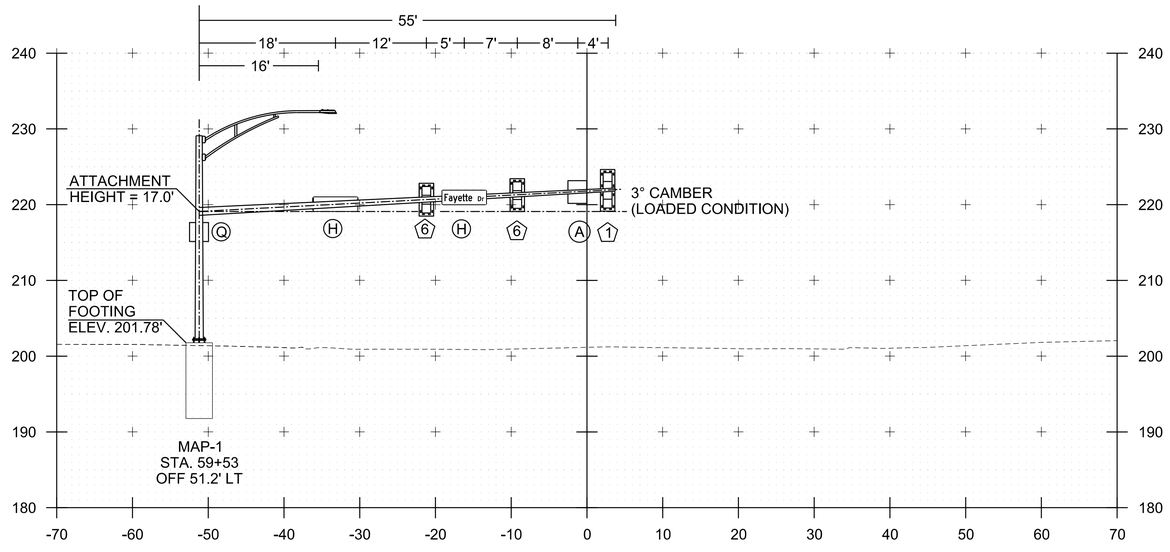
PROJECT NAME:	SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER:	NHG SGNL(51) C/2
FILE NAME: sign details.dgn	PLOT DATE: 10/28/2020
PROJECT LEADER: T. SISSON	DRAWN BY: M. GIBSON-DAVIS
DESIGNED BY: K. RECORD	CHECKED BY: T. SISSON
SIGN DETAILS SHEET	SHEET 64 OF 74



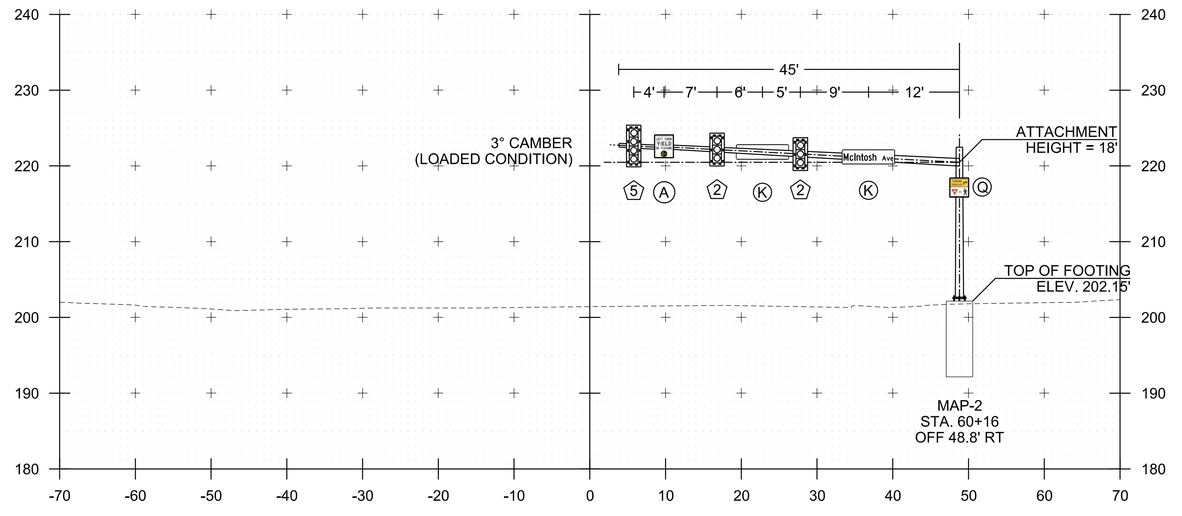
0+33
MAP-1 - FAYETTE DRIVE
LOOKING EAST



0+46
MAP-3 - MCINTOSH AVENUE
LOOKING EAST



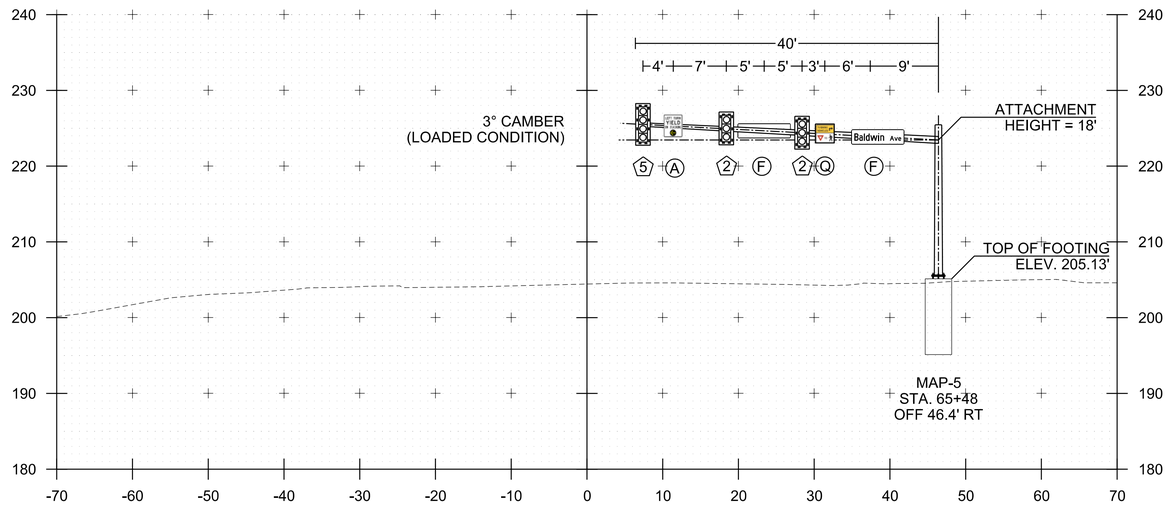
59+53
MAP-1 US ROUTE 7
LOOKING NORTH



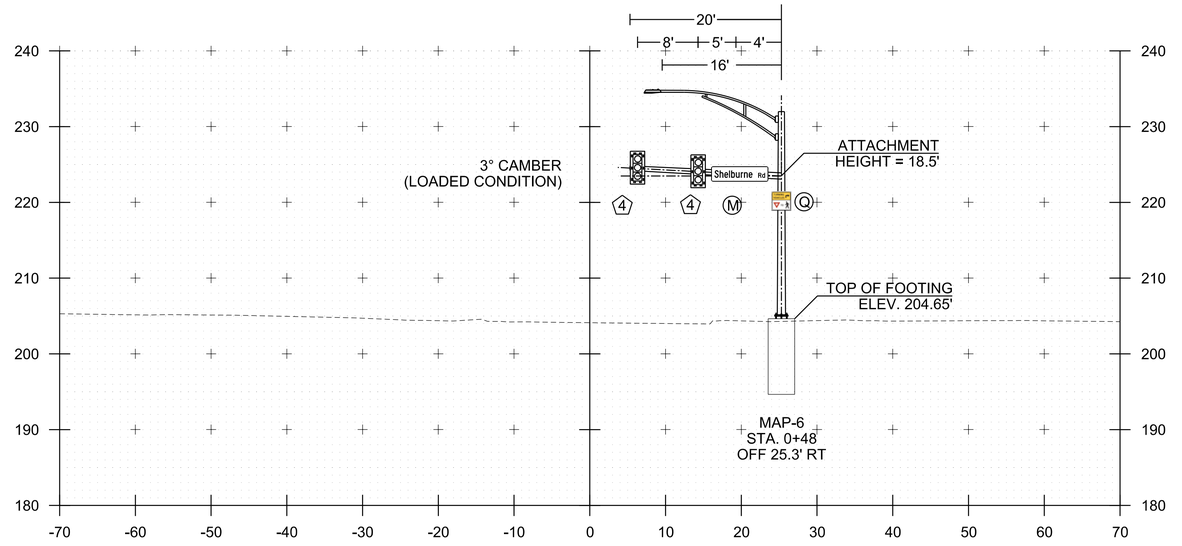
60+16
MAP-2 - US ROUTE 7
LOOKING NORTH

PROJECT NAME:	SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER:	NHG SGNL(51) C/2

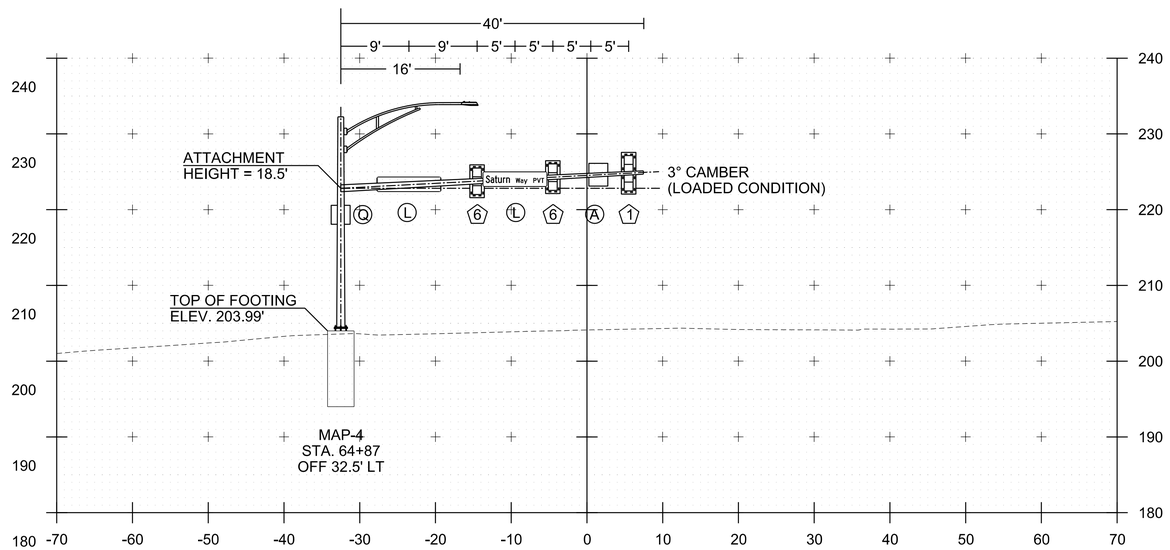
FILE NAME:	xs.dgn	PLOT DATE:	10/28/2020
PROJECT LEADER:	T. SISSON	DRAWN BY:	K. RECORD
DESIGNED BY:	K. RECORD	CHECKED BY:	T. SISSON
SIGNAL CROSS SECTION SHEET 1		SHEET	65 OF 74



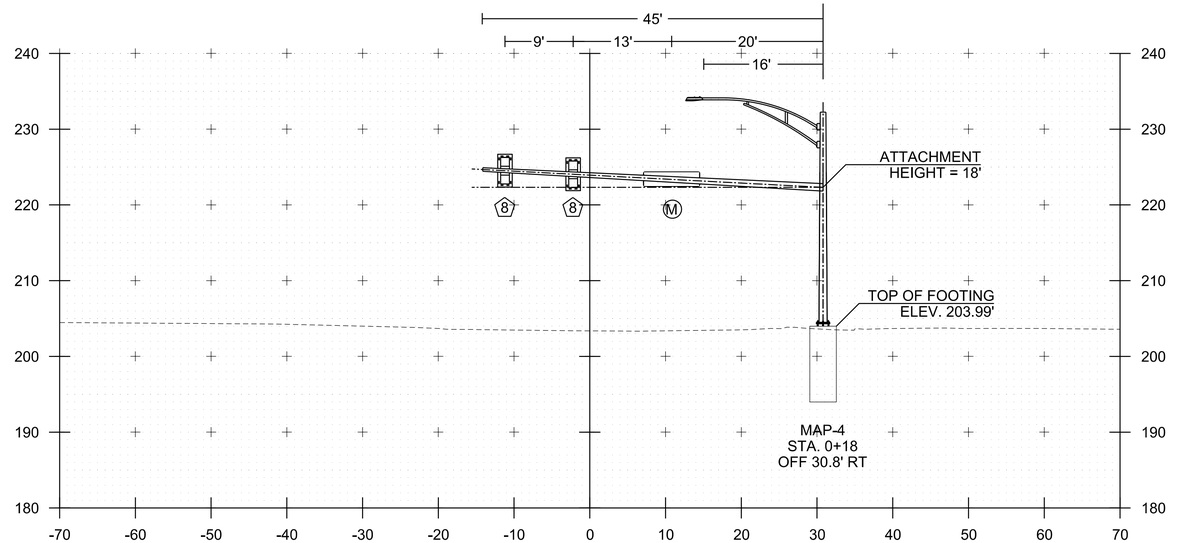
65+48
MAP-5 - US ROUTE 7
LOOKING NORTH



0+48
MAP-6 - BALDWIN AVENUE
LOOKING EAST



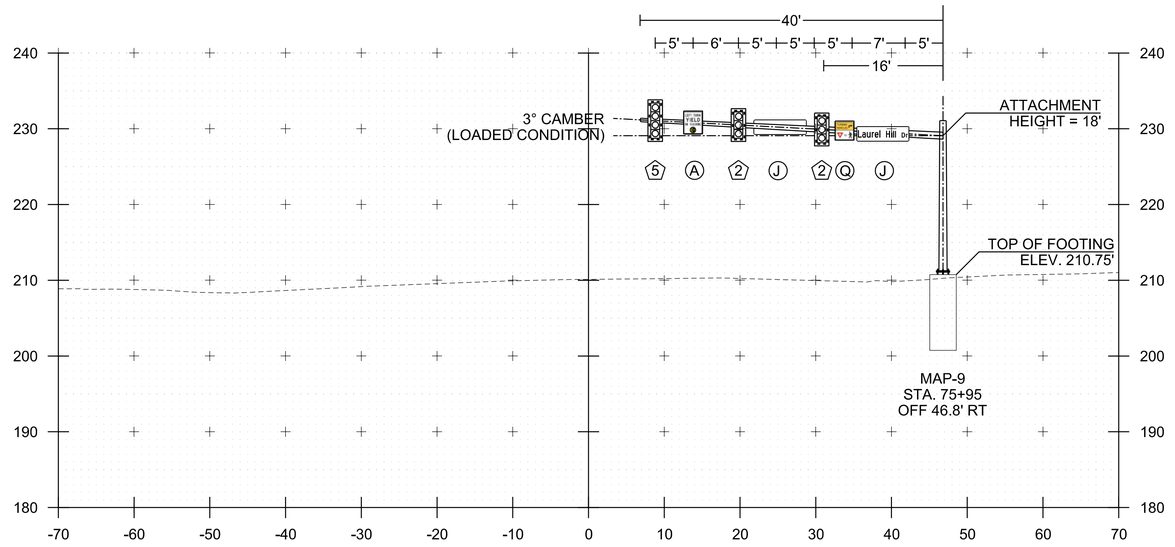
64+87
MAP-4 - US ROUTE 7
LOOKING NORTH



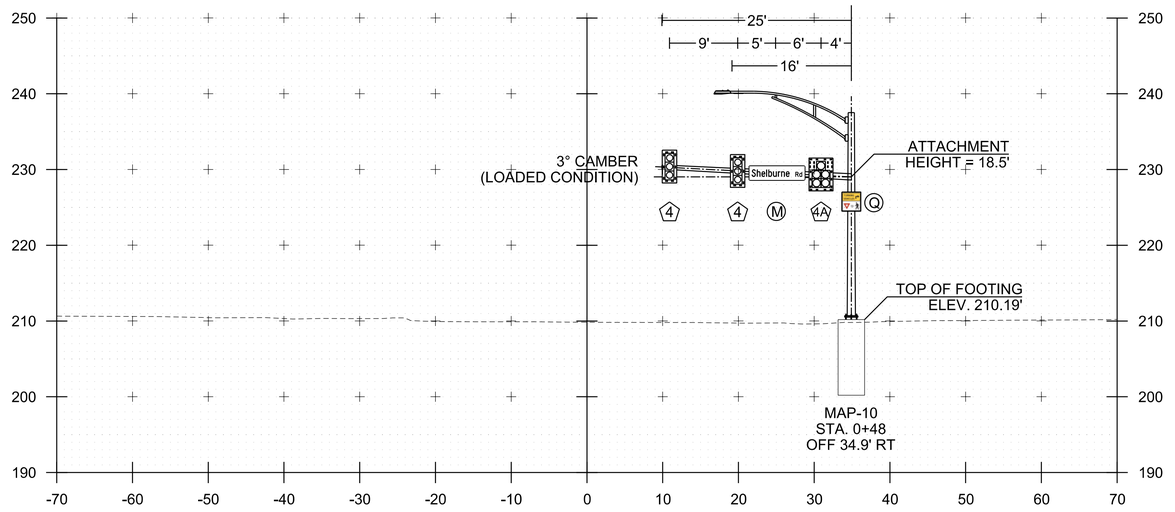
0+18
MAP-4 - NISSAN DRIVEWAY
LOOKING EAST

PROJECT NAME:	SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER:	NHG SGNL(51) C/2

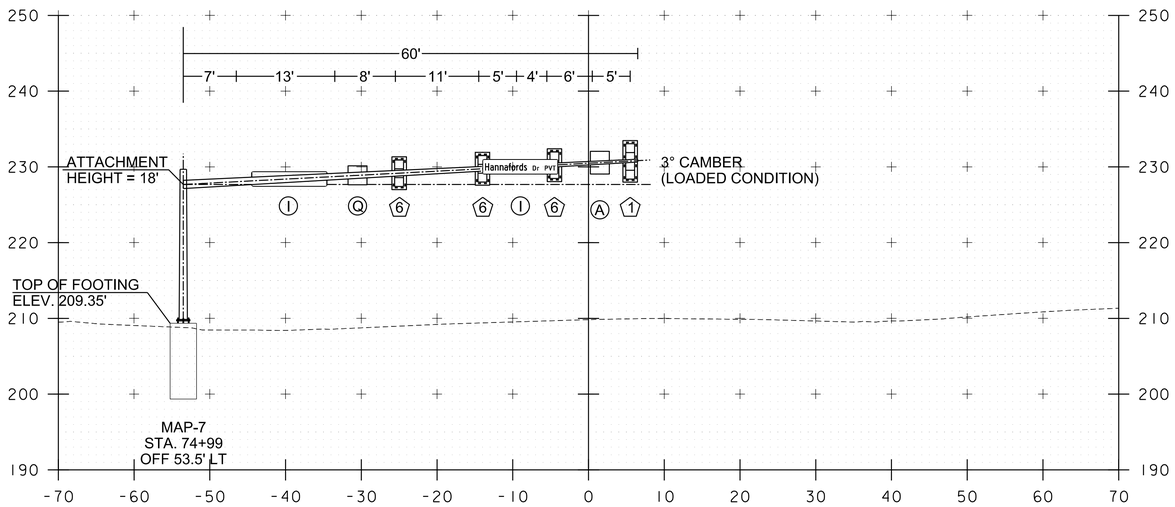
FILE NAME:	xs.dgn	PLOT DATE:	10/28/2020
PROJECT LEADER:	T. SISSON	DRAWN BY:	K. RECORD
DESIGNED BY:	K. RECORD	CHECKED BY:	T. SISSON
SIGNAL CROSS SECTION SHEET 2		SHEET	66 OF 74



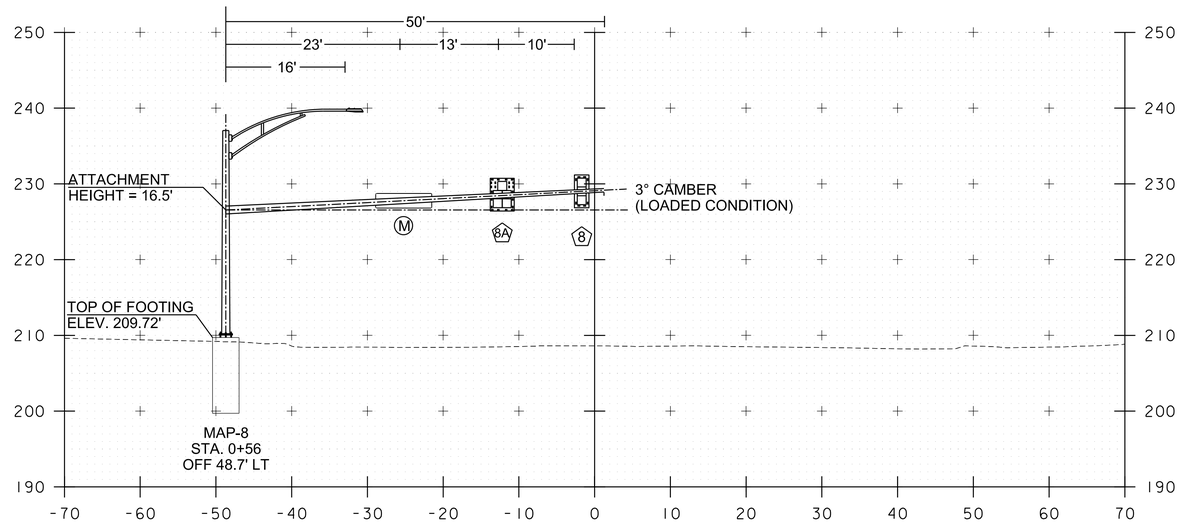
75+95
MAP-9 - US ROUTE 7
LOOKING NORTH



0+48
MAP-10 - LAUREL HILL ROAD
LOOKING EAST



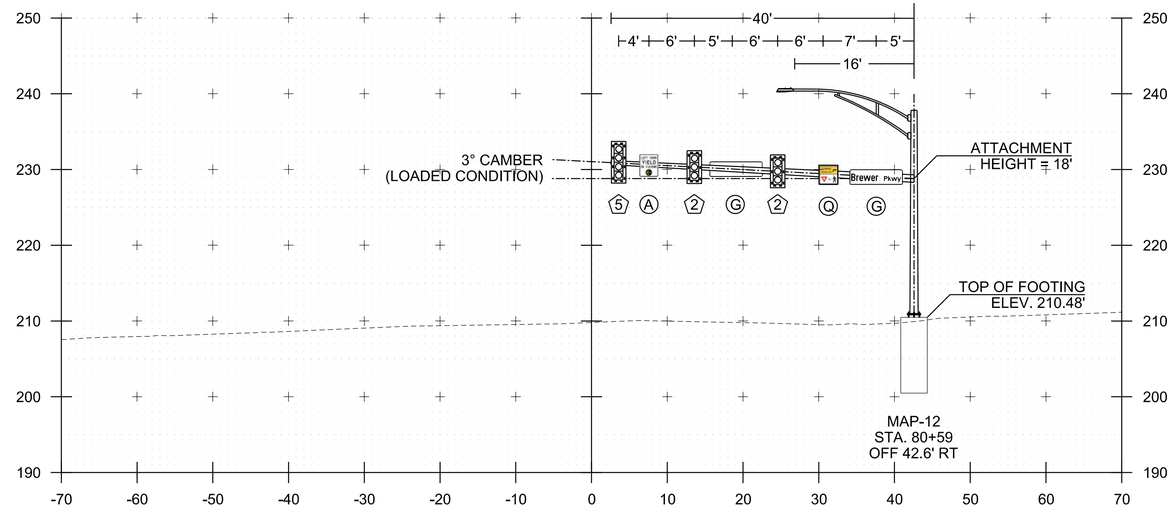
74+99
MAP-7-US ROUTE 7
LOOKING NORTH



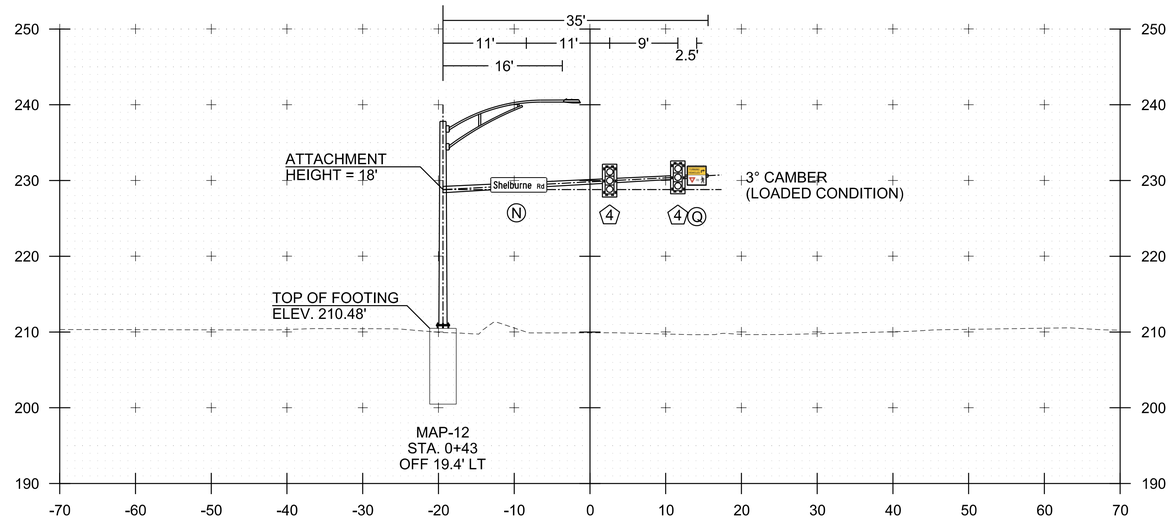
0+56
MAP-8-HANNAFORDS DRIVE
LOOKING EAST

PROJECT NAME:	SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER:	NHG SGNL(51) C/2

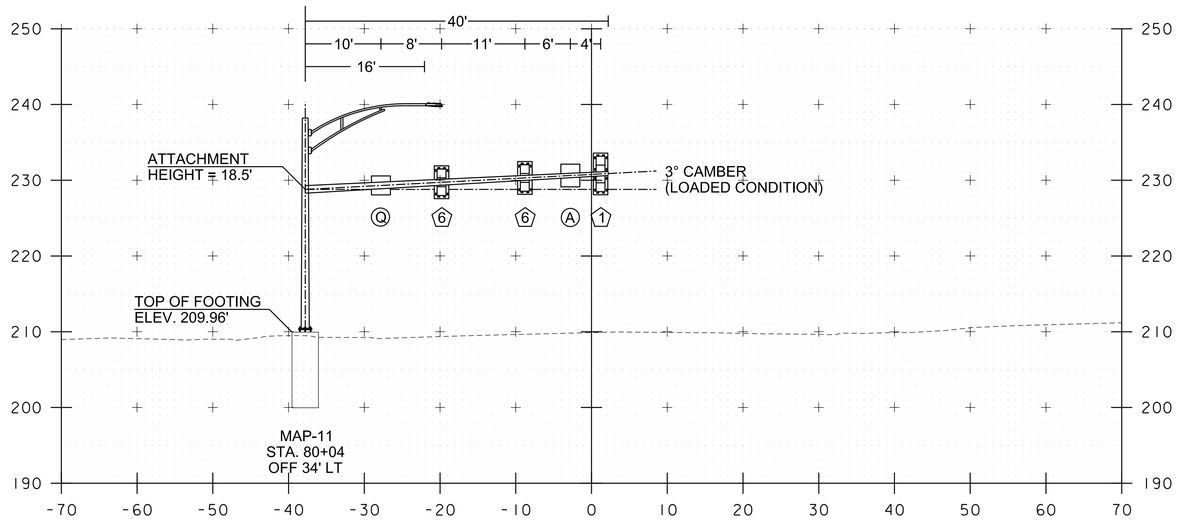
FILE NAME: xs.dgn		PLOT DATE:	10/28/2020
PROJECT LEADER:	T. SISSON	DRAWN BY:	K. RECORD
DESIGNED BY:	K. RECORD	CHECKED BY:	T. SISSON
SIGNAL CROSS SECTION SHEET 3		SHEET 67	OF 74



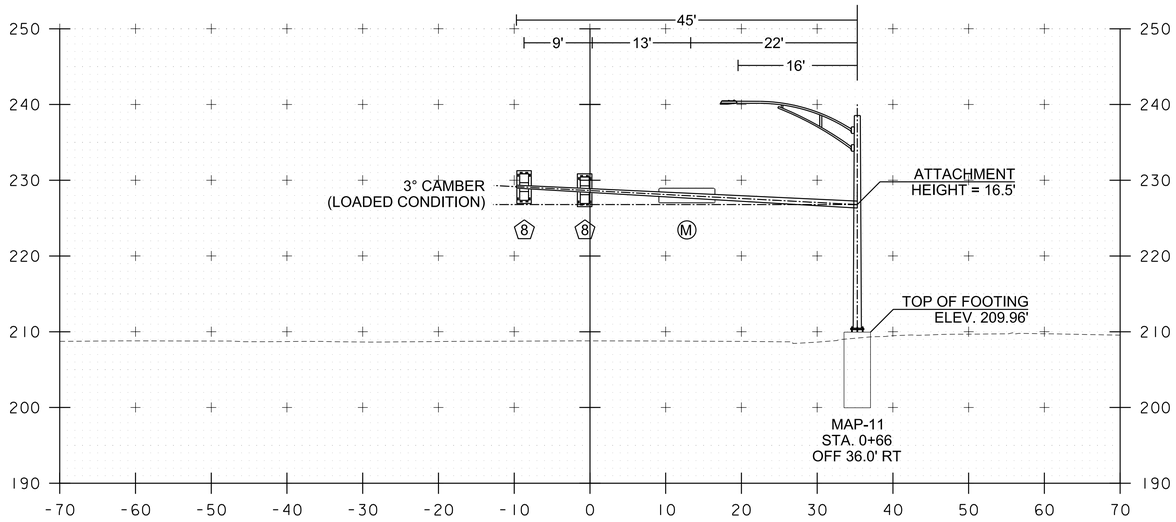
80+59
MAP-12 - US ROUTE 7
LOOKING NORTH



0+43
MAP-12 - BREWER AVENUE
LOOKING EAST



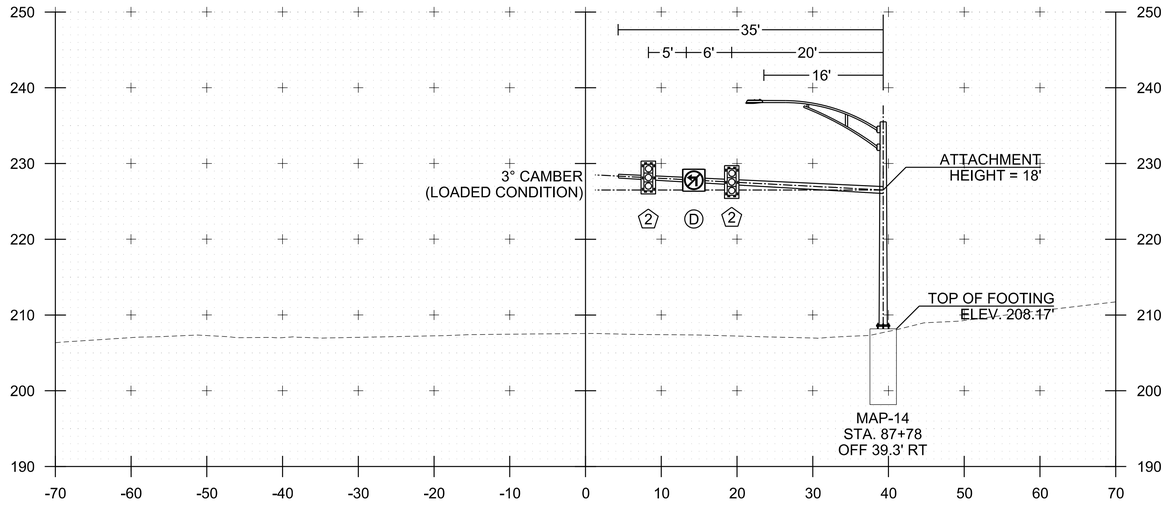
80+04
MAP-11-US ROUTE 7
LOOKING NORTH



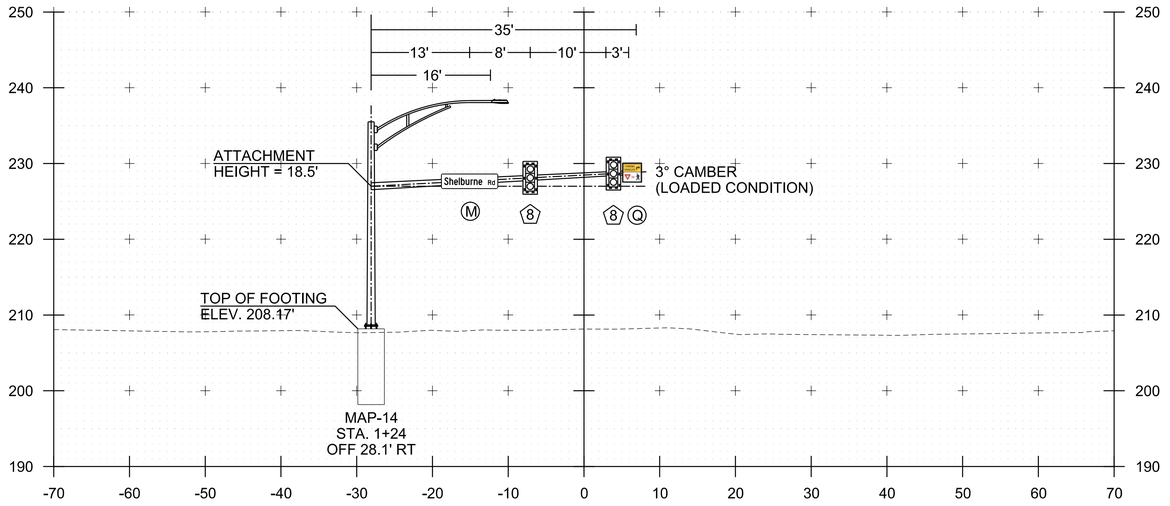
0+66
MAP-11- NEW HANNAFORD DRIVE
LOOKING EAST

PROJECT NAME:	SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER:	NHG SGNL(51) C/2

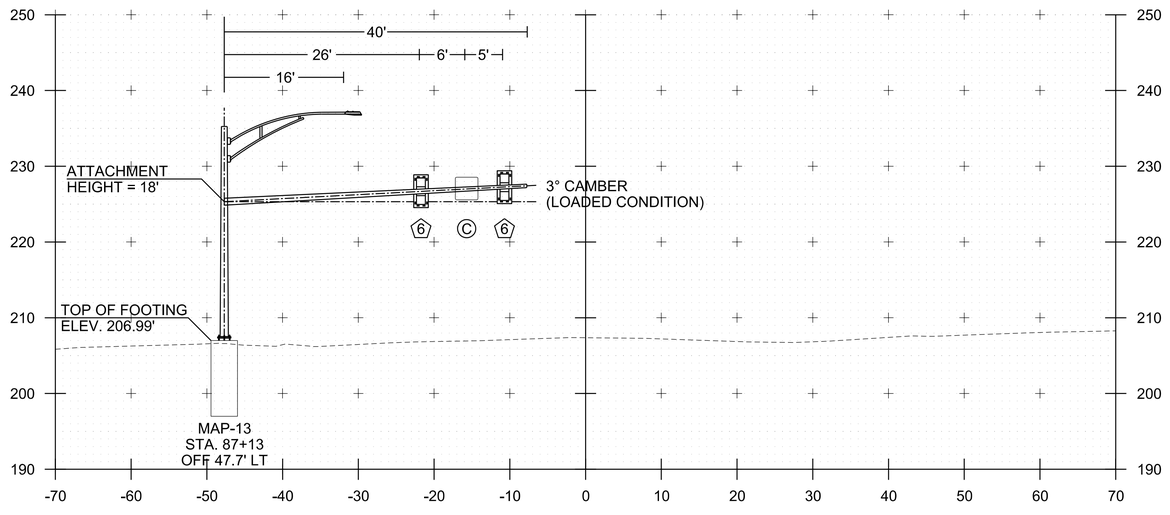
FILE NAME: xs.dgn		PLOT DATE:	10/28/2020
PROJECT LEADER:	T. SISSON	DRAWN BY:	K. RECORD
DESIGNED BY:	K. RECORD	CHECKED BY:	T. SISSON
SIGNAL CROSS SECTION SHEET 4		SHEET	68 OF 74



87+78
MAP-14 - US ROUTE 7
LOOKING NORTH

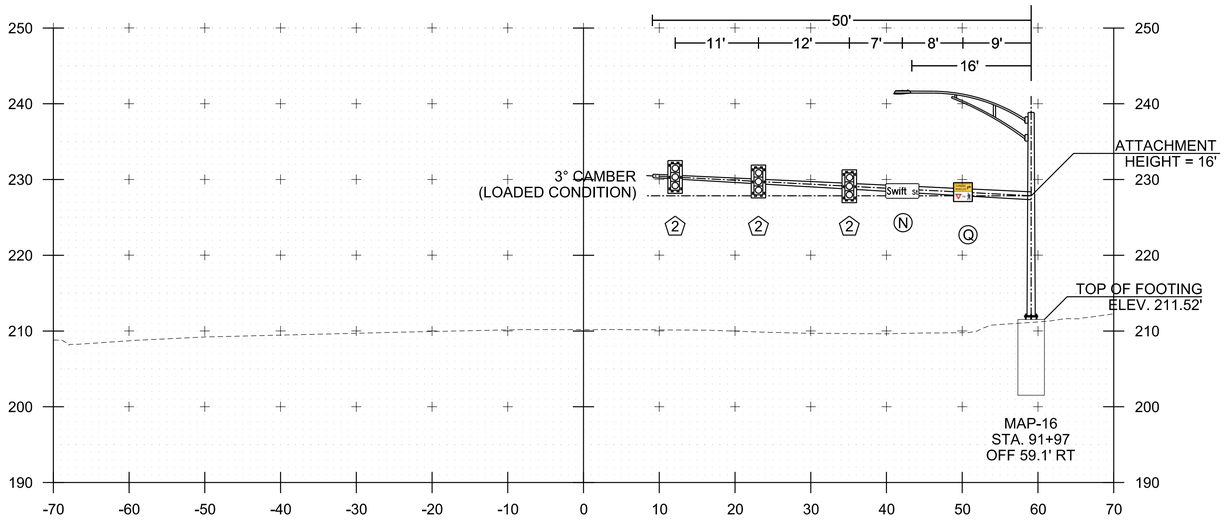


1+24
MAP-14 - QUEEN CITY PARK ROAD
LOOKING EAST

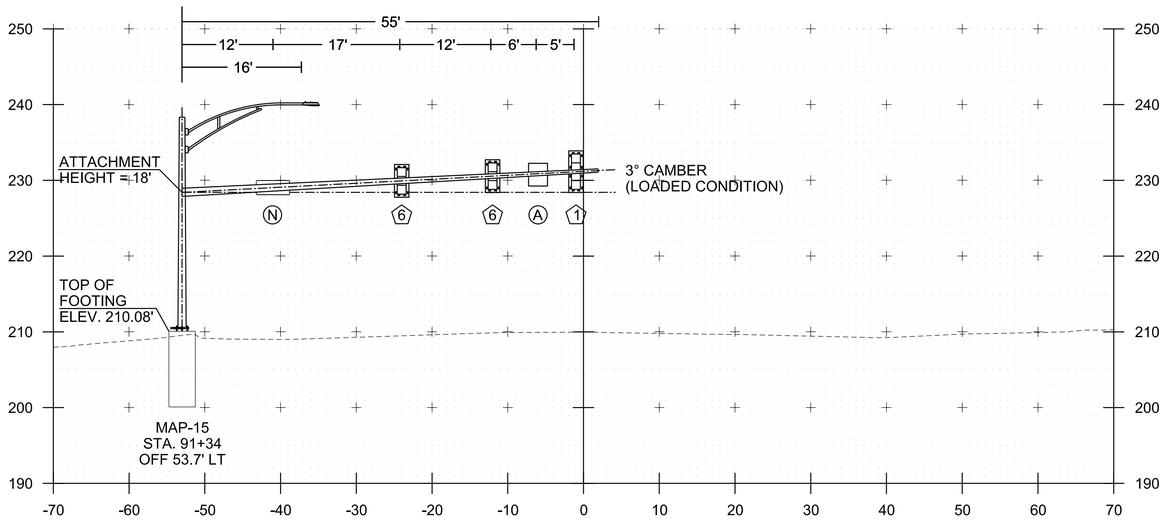


87+13
MAP-13 - US ROUTE 7
LOOKING NORTH

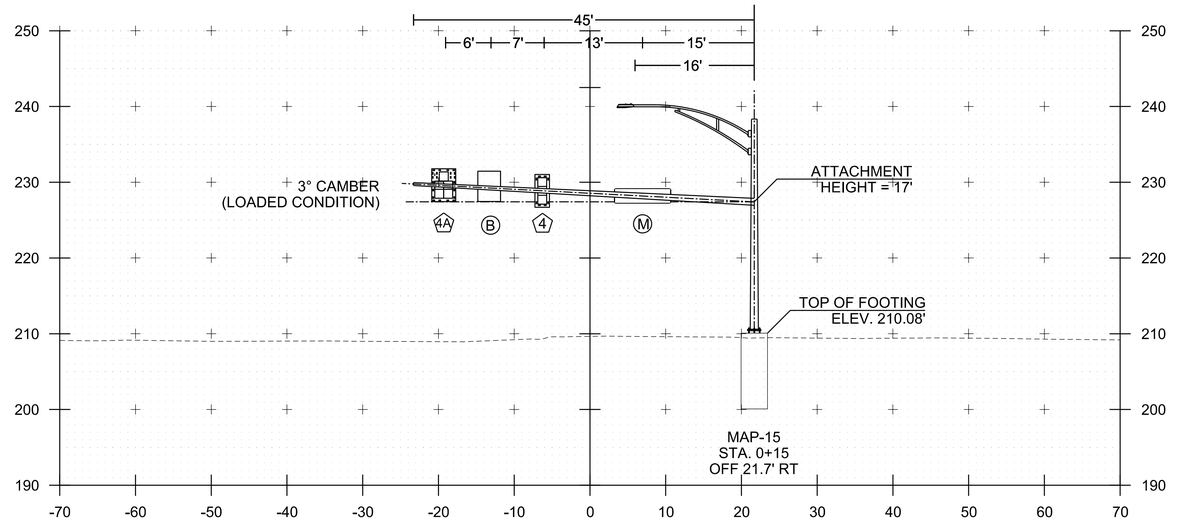
PROJECT NAME:	SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER:	NHG SGNL(51) C/2
FILE NAME: xs.dgn	PLOT DATE: 10/28/2020
PROJECT LEADER: T. SISSON	DRAWN BY: K. RECORD
DESIGNED BY: K. RECORD	CHECKED BY: T. SISSON
SIGNAL CROSS SECTION SHEET 5	SHEET 69 OF 74



91+97
MAP-16 - US ROUTE 7
LOOKING NORTH



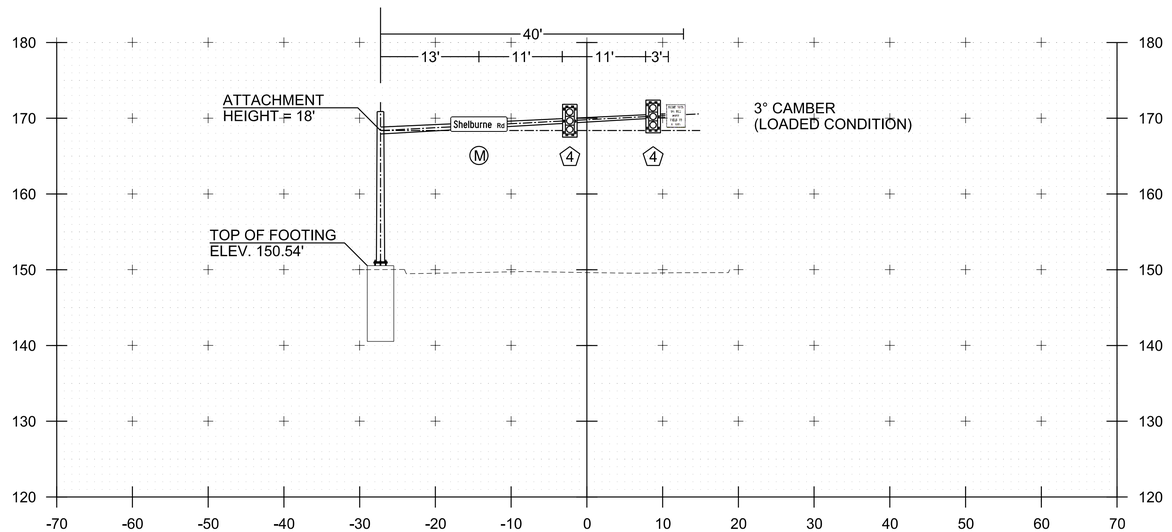
91+34
MAP-15 - US ROUTE 7
LOOKING NORTH



0+15
MAP-15 - SWIFT STREET
LOOKING EAST

PROJECT NAME:	SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER:	NHG SGNL(51) C/2

FILE NAME: xs.dgn		PLOT DATE:	10/28/2020
PROJECT LEADER:	T. SISSON	DRAWN BY:	K. RECORD
DESIGNED BY:	K. RECORD	CHECKED BY:	T. SISSON
SIGNAL CROSS SECTION SHEET 6		SHEET	70 OF 74



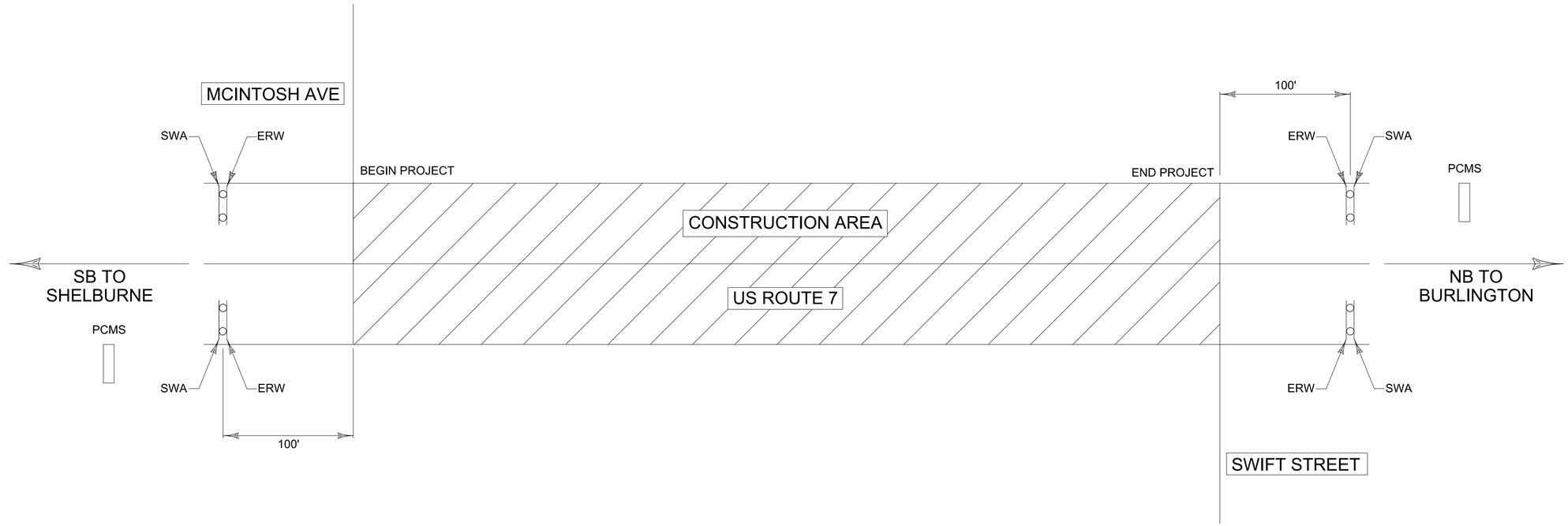
0+60
MAP-17 - GREEN MOUNTAIN DRIVE
LOOKING EAST

PROJECT NAME:	SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER:	NHG SGNL(51) C/2
FILE NAME: xs.dgn	PLOT DATE: 10/28/2020
PROJECT LEADER: T. SISSON	DRAWN BY: K. RECORD
DESIGNED BY: K. RECORD	CHECKED BY: T. SISSON
SIGNAL CROSS SECTION SHEET 7	SHEET 71 OF 74

CONSTRUCTION APPROACH SIGNING

MAIN LINE

SEE STD T-10 FOR SIGN PLACEMENT



	SIGNAL WORK AHEAD	END ROAD WORK	PCMS
MAIN LINE			
US ROUTE 7 SOUTH	2	2	1
US ROUTE 7 NORTH	2	2	1
SWIFT STREET			1
QUEEN CITY PARK ROAD			1
INTERSTATE 189 WEST BOUND			1

LEGEND

SWA = SIGNAL WORK AHEAD

48" X 48"
FLUORESCENT ORANGE BACKGROUND
BLACK TEXT, LEGEND AND BORDER

ERW = END ROAD WORK

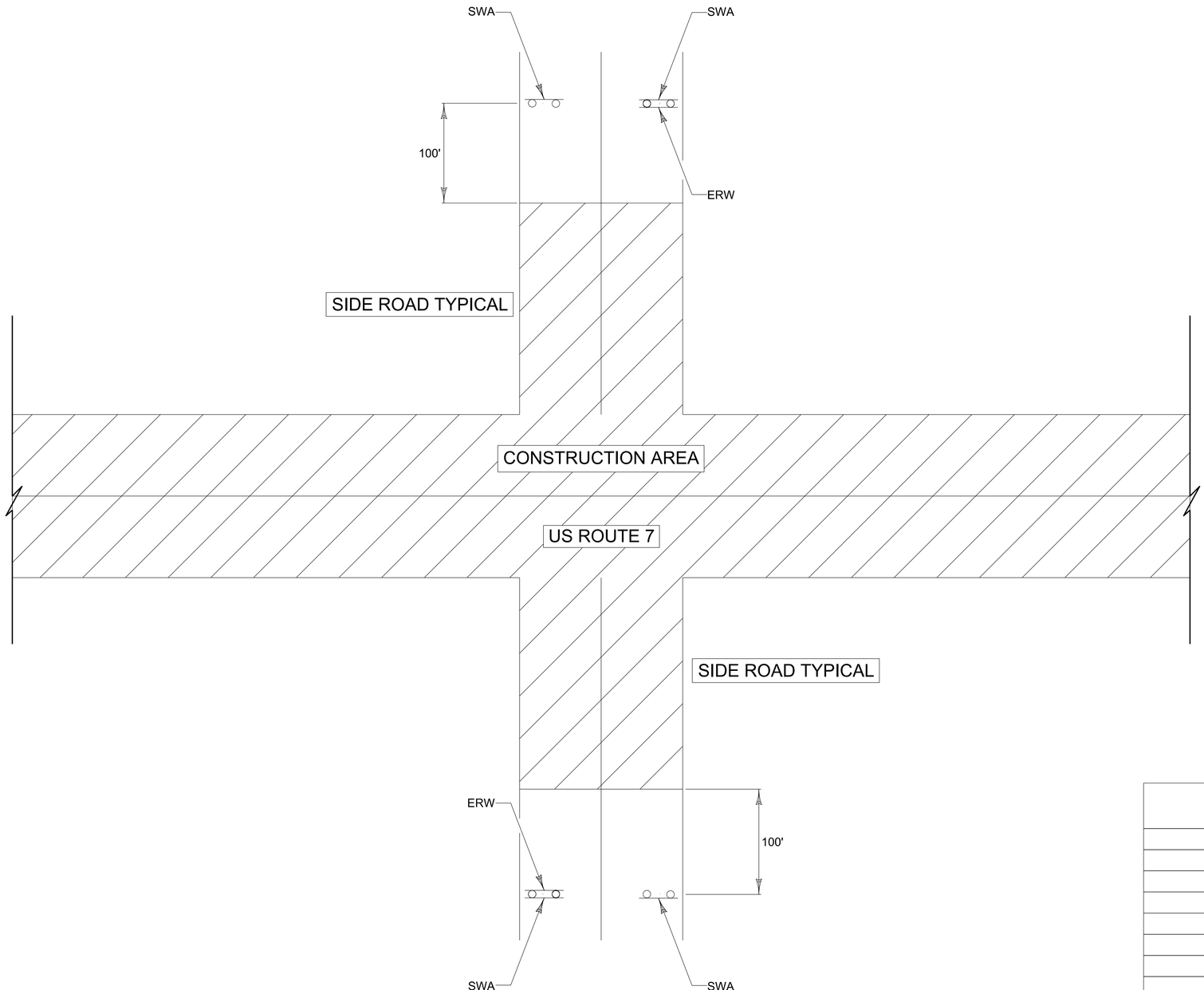
NOT TO SCALE

PROJECT NAME:	SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER:	NHG SGNL(51) C/2
FILE NAME: tc.dgn	PLOT DATE: 10/28/2020
PROJECT LEADER: T. SISSON	DRAWN BY: M. GIBSON-DAVIS
DESIGNED BY: K. RECORD	CHECKED BY: T. SISSON
CONSTRUCTION APPROACH SIGNING SHEET 1	SHEET 72 OF 74

CONSTRUCTION APPROACH SIGNING

SIDE ROADS

SEE STD T-10 FOR SIGN PLACEMENT



LEGEND

SWA = SIGNAL WORK AHEAD

48" X 48"
FLUORESCENT ORANGE BACKGROUND
BLACK TEXT, LEGEND AND BORDER

ERW = END ROAD WORK

NOT TO SCALE

	SIGNAL WORK AHEAD	END ROAD WORK
SOUTH BURLINGTON - SIDE ROADS		
MS-518 MCINTOSH AVE	2	1
MS-519 BALDWIN AVE	2	1
MS-524 LAUREL HILL DR	2	1
MS-524 HANNAFORDS DR	2	1
MS-520 BREWER PKWY	2	1
MS-521 QUEEN CITY PKWY	2	1
MS-522 SWIFT ST	2	1
I-189 WB	2	1

PROJECT NAME: SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER: NHG SGNL(51) C/2

FILE NAME: tc.dgn
PROJECT LEADER: T. SISSON
DESIGNED BY: K. RECORD
CONSTRUCTION APPROACH SIGNING SHEET 2

PLOT DATE: 10/28/2020
DRAWN BY: M. GIBSON-DAVIS
CHECKED BY: T. SISSON
SHEET 73 OF 74

TRAFFIC CONTROL NOTES:

1. THE CONTRACTOR SHALL SUBMIT A SITE SPECIFIC TRAFFIC CONTROL PLAN PER SUBSECTION 105.03 TO THE ENGINEER. CONSTRUCTION OPERATIONS SHALL NOT COMMENCE UNTIL THE PLAN HAS BEEN ACCEPTED BY THE ENGINEER. THE COST OF PREPARING THIS PLAN (AND MAKING CHANGES IF NECESSARY) WILL NOT BE PAID SEPARATELY BUT WILL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 641.11 - TRAFFIC CONTROL, ALL INCLUSIVE. THE TRAFFIC CONTROL PLAN SHALL BE IN COMPLIANCE WITH VTRANS STANDARDS AND 2009 MUTCD. WHERE CONFLICTS EXIST, THE 2009 MUTCD SHALL GOVERN.

2. THE CONTRACTOR SHALL INCLUDE A CONSTRUCTION SIGN APPROACH PACKAGE FOR EXPECTED LANE CLOSURES IN COMPLIANCE WITH THE CONSTRUCTION NOTES AND PART 6 OF THE 2009 MUTCD. PAYMENT FOR PROVIDING THIS PACKAGE WILL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 641.11 - TRAFFIC CONTROL, ALL INCLUSIVE.

3. THE CONTRACTOR SHALL POSITION PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) STARTING TWO WEEKS BEFORE CONSTRUCTION WARNING MOTORISTS OF THE EXPECTED ROADWAY CONDITIONS AHEAD. THE MESSAGE TO BE DISPLAYED, AND THEIR PROPOSED LOCATIONS, SHALL BE SUBMITTED TO THE ENGINEER IN ADVANCE FOR APPROVAL. THE PCMS SHOULD BE RELOCATED AS DETERMINED BY THE ENGINEER TO PROVIDE WORK ZONE TRAVEL INFORMATION THAT IS OTHERWISE DIFFICULT TO CONVEY WITH STATIC SIGNS. THE COST OF PROVIDING THESES MESSAGE SIGNS AND THEIR RELOCATION IF NECESSARY WILL BE PAID UNDER ITEM 641.15 - PORTABLE CHANGEABLE MESSAGE SIGN.

4. THE CONTRACTOR SHALL PROVIDE ACCESS THROUGH THE WORK ZONE FOR EMERGENCY VEHICLES OR COORDINATE EMERGENCY ROUTES PRIOR TO THE START OF CONSTRUCTION.

5. A MINIMUM LANE WIDTH OF 11 FEET SHALL BE MAINTAINED. IT IS RECOMMENDED THAT BICYCLES ARE HELD TO THE END OF THE QUEUE BEFORE BEING RELEASED SO THEY ARE NOT COMPETING FOR LANE SPACE WITHIN THE ONE LANE CLOSURE.

6. 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 SHALL 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.

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

8. THE 2009 MUTCD AND ITS LATEST REVISIONS SHALL BE THE STANDARD FOR ALL TRAFFIC CONTROL DEVICES, VALID UNTIL SUCH TIME AS THEY ARE REPLACED OR RECONSTRUCTED. WHEN NEW TRAFFIC CONTROL DEVICES ARE ERECTED OR PLACED OR EXISTING TRAFFIC CONTROL DEVICES ARE REPLACED OR REPAIRED THE EQUIPMENT, DESIGN, METHOD OF INSTALLATION, PLACEMENT OR REPAIR SHALL CONFORM WITH SUCH STANDARDS.

9. CONES SHALL BE USED TO CLEARLY DEFINE THE TRAVEL SPACE AND PROVIDE SEPARATION FROM THE WORK. DRUMS SHALL BE USED TO CHANNELIZE OR DELINEATE ROAD USER FLOW. REFLECTORIZED CONES WILL BE USED TO DELINEATE COMMERCIAL DRIVES WITHIN THE WORK ZONE.

10. NO CONSTRUCTION SIGNS SHALL BE INSTALLED AS TO INTERFERE OR OBSTRUCT THE VIEW OF EXISTING TRAFFIC CONTROL DEVICES, STOPPING SIGHT DISTANCE, AND CORNER SIGHT DISTANCE FROM DRIVES AND TOWN HIGHWAYS.

11. ALL PERMANENT SIGNS THAT CONFLICT WITH TEMPORARY TRAFFIC CONTROL SHALL BE COMPLETELY COVERED, THE PAYMENT FOR WHICH SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 641.11 TRAFFIC CONTROL, ALL INCLUSIVE.

12. CONSTRUCTION SIGNS SHALL BE IN NEW OR LIKE NEW CONDITION PER VAOT STANDARDS.

13. WHERE TEMPORARY SIGNS ARE PLACED BEHIND GUARDRAIL, THEY SHALL BE ADJUSTED SUCH THAT THE BOTTOM OF THE SIGNS ARE ABOVE THE TOP OF GUARDRAIL.

14. FLAGGERS WILL ONLY HAVE THE AUTHORITY TO STOP AND RELEASE TRAFFIC.

15. IT IS IMPORTANT THAT CYCLIST'S ROUTES ARE FREE OF RUTS, SAND, AND MUD TO PREVENT CYCLIST'S CRASHES. A FOUR(4) FOOT MINIMUM, FIVE(5) FOOT PREFERRED WIDTH SHOULD BE MAINTAINED THROUGH WORK ZONES TO ACCOMODATE BICYCLES.

16. THE DMV WILL REQUIRE NOTIFICATION FOR WIDTH RESTRICTION TO REROUTE SUPER LOAD PERMITS. IT SHOULD BE NOTED THAT ONCE A PERMIT IS ISSUED THE APPLICANT/HAULER HAS 10 DAYS TO MOVE THEIR LOAD. THIS REQUIRES ADDITIONAL NOTICE TO CAPTURE THAT 10-DAY WINDOW.

17. ACCOMODATIONS FOR POSTAL DELIVERERS, NEWSPAPER ROUTES, TRASH SERVICES AND/OR OTHER DELIVERY SERVICES INTERRUPTED BY THE PROJECT OR DETOUR SHOULD BE COMMUNICATED WITH THE PROPER CONTACTS.

18. WHEN SCHOOL IS IN SESSION, SCHOOL BUS STOP ACCOMODATIONS ARE REQUIRED. LOCATIONS WILL NEED TO BE COORDINATED WITH THE LOCAL SCHOOL TRANSPORTATION COORDINATOR. ADDITIONAL FLAGGERS WILL BE STATIONED AT THESE LOCATIONS DURING TYPICAL MORNING PICK-UP AND AFTERNOON DROP-OFF TIME PERIODS WHILE WORK IS PERFORMED IN THESE AREAS.

PEDESTRIAN TEMPORARY TRAFFIC CONTROL NOTES:

1. THE CONTRACTOR SHALL PROVIDE A TEMPORARY PEDESTRIAN ACCESS ROUTE (TPAR) FOR REVIEW AND WRITTEN APPROVAL BY THE ENGINEER A MINIMUM OF THREE WEEKS BEFORE SUCH A PLAN IS IMPLEMENTED. THIS PLAN SHALL DETAIL THE CONSTRUCTION PHASING AND SCHEDULE AND THE SPECIFIC METHODS OF MAINTAINING SAFE PEDESTRIAN ACCESS THROUGHOUT THE CONSTRUCTION AREA. THIS PLAN SHALL PROVIDE THE LOCATION AND DETAILS OF TEMPORARY CONSTRUCTION SIGNING, MARKINGS BARRICADES, CHANNELIZING DEVICES, TPARS AND METHODS TO MAINTAIN ACCESS TO ADJACENT PROPERTIES, BUSINESSES, RESIDENCES, ETC.

2. THE CONTRACTOR SHALL MAINTAIN PEDESTRIAN THROUGH MOVEMENTS FROM ONE END OF THE CONSTRUCTION AREA TO THE OTHER, ON AT LEAST ONE SIDE OF THE STREET DURING CONSTRUCTION. ANY SIDEWALK CLOSURES SHALL MEET THE REQUIREMENTS OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), PART 6.

3. PEDESTRIAN ACCESS SHALL BE PROVIDED TO ALL ADJACENT PROPERTIES, BUILDINGS, RESIDENCES, COMMERCIAL PROPERTIES AND TRANSIT STOPS. THIS MAY INCLUDE TEMPORARY WALKWAYS SPANNING THE CONSTRUCTION AREA.

4. IF SIDEWALKS ARE CLOSED, A TEMPORARY PEDESTRIAN ACCESS ROUTE (TPAR) SHALL BE ON THE SAME SIDE OF THE ROAD AS THE CLOSED SIDEWALK, IF POSSIBLE. SIGNS AND BARRICADES SHALL BE USED TO PROVIDE ADVANCED NOTICE OF THE CLOSURE AND THE ROUTE OF ANY PEDESTRIAN DETOURS. THE TPAR SHALL HAVE A MINIMUM UNOBSTRUCTED WIDTH OF FOUR FEET. IF THE TPAR IS LESS THAN FIVE FEET IN WIDTH, A FIVE FOOT BY FIVE FOOT PASSING SPACE MUST BE PROVIDED AT LEAST EVERY 200 FEET. THE SURFACE OF THE TPAR SHALL BE FIRM, STABLE AND SLIP-RESISTENT AND CONTINUOUS WITH A MINIMUM OF 80 INCHES OVERHEAD CLEARANCE FOR THE LENGTH OF THE TPAR. THE TPAR SHALL MAINTAIN THE SAME LEVEL OF ACCESSIBILITY AND DETECTABILITY AS THE FACILITY THAT IS BEING CLOSED. THE TPAR SHALL NOT LEAD PEDESTRIANS INTO CONFLICTS WITH VEHICLES, EQUIPMENT, OR CONSTRUCTION OPERATIONS.

5. WHEN TEMPORARY CROSSWALKS ARE UTILIZED FOR THE TPAR, TEMPORARY DETECTABLE WARNING SURFACES SHALL BE PLACED AT EACH END OF THE TEMPORARY CROSSWALKS. THE TEMPORARY CROSSWALK SHALL BE DELINEATED WITH TEMPORARY PAVEMENT MARKINGS OR TAPE. THE MARKINGS SHALL BE PARALLEL 12-INCH-WIDE WHITE LINES PLACED SEVEN FEET ON CENTER APART. IT SHOULD BE NOTED THAT CURB PARKING SHALL BE PROHIBITED FOR AT LEAST 50 FEET IN ADVANCE OF MIDBLOCK CROSSWALKS. TEMPORARY CROSSWALK SIGNS SHALL BE PROVIDED FOR THE CROSSWALK.

6. IF THERE IS WORK OCCURING OVER AN OPEN SIDEWALK, PROTECTIVE OVERHEAD COVERING MUST BE PROVIDED AS NECESSARY TO ENSURE PROTECTION FROM FALLING OBJECTS AND DRIPPING FROM OVERHEAD STRUCTURES. COVERED WALKWAYS SHOULD BE STURDILY CONSTRUCTED AND ADEQUATELY LIGHTED FOR NIGHTTIME USE.

7. INDIVIDUAL CHANNELIZING DEVICES, TAPE OR ROPE USED TO CONNECT INDIVIDUAL DEVICES AND OTHER DISCONTINUOUS BARRIERS AND DEVICES, PAVEMENT MARKINGS ARE NOT DETECTABLE BY PERSONS WITH VISUAL DISABILITIES. THESE MEASURES DO NOT PROVIDE ACCEPTABLE PATH GUIDANCE ON TEMPORARY OR RE-ALIGNED SIDEWALKS OR OTHER PEDESTRIAN FACILITIES. PEDESTRIAN CHANNELIZING DEVICES SHALL INCLUDE A CONTINUOUSLY DETECTABLE BOTTOM AND TOP EDGE THROUGHOUT THE LENGTH OF THE FACILITY SUCH THAT IT CAN BE FOLLOWED BY PEDESTRIANS USING LONG CANES FOR GUIDANCE.

8. CHANNELIZING DEVICES ON BOTH SIDES OF THE TPAR SHALL CONTINUE IN A CONTINUOUS SOLID TOP AND BOTTOM RAILS. THE TOP EDGE OF THE TOP RAIL SHALL BE BETWEEN 32 INCHES AND 38 INCHES ABOVE THE GROUND LEVEL. THE BOTTOM RAIL SHALL BE AT LEAST 6 INCHES WIDE, WITH THE BOTTOM EDGE OF THE RAIL SURFACE NO HIGHER THAN TWO INCHES ABOVE THE GROUND.

9. IF THE TPAR IS ADJACENT TO MOVING TRAFFIC, CONSTRUCTION OPERATIONS/ EQUIPMENT, OR DROP-OFFS, THEN CRASHWORTHY CHANNELIZING DEVICES THAT MEET THE REQUIREMENTS OF THE MUTCD SHALL BE USED.

10. THE CONTRACTOR SHALL NOT STORE OR PLACE ANY CONSTRUCTION MATERIALS, EQUIPMENT OR SIGNS IN THE PEDESTRIAN TRAVEL PATH.

11. PROVISION OF THE TPAR AND ALL ITS ELEMENTS, INCLUDING BUT NOT LIMITED TO SIGNS, CHANNELIZING DEVICES, BARRICADES, TEMPORARY CURB RAMPS, TEMPORARY PAVEMENT MARKINGS AND OTHER TRAFFIC CONTROL DEVICES IS TO BE PAID INCIDENTAL 641.11 - TRAFFIC CONTROL, ALL INCLUSIVE.

PROJECT NAME:	SHELBURNE - SOUTH BURLINGTON
PROJECT NUMBER:	NHG SGNL(51) C/2

FILE NAME: tc.dgn		PLOT DATE:	10/28/2020
PROJECT LEADER:	T. SISSON	DRAWN BY:	M. GIBSON-DAVIS
DESIGNED BY:	K. RECORD	CHECKED BY:	T. SISSON
CONSTRUCTION APPROACH SIGNING SHEET 3		SHEET 74 OF 74	