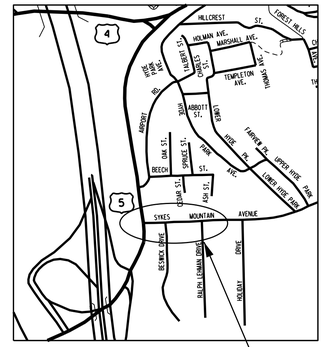
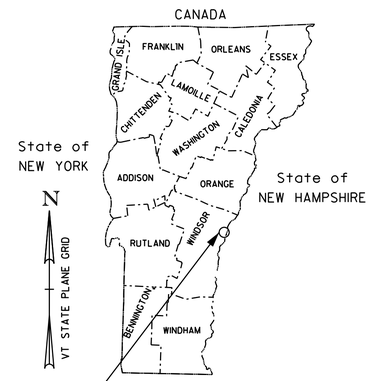
STATE OF VERMONT
AGENCY OF TRANSPORTATION

PROPOSED IMPROVEMENT
TOWN OF HARTFORD
COUNTY OF WINDSOR





0 0.25 0.50

APPROX. SCALE:
1" = 0.25 MILES

HARTFORD
STP 0113(59)S

TRAFFIC DATA

U.S. ROUTE 5

2017 ADT = 16,800	**2037 ADT = 18,900**
2017 DHV = 1,900	**2037 DHV = 2,200**
2017 ADTT = 1,250	**2037 ADTT = 1,430**

%T = 7%
%D = 52
V = 40 MPH

FLEXIBLE ESAL	**20 yr**	**40 yr**
	10,200,000	**23,200,000**
	2015 – 2035	**2015 – 2055**

POSTED SPEED : 40 mph (US ROUTE 5)
DESIGN SPEED : 25 mph (ROUNDABOUTS)

SYKES MOUNTAIN AVENUE

2017 ADT = 13,400	**2037 ADT = 15,200**
2017 DHV = 1,600	**2037 DHV = 1,800**
2017 ADTT = 370	**2037 ADTT = 420**

%T = 5%
%D = 55
V = 25 MPH

FLEXIBLE ESAL	**20 yr**	**40 yr**
	N/A	**N/A**
	2015 – 2035	**2015 – 2055**

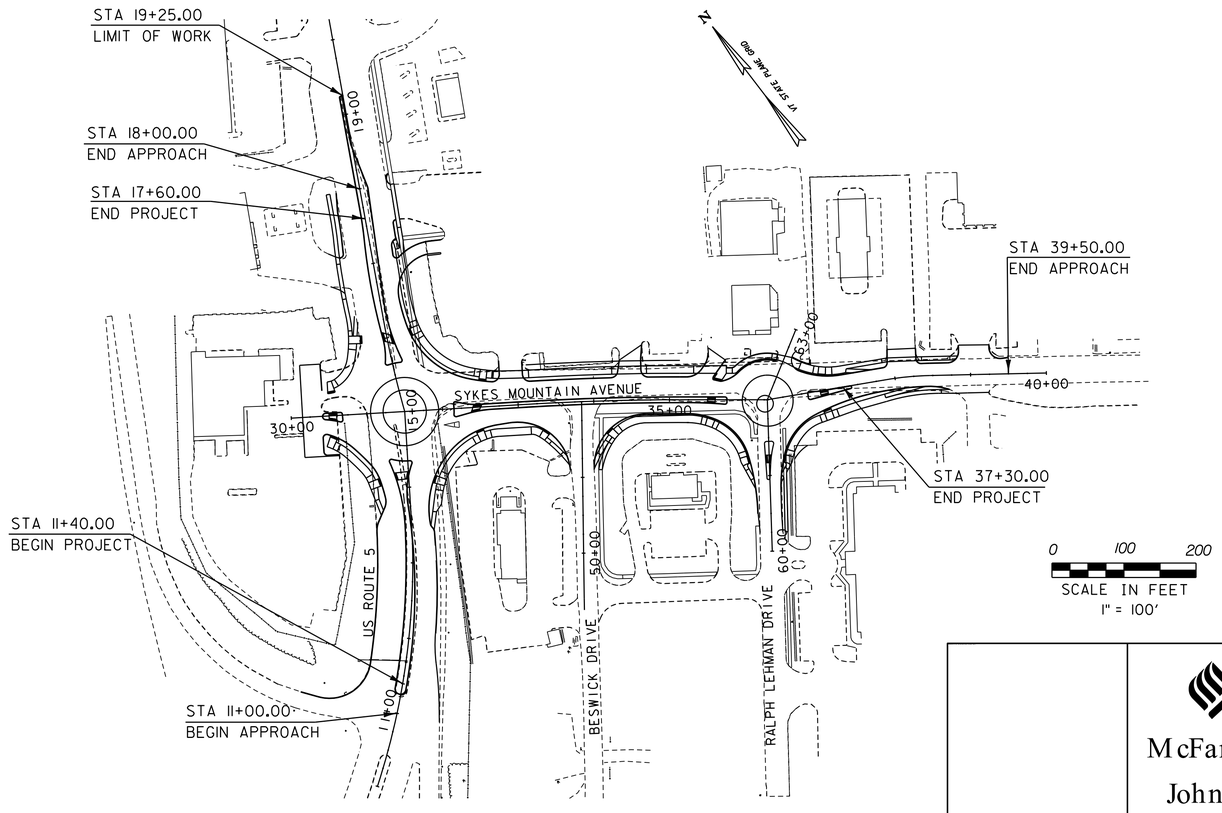
POSTED SPEED : 30 mph (SYKES MOUNTAIN AVENUE)
DESIGN SPEED : 25 mph (ROUNDABOUTS)

PROJECT LOCATION: THIS PROJECT IS LOCATED AT THE INTERSECTIONS OF U.S. ROUTE 5 / SYKES MOUNTAIN AVENUE AND SYKES MOUNTAIN AVENUE / RALPH LEHMAN DRIVE

PROJECT DESCRIPTION: WORK TO BE PERFORMED UNDER THIS CONTRACT INCLUDES CONSTRUCTION OF TWO ROUNDABOUTS AND APPROACHES, REMOVAL AND REPLACEMENT OF CURB, NEW DRAINAGE, TRAFFIC SIGNS, PAVEMENT MARKINGS, AND INCIDENTAL ITEMS.

LENGTH OF PROJECT = 2000 FEET (0.379 MILES)
LENGTH OF R.O.W. PROJECT = 1161 FEET (0.220 MILES)

BITUMINOUS CONCRETE PAVEMENT SUPERPAVE MIXTURE DESIGN CRITERIA	
DESIGN LIFE ESALS (DESIGN LANE) (20 YR)	5,304,000
DESIGN NUMBER OF GYRATIONS	65
PERFORMANCE GRADED ASPHALT BINDER	SEE SECTION 490 OF THE GENERAL SPECIAL PROVISIONS AND THE SPECIAL PROVISIONS



0 100 200

SCALE IN FEET
1" = 100'

CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2011, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JULY 20, 2011 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 2	
SURVEYED BY :	VTRANS - VSE
SURVEYED DATE :	05/1996 - 05/2016
DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD83(92)

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATOR
APPROVED _____ DATE _____

DIRECTOR OF PROJECT DELIVERY
APPROVED _____ DATE _____

PROJECT MANAGER : STEVEN IRELAND

McFarland Johnson

PROJECT NAME : HARTFORD
PROJECT NUMBER : STP 0113(59)S

SHEET 1 OF 94 SHEETS

INDEX OF SHEETS

STANDARD SHEETS

STANDARD	DESCRIPTION	REVISION
A-78	SHARED USE PATH TYPICAL	3/31/04
B-5	SLOPE GRADING, EMBANKMENTS, MUCK	6/1/94
B-71	STANDARD FOR RESIDENTIAL AND COMMERCIAL DRIVES	7/8/05
C-2A	PORTLAND CEMENT CONCRETE SIDEWALK DRIVE ENTRANCES WITH SIDEWALK ADJACENT TO CURB	10/14/05
C-2B	PORTLAND CEMENT CONCRETE SIDEWALK DRIVE ENTRANCES WITH SIDEWALK AND GREEN STRIP	10/14/05
C-3A	SIDEWALK RAMPS	3/10/08
C-3B	SIDEWALK RAMPS AND MEDIAN ISLANDS	3/10/08
C-10	CURBING	2/11/08
D-1	PRECAST REINFORCED CONCRETE DROP INLET DETAILS	6/1/94
D-3	TREATED GUTTERS	6/1/94
D-6	REINFORCED CONCRETE DROP INLET W/GRATE (DITCHES)	6/1/94
D-11	STEEL OR IRON GRATES & COVERS (TYPE A)	6/1/94
D-15	PRECAST REINFORCED CONC. MH-GRATES, CAST IRON GRATE WITH FRAME, TYPE D & E	6/1/94
D-16	DRAINAGE DETAILS INCLUDING DROP INLETS, IRON GRATE TYPE B & C, CONC. END SECTIONS. ETC.	6/1/94
D-20	HIGHWAY CROSSING FOR UNDERGROUND UTILITIES	3/3/03
D-33	REINFORCED CONCRETE STRAIGHT HEADWALL	3/12/07
E-119	UTILITY WORK ZONE	3/1/04
E-120	STANDARD SIGN PLACEMENT - EXPRESSWAY & FREEWAY	8/8/95
E-121	STANDARD SIGN PLACEMENT - CONVENTIONAL ROAD	8/8/95
E-123	GUIDE SIGN PLACEMENT - MISCELLANEOUS DETAILS	3/16/04
E-130	TYPE "B" GUIDE SIGN, ATTACHMENT DETAILS	8/8/95
E-135	INTERSTATE ROUTE MARKER SIGN DETAIL	8/18/95
E-136A	U.S. ROUTE MARKER SIGN DETAILS	8/8/95
E-136B	STATE ROUTE MARKER SIGN DETAILS	8/8/95
E-136C	STATE NUMBERED TOWN HIGHWAY SIGN DETAILS	8/8/95
E-142	REGULATORY SIGN DETAILS	9/20/95
E-143	REGULATORY SIGN DETAILS	6/15/04
E-144	REGULATORY SIGN DETAILS	3/29/99
E-145B	REGULATORY SIGN DETAILS - LANE USE CONTROL SIGNS	12/23/94
E-146	REGULATORY SIGN DETAILS	9/20/95
E-152	WARNING SIGN DETAILS	5/1/04
E-155	WARNING SIGN DETAILS	5/1/04
E-160	FLANGED CHANNEL STEEL SIGN POST	5/20/99
E-171A	TRAFFIC CONTROL SIGNALS GENERAL NOTES & DETAILS	8/9/95
E-171B	TRAFFIC CONTROL SIGNALS MISC. DETAILS	8/9/95
E-171C	TRAFFIC CONTROL SIGNALS CANTILEVER MOUNTING DETAILS	8/9/95
E-173	PULL BOXES AND JUNCTION BOXES	8/9/95
E-175	POWER DROP STANCHIONS	6/8/09
E-180A	STREET LIGHTING DETAILS	8/9/95
E-180B	STREET LIGHTING DETAILS	8/9/95
E-191	PAVEMENT MARKING DETAILS	2/1/99
E-192	PAVEMENT MARKING DETAILS	10/12/00
E-193	PAVEMENT MARKING DETAILS	8/18/95
F-2	CHAIN LINK FENCE, TYPE I DETAILS	6/1/94
F-4	CHAIN LINK FENCE, TYPE II DETAILS	6/1/94
F-6	CHAIN LINK SCREENING FENCE TYPE I & II DETAILS	6/1/94
G-1	STEEL BEAM GUARDRAIL DETAILS (POST, DELINEATOR, TYPICALS)	2/10/14
G-1D	STEEL BEAM GUARDRAIL DETAILS (END TERMINAL, ANCHOR, MEDIAN)	2/10/14
J-1	PROJECT AND BOUNDARY MARKERS	6/1/94

STANDARD SHEETS

STANDARD	DESCRIPTION	REVISION
T-1	TRAFFIC CONTROL GENERAL NOTES	8/6/12
T-10	CONVENTIONAL ROADS CONSTRUCTION APPROACH SIGNING	8/6/12
T-11	CONSTRUCTION APPROACH SIGNING DIVIDED HIGHWAY ONE LANE CLOSED	8/6/12
T-12	TRAFFIC CONTROL DIVIDED HIGHWAY ONE LANE CLOSED	8/6/12
T-13	TRAFFIC CONTROL DIVIDED HIGHWAY ONE LANE CLOSED	8/6/12
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T-22	TRAFFIC CONTROL FOR PAVEMENT MARKINGS ON DIVIDED HIGHWAY	8/6/12
T-28	CONSTRUCTION SIGN DETAILS	8/6/12
T-31	CONSTRUCTION SIGN DETAILS	8/6/12
T-35	CONSTRUCTION ZONE LONGITUDINAL DROP-OFFS	8/6/12
T-36	CONSTRUCTION ZONE LONGITUDINAL DROP-OFFS FOR PAVING	8/6/12
T-40	DELINEATORS AND MILEPOSTS	1/2/13
T-44	MILEMARKER DETAILS STATE AND TOWN HIGHWAYS	4/9/14
T-45	SQUARE TUBE SIGN POST AND ANCHOR	1/2/13

PROJECT NAME: HARTFORD
PROJECT NUMBER: STP 0113(59)S

FILE NAME: zc334bdr_utl.dgn
PROJECT LEADER: S. IRELAND
DESIGNED BY: B. COLBURN
INDEX OF SHEETS

PLOT DATE: 8/12/2019
DRAWN BY: M. LOVETT
CHECKED BY: B. COLBURN
SHEET 2 OF 94

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
	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
	R&RES	REMOVE & RESET
	R&REP	REMOVE & REPLACE
	SR	SLOPE RIGHT
	UE	UTILITY EASEMENT
	(P)	PERMANENT EASEMENT
	(T)	TEMPORARY EASEMENT
■	BNDNS	BOUND SET
⧈	BNDNS	BOUND TO BE SET
●	IPNS	IRON PIN SET
◎	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 VALUE
	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 RADUIS OF
T	CURVE TANGENT LENGTH
L	CURVE LENGTH OF
E	CURVE EXTERNAL DISTANCE

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+TELEP.
- 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+TELEP.
- 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 ℄
- CULVERT PROPOSED
- STRUCTURE SUBSURFACE
- PDF — PROJECT DEMARCATION FENCE
- 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
- PROPERTY LINE (P/L)
- SR SR SR — SLOPE RIGHTS
- 6f — 6F PROPERTY BOUNDARY
- 4f — 4F PROPERTY BOUNDARY
- 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

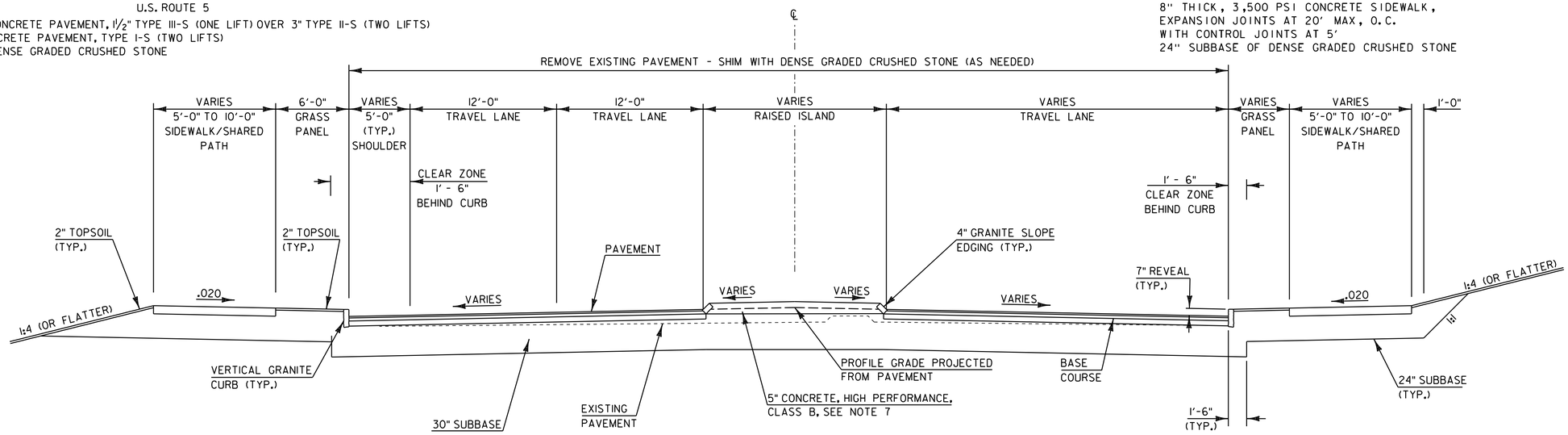
- ROAD EDGE PAVEMENT
- ROAD EDGE GRAVEL
- DRIVEWAY EDGE
- DITCH
- FOUNDATION
- FENCE (EXISTING)
- FENCE WOOD POST
- FENCE STEEL POST
- GARDEN
- ROAD GUARDRAIL
- RAILROAD TRACKS
- CULVERT (EXISTING)
- STONE WALL
- WALL
- WOOD LINE
- BRUSH LINE
- HEDGE
- BODY OF WATER EDGE
- LEDGE EXPOSED

PROJECT NAME:	HARTFORD
PROJECT NUMBER:	STP 0113(59)S
FILE NAME: zc334leg.dgn	PLOT DATE: 8/12/2019
PROJECT LEADER: S. IRELAND	DRAWN BY: M. LOVETT
DESIGNED BY: B. COLBURN	CHECKED BY: S. IRELAND
CONVENTIONAL SYMBOLOGY - LEGEND	SHEET 3 OF 94

U.S. ROUTE 5

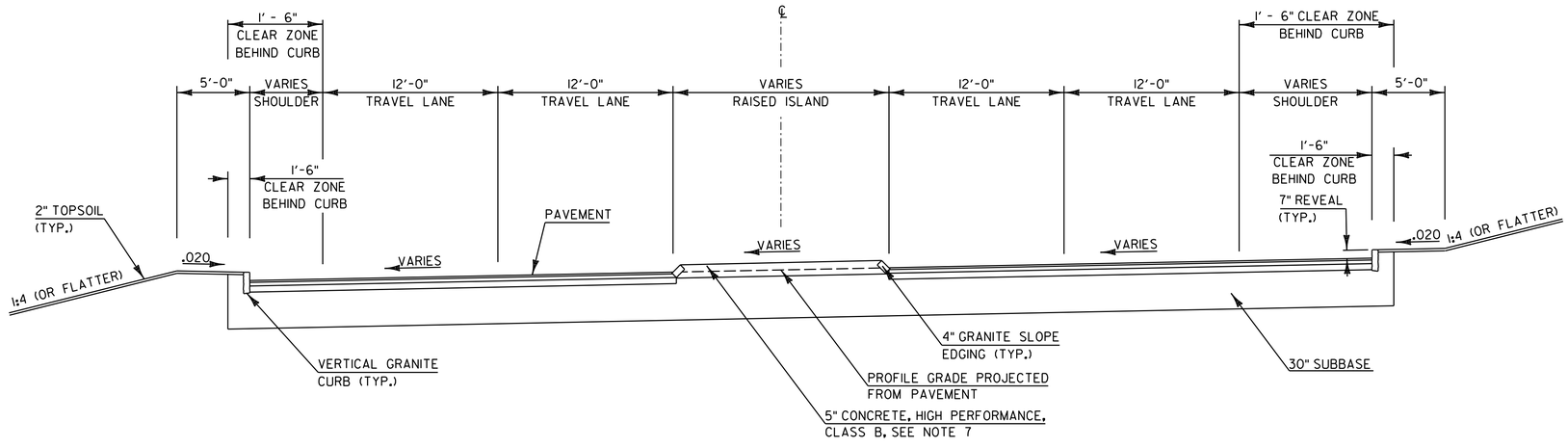
4½" BITUMINOUS CONCRETE PAVEMENT, 1½" TYPE III-S (ONE LIFT) OVER 3" TYPE II-S (TWO LIFTS)
5" BITUMINOUS CONCRETE PAVEMENT, TYPE I-S (TWO LIFTS)
30" SUBBASE OF DENSE GRADED CRUSHED STONE

SIDEWALK/SHARED PATH
8" THICK, 3,500 PSI CONCRETE SIDEWALK,
EXPANSION JOINTS AT 20' MAX, O.C.
WITH CONTROL JOINTS AT 5'
24" SUBBASE OF DENSE GRADED CRUSHED STONE



U.S. ROUTE 5
NOT TO SCALE
STA 15+00.00 TO STA 18+00.00

4½" BITUMINOUS CONCRETE PAVEMENT, 1½" TYPE III-S (ONE LIFT) OVER 3" TYPE II-S (TWO LIFTS)
5" BITUMINOUS CONCRETE PAVEMENT, TYPE I-S (TWO LIFTS)
30" SUBBASE OF DENSE GRADED CRUSHED STONE



U.S. ROUTE 5
NOT TO SCALE
STA 11+00.00 TO STA 15+00.00

NOTES:

1. MARKER POSTS TO BE PLACED AS INDICATED OR AS DIRECTED BY THE ENGINEER.

2. ALL CUT SLOPES TO BE ROUNDED IN ACCORDANCE WITH STANDARD SHEET B-5.

3. SEE EROSION CONTROL DETAIL SHEETS FOR SEEDING FORMULAS.

4. TOPSOIL TO BE USED WITH SEED AS INDICATED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.

5. EMULSIFIED ASPHALT IS TO BE APPLIED AT THE RATE OF 0.002 gal/ft2. BETWEEN SUCCESSIVE COURSES OF PAVEMENT AS DIRECTED BY THE ENGINEER.

6. MEDIAN ISLANDS WITH A WIDTH OF 6' OR LESS WILL BE PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH. MEDIAN ISLANDS WITH A WIDTH GREATER THAN 6' WILL BE GRASSED.

7. CONCRETE FOR THE APPROACH ISLANDS SHALL BE PAID FOR UNDER ITEM NO. 900.675 - SPECIAL PROVISION (PORTLAND CEMENT CONCRETE ISLAND TREATMENT, 5")

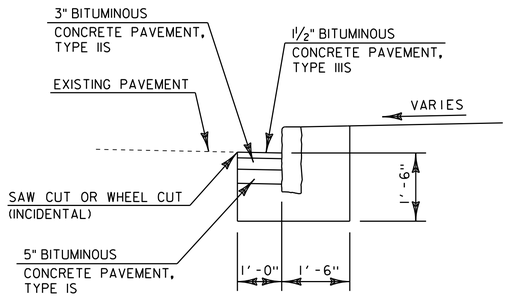
MATERIALS TOLERANCE TABLE

MATERIAL ITEM	THICKNESS TOLERANCE
PAVEMENT (TOTAL DEPTH)	+/- ¼ INCH
SUBBASE (TOTAL DEPTH)	+/- 1 INCH

PROJECT NAME: HARTFORD
PROJECT NUMBER: STP 0113(59)S

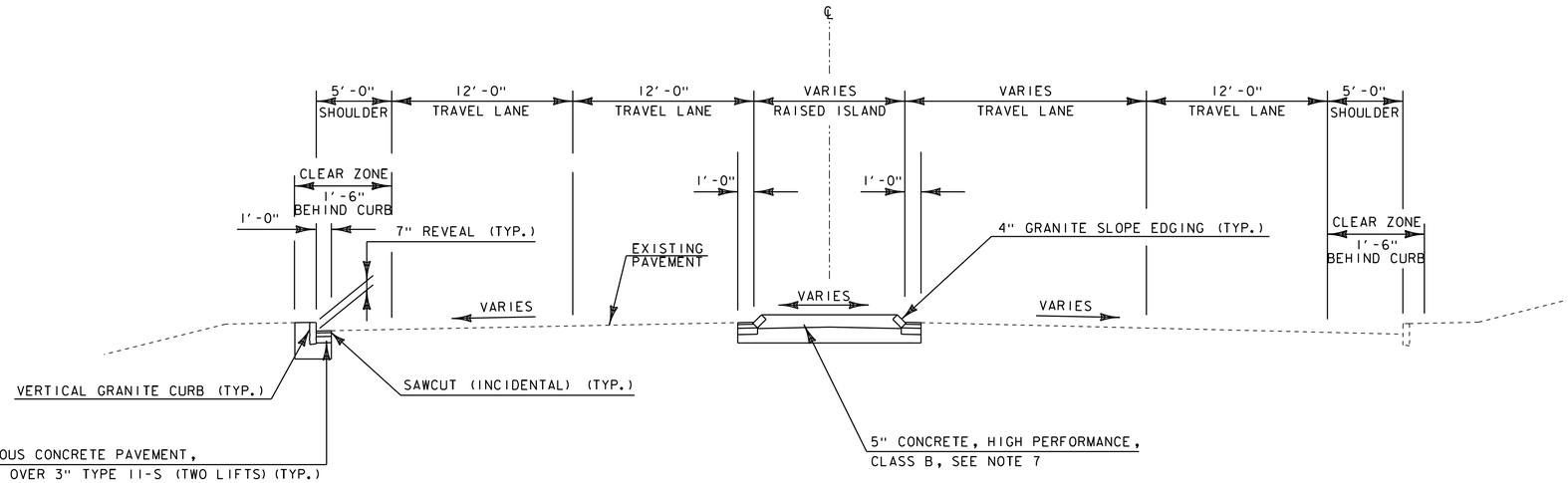
FILE NAME: zc334tyl.dgn
PROJECT LEADER: S. IRELAND
DESIGNED BY: B. COLBURN
TYPICAL SECTION - US ROUTE 5

PLOT DATE: 8/12/2019
DRAWN BY: M. LOVETT
CHECKED BY: S. IRELAND
SHEET 4 OF 94



BACK CURB DETAIL
NOT TO SCALE

U.S. ROUTE 5
SEE CURBING PLANS



U.S. ROUTE 5
NOT TO SCALE
STA 18+00.00 TO STA 19+25.00

NOTES:

1. MARKER POSTS TO BE PLACED AS INDICATED OR AS DIRECTED BY THE ENGINEER.

2. ALL CUT SLOPES TO BE ROUNDED IN ACCORDANCE WITH STANDARD SHEET B-5.

3. SEE EROSION CONTROL DETAIL SHEETS FOR SEEDING FORMULAS.

4. TOPSOIL TO BE USED WITH SEED AS INDICATED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.

5. EMULSIFIED ASPHALT IS TO BE APPLIED AT THE RATE OF 0.002 gal/ft2. BETWEEN SUCCESSIVE COURSES OF PAVEMENT AS DIRECTED BY THE ENGINEER.

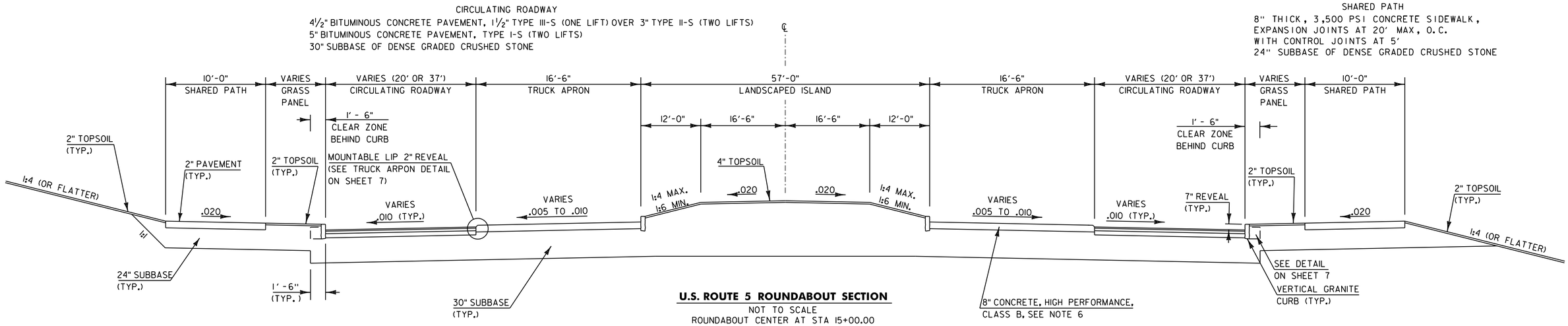
6. MEDIAN ISLANDS WITH A WIDTH OF 6' OR LESS WILL BE PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH. MEDIAN ISLANDS WITH A WIDTH GREATER THAN 6' WILL BE GRASSED.

7. CONCRETE FOR THE APPROACH ISLANDS SHALL BE PAID FOR UNDER ITEM NO. 900.675 - SPECIAL PROVISION (PORTLAND CEMENT CONCRETE ISLAND TREATMENT, 5")

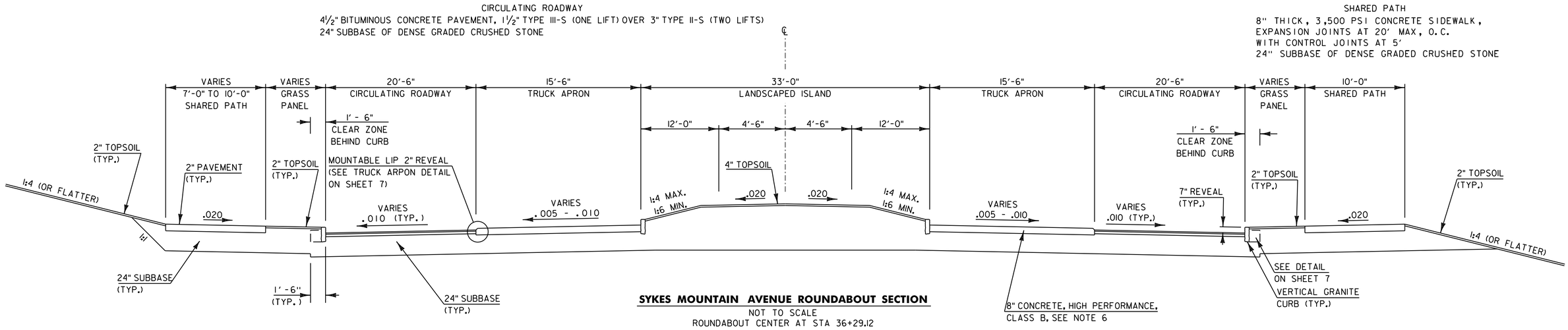
MATERIALS TOLERANCE TABLE

MATERIAL ITEM	THICKNESS TOLERANCE
PAVEMENT (TOTAL DEPTH)	+/- ¼ INCH
SUBBASE (TOTAL DEPTH)	+/- 1 INCH

PROJECT NAME: HARTFORD	
PROJECT NUMBER: 0113(59)S	
FILE NAME: zc334ty2.dgn	PLOT DATE: 8/12/2019
PROJECT LEADER: S. IRELAND	DRAWN BY: M. LOVETT
DESIGNED BY: B. COLBURN	CHECKED BY: S. IRELAND
TYPICAL SECTION - US ROUTE 5	SHEET 5 OF 94



U.S. ROUTE 5 ROUNDABOUT SECTION
NOT TO SCALE
ROUNDABOUT CENTER AT STA 15+00.00



SYKES MOUNTAIN AVENUE ROUNDABOUT SECTION
NOT TO SCALE
ROUNDABOUT CENTER AT STA 36+29.12

NOTES:

1. MARKER POSTS TO BE PLACED AS INDICATED OR AS DIRECTED BY THE ENGINEER.

2. ALL CUT SLOPES TO BE ROUNDED IN ACCORDANCE WITH STANDARD SHEET B-5.

3. SEE EROSION CONTROL DETAIL SHEETS FOR SEEDING FORMULAS.

4. TOPSOIL TO BE USED WITH SEED AS INDICATED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.

5. EMULSIFIED ASPHALT IS TO BE APPLIED AT THE RATE OF 0.002 gal/ft2. BETWEEN SUCCESSIVE COURSES OF PAVEMENT AS DIRECTED BY THE ENGINEER.

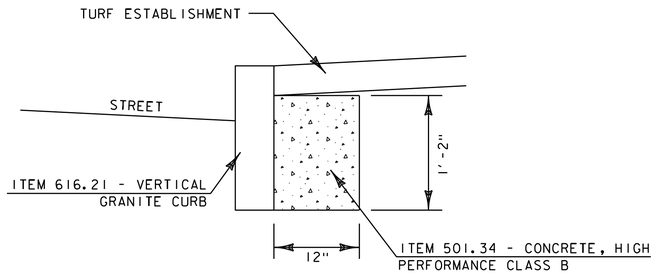
6. CONCRETE FOR THE TRUCK APRON SHALL BE PAID FOR UNDER ITEM NO. 900.675 - SPECIAL PROVISION (STAMPED CONCRETE ISLAND 8").

MATERIALS TOLERANCE TABLE

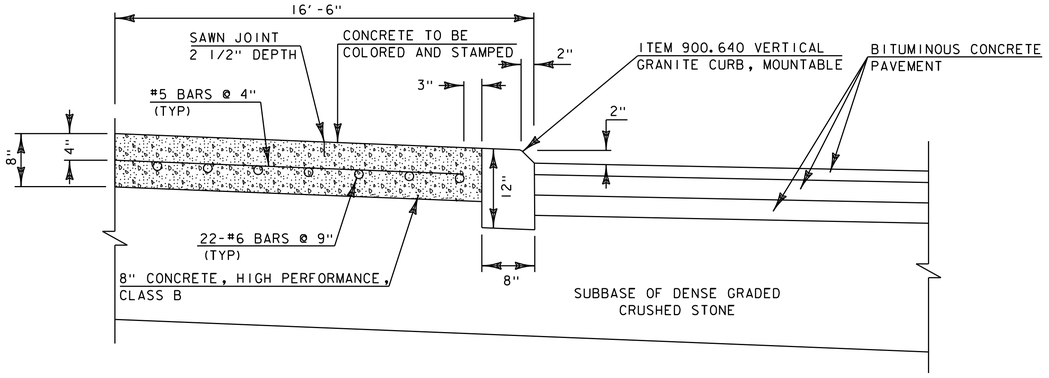
MATERIAL ITEM	THICKNESS TOLERANCE
PAVEMENT (TOTAL DEPTH)	+/- ¼INCH
SUBBASE (TOTAL DEPTH)	+/- 1INCH

PROJECT NAME: HARTFORD
PROJECT NUMBER: 0113(59)S

FILE NAME: zc334ty3.dgn
PROJECT LEADER: S. IRELAND
DESIGNED BY: B. COLBURN
------ ------
PLOT DATE: 8/12/2019
DRAWN BY: M. LOVETT
CHECKED BY: B. COLBURN
SHEET 6 OF 94



CONCRETE BEHIND CURB ON RADII DETAIL (ROUNDABOUT)
NOT TO SCALE

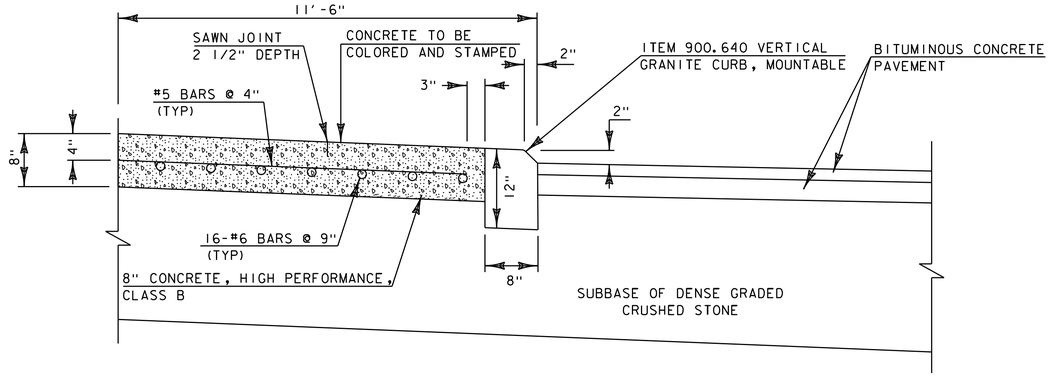


U.S. ROUTE 5 TRUCK APRON DETAIL
NOT TO SCALE

NOTES:

1. ALL REINFORCING STEEL SHALL BE EPOXY COATED AND PAID FOR UNDER CONTRACT ITEM 507.12 (REINFORCING STEEL, LEVEL II).

2. THE COLOR OF THE CONCRETE AGGREGATE SHALL MATCH THAT OF THE COLOR CONCRETE.



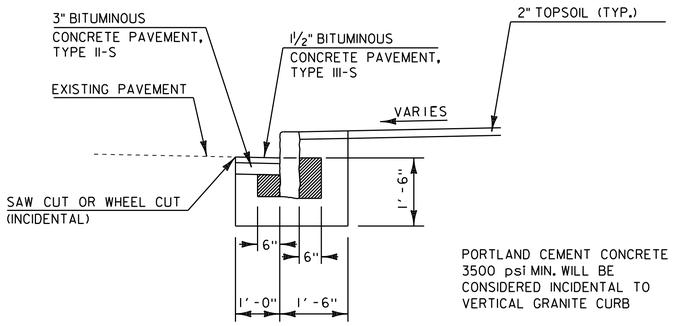
SYKES MOUNTAIN AVENUE TRUCK APRON DETAIL
NOT TO SCALE

NOTES:

1. ALL REINFORCING STEEL SHALL BE EPOXY COATED AND PAID FOR UNDER CONTRACT ITEM 507.12 (REINFORCING STEEL, LEVEL II).

2. THE COLOR OF THE CONCRETE AGGREGATE SHALL MATCH THAT OF THE COLOR CONCRETE.

PROJECT NAME: HARTFORD	
PROJECT NUMBER: STP 0113(59)S	
FILE NAME: zc334ty6.dgn	PLOT DATE: 8/12/2019
PROJECT LEADER: S. IRELAND	DRAWN BY: M. LOVETT
DESIGNED BY: B. COLBURN	CHECKED BY: S. IRELAND
TYPICAL SECTION - ROUNDABOUTS	SHEET 7 OF 94



PORTLAND CEMENT CONCRETE 3500 psi MIN. WILL BE CONSIDERED INCIDENTAL TO VERTICAL GRANITE CURB

BACK CURB DETAIL
NOT TO SCALE

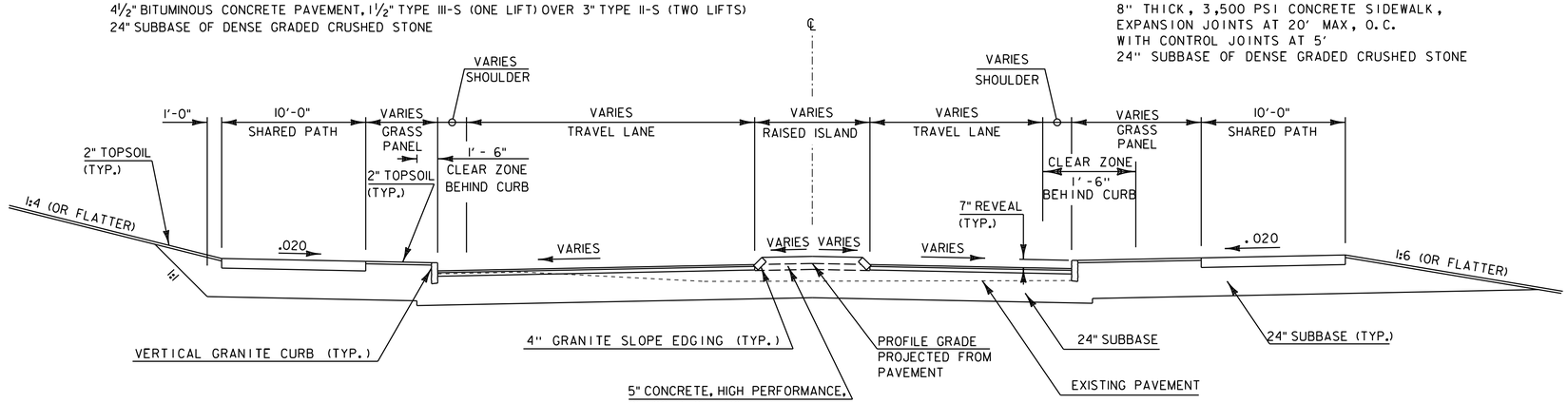
SYKES MOUNTAIN AVENUE
SEE CURBING PLANS

SYKES MOUNTAIN AVENUE

4½" BITUMINOUS CONCRETE PAVEMENT, 1½" TYPE III-S (ONE LIFT) OVER 3" TYPE II-S (TWO LIFTS)
24" SUBBASE OF DENSE GRADED CRUSHED STONE

SHARED PATH

8" THICK, 3,500 PSI CONCRETE SIDEWALK, EXPANSION JOINTS AT 20' MAX, O.C.
WITH CONTROL JOINTS AT 5'
24" SUBBASE OF DENSE GRADED CRUSHED STONE



SYKES MOUNTAIN AVENUE
NOT TO SCALE
STA 32+15.0 TO STA 35+76.8
STA 36+81.4 TO STA 37+30.0

NOTES:

1. MARKER POSTS TO BE PLACED AS INDICATED OR AS DIRECTED BY THE ENGINEER.
2. ALL CUT SLOPES TO BE ROUNDED IN ACCORDANCE WITH STANDARD SHEET B-5.
3. SEE EROSION CONTROL DETAIL SHEETS FOR SEEDING FORMULAS.
4. TOPSOIL TO BE USED WITH SEED AS INDICATED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.
5. EMULSIFIED ASPHALT IS TO BE APPLIED AT THE RATE OF 0.002 GAL/FT2 BETWEEN SUCCESSIVE COURSES OF PAVEMENT AS DIRECTED BY THE ENGINEER.
6. MEDIAN ISLANDS WITH A WIDTH OF 6' OR LESS WILL BE PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH. MEDIAN ISLANDS WITH A WIDTH GREATER THAN 6' WILL BE GRASSED.
7. CONCRETE FOR THE APPROACH ISLANDS SHALL BE PAID FOR UNDER ITEM NO. 900.675 - SPECIAL PROVISION (PORTLAND CEMENT CONCRETE ISLAND TREATMENT, 5")

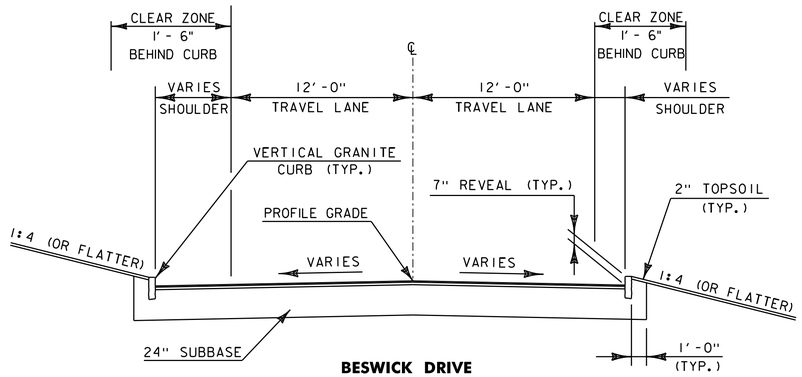
MATERIALS TOLERANCE TABLE

MATERIAL ITEM	THICKNESS TOLERANCE
PAVEMENT (TOTAL DEPTH)	+/- ¼INCH
SUBBASE (TOTAL DEPTH)	+/- 1INCH

PROJECT NAME:	HARTFORD
PROJECT NUMBER:	0113(59)S
FILE NAME: zc334ty4.dgn	PLOT DATE: 8/12/2019
PROJECT LEADER: S. IRELAND	DRAWN BY: M. LOVETT
DESIGNED BY: B. COLBURN	CHECKED BY: S. IRELAND
TYPICAL SECTION - SYKES MOUNTAIN AVENUE	SHEET 8 OF 94

BESWICK DRIVE AND RALPH LEHMAN DRIVE

4½" BITUMINOUS CONCRETE PAVEMENT, 1½" TYPE III-S (ONE LIFT) OVER 3" TYPE II-S (TWO LIFTS)
24" SUBBASE OF DENSE GRADED CRUSHED STONE



BESWICK DRIVE
NOT TO SCALE
STA 51+05.00 TO STA 52+00.00

RALPH LEHMAN DRIVE
NOT TO SCALE
STA 60+25.00 TO STA 62+00.00

NOTES:

1. MARKER POSTS TO BE PLACED AS INDICATED OR AS DIRECTED BY THE ENGINEER.

2. ALL CUT SLOPES TO BE ROUNDED IN ACCORDANCE WITH STANDARD SHEET B-5.

3. SEE EROSION CONTROL DETAIL SHEETS FOR SEEDING FORMULAS.

4. TOPSOIL TO BE USED WITH SEED AS INDICATED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.

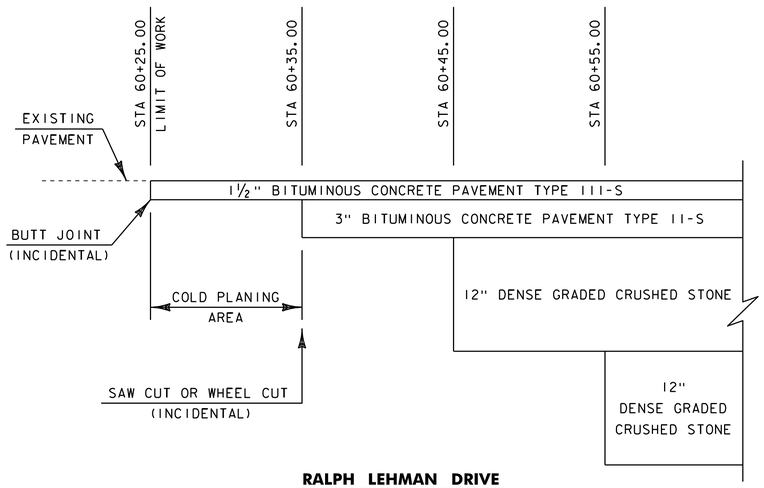
5. EMULSIFIED ASPHALT IS TO BE APPLIED AT THE RATE OF 0.002 GAL/FT2 BETWEEN SUCCESSIVE COURSES OF PAVEMENT AS DIRECTED BY THE ENGINEER.

MATERIALS TOLERANCE TABLE

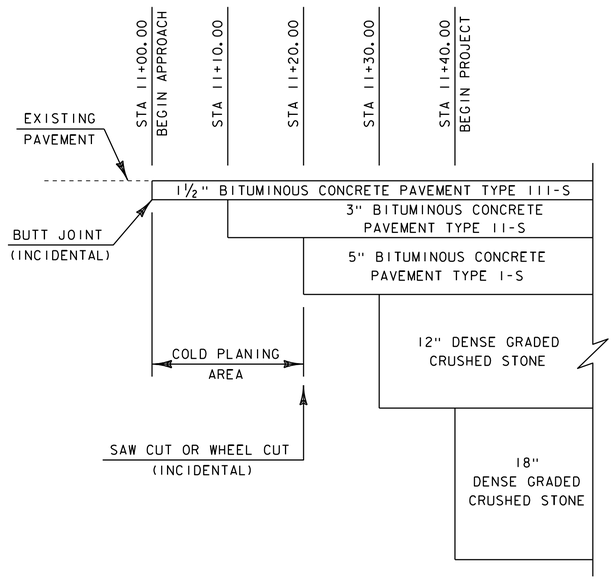
MATERIAL ITEM	THICKNESS TOLERANCE
PAVEMENT (TOTAL DEPTH)	+/- ¼ INCH
SUBBASE (TOTAL DEPTH)	+/- 1 INCH

PROJECT NAME:	HARTFORD
PROJECT NUMBER:	STP 0113(59)S

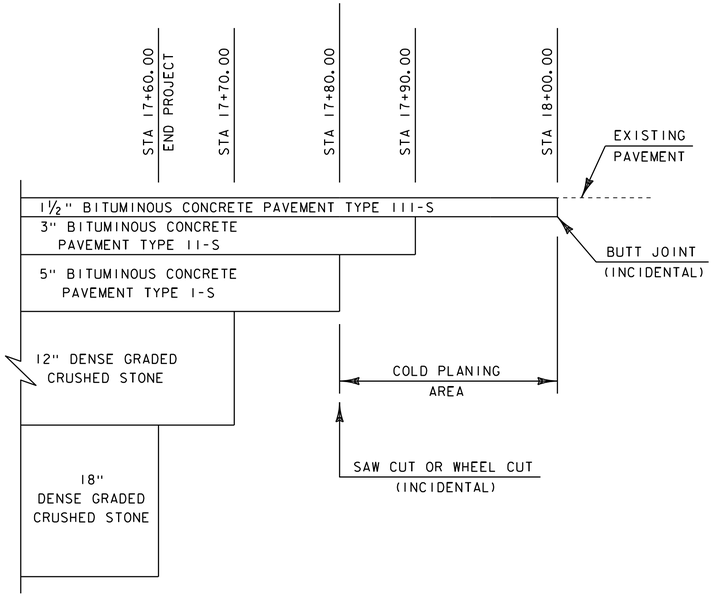
FILE NAME: zc334ty5.dgn	PLOT DATE: 8/12/2019
PROJECT LEADER: S. IRELAND	DRAWN BY: M. LOVETT
DESIGNED BY: B. COLBURN	CHECKED BY: S. IRELAND
TYPICAL SECTION - SIDE ROADS	SHEET 9 OF 94



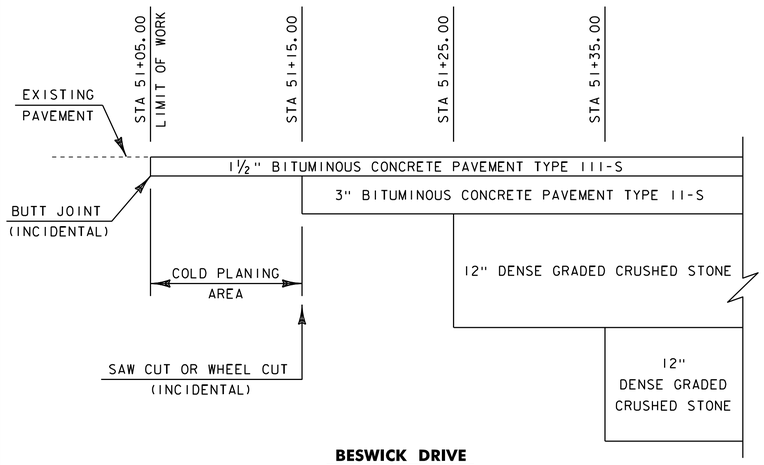
RALPH LEHMAN DRIVE
PAVEMENT AND BASE COURSE TRANSITION
NOT TO SCALE



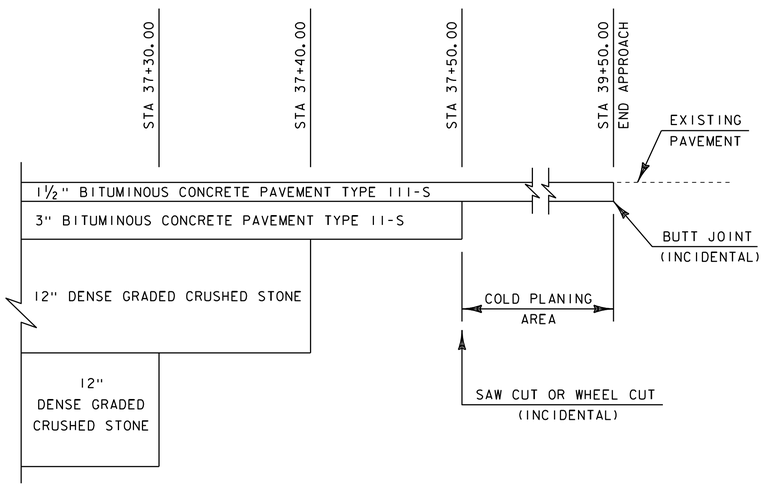
U.S. ROUTE 5
BEGIN PAVEMENT AND BASE COURSE TRANSITION
NOT TO SCALE



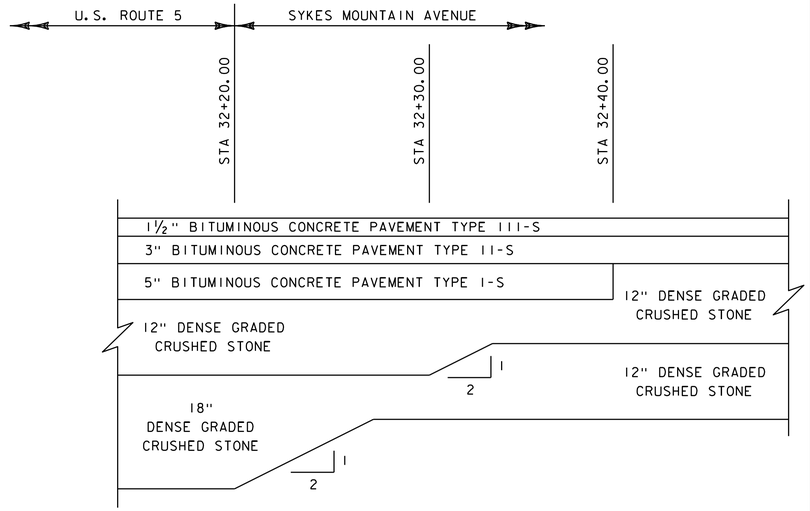
U.S. ROUTE 5
END PAVEMENT AND BASE COURSE TRANSITION
NOT TO SCALE



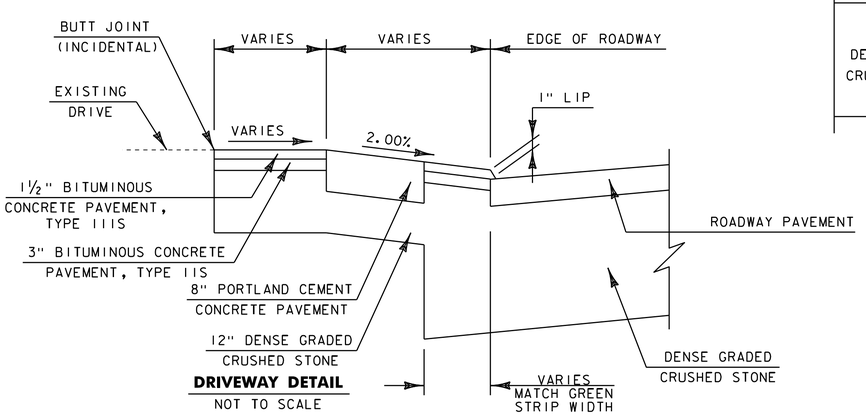
BESWICK DRIVE
PAVEMENT AND BASE COURSE TRANSITION
NOT TO SCALE



SYKES MOUNTAIN ROAD
END PAVEMENT AND BASE COURSE TRANSITION
NOT TO SCALE



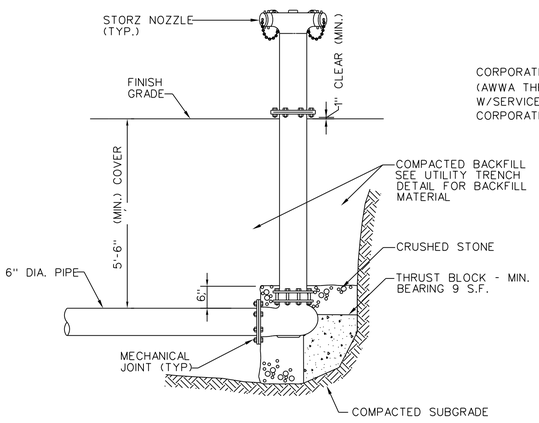
SYKES MOUNTAIN AVENUE
PAVEMENT AND BASE COURSE TRANSITION AT U.S. ROUTE 5
NOT TO SCALE

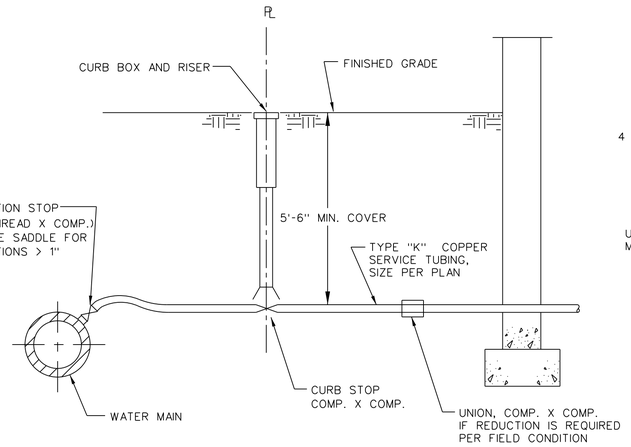


DRIVEWAY DETAIL
NOT TO SCALE

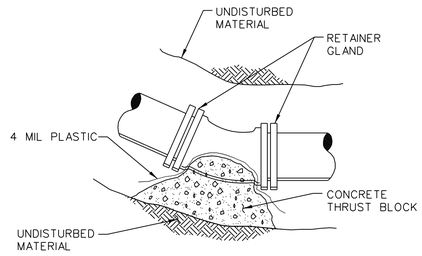
PROJECT NAME:	HARTFORD
PROJECT NUMBER:	STP 0113(59)S

FILE NAME: zc334dt14.dgn	PLOT DATE: 8/12/2019
PROJECT LEADER: S. IRELAND	DRAWN BY: M. LOVETT
DESIGNED BY: B. COLBURN	CHECKED BY: S. IRELAND
MISCELANEOUS DETAILS	SHEET 10 OF 94

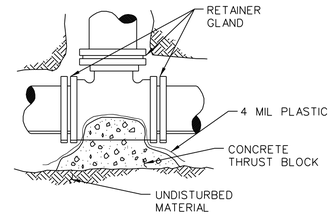




SERVICE INSTALLATION
NOT TO SCALE



PLAN VIEW - M.J. BEND
NOT TO SCALE

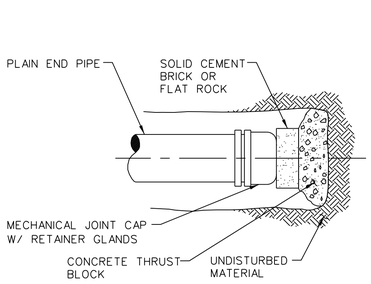


PLAN VIEW - M.J. TEE
NOT TO SCALE

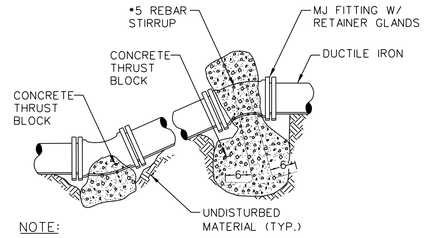
THRUST BLOCK BEARING AREA IN SQ. FT.
(PRESSURE = 150 PSI, FACTOR OF SAFETY = 2.0)

FITTINGS		WET SILT & SOFT CLAY	SILT	SAND	COARSE SAND & GRAVEL	HARDPAN
16"	TEE, CAP	60.3	30.2	20.1	15.1	12.1
	1/4 BEND	85.3	42.7	28.4	21.3	17.1
	1/8 BEND	46.2	23.1	15.4	11.5	9.2
	1/16 BEND	23.5	11.8	7.8	5.9	4.7
	1/32 BEND	11.8	5.9	3.9	3.0	2.4
12"	TEE, CAP	33.9	17.0	11.3	8.5	6.8
	1/4 BEND	48.0	24.0	16.0	12.0	9.6
	1/8 BEND	26.0	13.0	8.7	6.5	5.2
	1/16 BEND	13.2	6.6	4.4	3.3	2.6
	1/32 BEND	6.7	3.3	2.2	1.7	1.5
10"	TEE, CAP	23.6	11.8	7.9	5.9	4.7
	1/4 BEND	33.3	16.7	11.1	8.3	6.7
	1/8 BEND	18.0	9.0	6.0	4.5	3.6
	1/16 BEND	9.2	4.6	3.1	2.3	1.8
	1/32 BEND	4.6	2.3	1.5	1.5	1.5
8"	TEE, CAP	15.1	7.5	5.0	3.8	3.0
	1/4 BEND	21.3	10.7	7.1	5.3	4.3
	1/8 BEND	11.5	5.8	3.8	2.9	2.3
	1/16 BEND	5.9	2.9	2.0	1.5	1.5
	1/32 BEND	3.0	1.5	1.5	1.5	1.5
6"	TEE, CAP	8.5	4.2	2.8	2.1	1.7
	1/4 BEND	12.0	6.0	4.0	3.0	2.4
	1/8 BEND	6.5	3.2	2.2	1.6	1.3
	1/16 BEND	3.3	1.7	1.1	1.0	1.0
	1/32 BEND	1.7	1.0	1.0	1.0	1.0
4"	TEE, CAP	3.8	1.9	1.3	0.9	0.8
	1/4 BEND	5.3	2.7	1.8	1.3	1.5
	1/8 BEND	2.9	1.4	1.0	0.7	0.6
	1/16 BEND	1.5	0.7	0.5	0.5	0.5
	1/32 BEND	0.7	0.5	0.5	0.5	0.5
3"	TEE, CAP	2.1	1.1	0.7	0.5	0.5
	1/4 BEND	3.0	1.5	1.0	0.7	0.6
	1/8 BEND	1.6	0.8	0.5	0.5	0.5
	1/16 BEND	0.8	0.5	0.5	0.5	0.5
	1/32 BEND	0.5	0.5	0.5	0.5	0.5
2"	TEE, CAP	0.9	0.5	0.5	0.5	0.5
	1/4 BEND	1.3	0.7	0.5	0.5	0.5
	1/8 BEND	0.7	0.5	0.5	0.5	0.5
	1/16 BEND	0.5	0.5	0.5	0.5	0.5
	1/32 BEND	0.5	0.5	0.5	0.5	0.5

SOIL TYPE	BEARING CAPACITY (psf)
MUCK	-0-
WET SILT & SOFT CLAY	1000
SILT	2000
SAND	3000
COARSE SAND & GRAVEL	4000
HARDPAN	5000



PLAN VIEW - M.J. CAP
NOT TO SCALE



NOTE:
1. EXTEND REINFORCED THRUST BLOCK 2' MINIMUM EITHER SIDE OF FITTING TO MAXIMIZE DOWN-PRESSURE EFFECT OF EARTH BACKFILL.

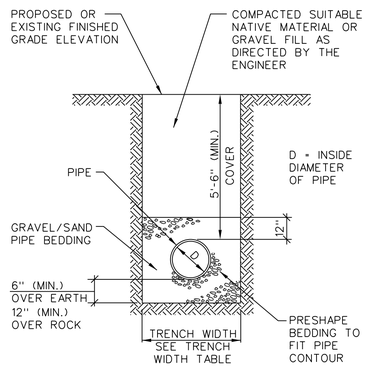
ELEVATION - MJ VERTICAL BENDS
NOT TO SCALE

NOTES:
1. CONCRETE THRUST BLOCKS TO BE USED ONLY WHERE THEY CAN BEAR ON UNDISTURBED EARTH. USE CLAMPS AND TIE RODS OR OTHER ACCEPTABLE METHOD OF JOINT RESTRAINT WHERE SOIL CONDITIONS PROHIBIT THE USE OF THRUST BLOCKS.
2. HYDRANT IN SIDEWALK AREAS TO BE LOCATED TO PROVIDE MINIMUM SIDEWALK PASSAGE WIDTH OF 3' AT HYDRANT.

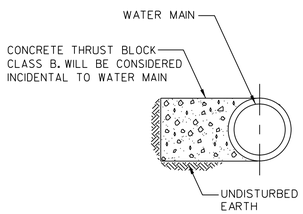
FIRE DEPARTMENT CONNECTION
NOT TO SCALE

TRENCH WIDTH	
PIPE DIA. "D"	TRENCH WIDTH
<4"	3'-0"
4"-6"	3'-0"
8"	4'-0"
10"	4'-0"
12"	4'-0"
16"	4'-0"
18"	4'-0"
21"	4'-0"
24"	4'-6"

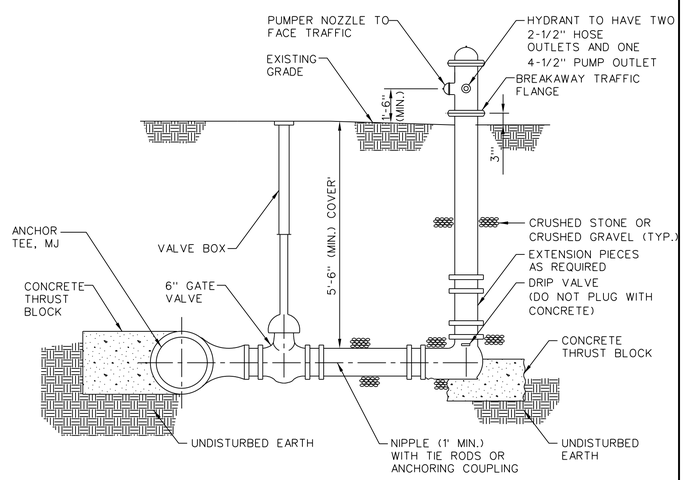
PIPE MATERIALS:
WATER: D.I. OR CL 52 PIPE



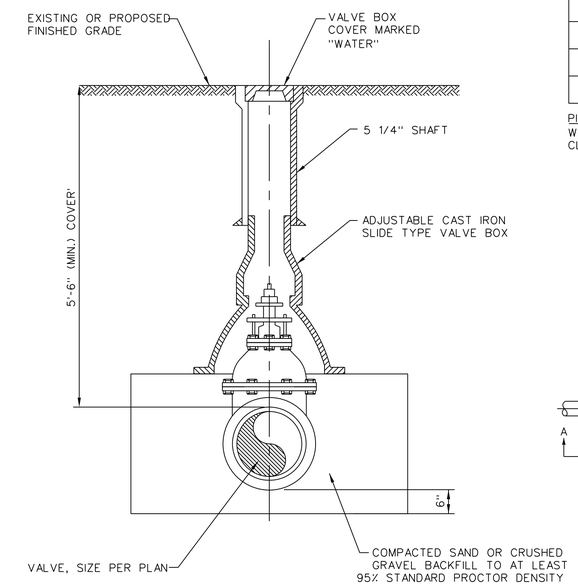
WATER PIPING TRENCH
NOT TO SCALE



CONCRETE THRUST BLOCK DETAIL
NOT TO SCALE

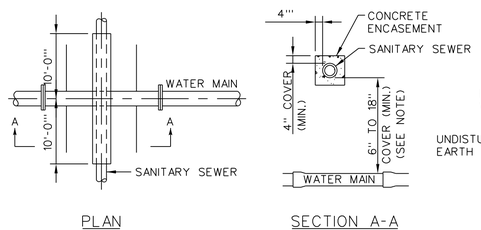


FIRE HYDRANT
NOT TO SCALE



NOTE:
1. SIMILAR INSTALLATION FOR CURB BOX ON SERVICE LINE.

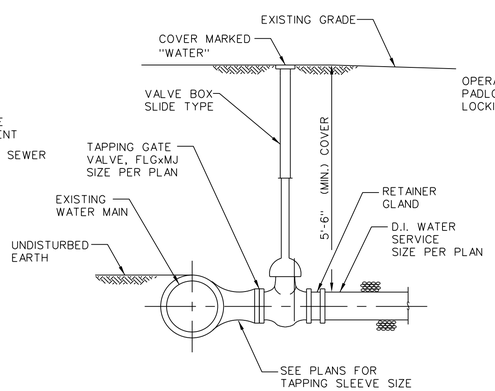
VALVE BOX INSTALLATION
NOT TO SCALE



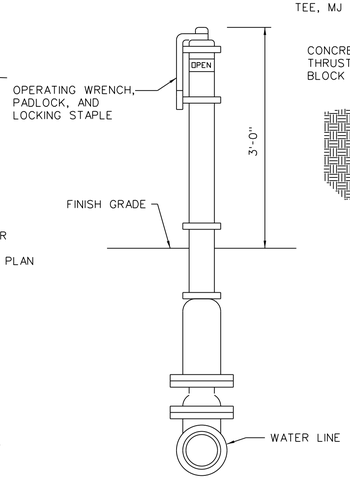
PLAN SECTION A-A

NOTE:
1. CONCRETE ENCASEMENT NOT REQUIRED IF VERTICAL SEPARATION IS 18" OR GREATER.

WATER/SANITARY CROSSING
NOT TO SCALE

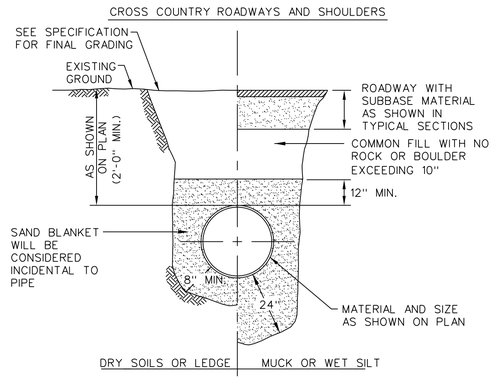


TAPPING SLEEVE & VALVE CONNECTION
NOT TO SCALE



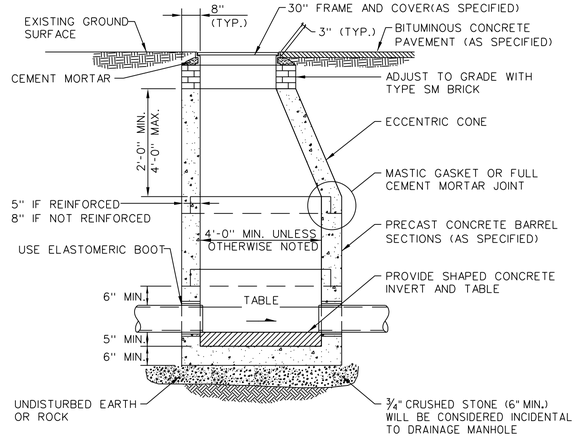
GATE VALVE WITH INDICATOR POST
NOT TO SCALE

PROJECT NAME:	HARTFORD
PROJECT NUMBER:	STP 0113(59)S
FILE NAME: zc334watl.dgn	PLOT DATE: 8/12/2019
PROJECT LEADER: S. IRELAND	DRAWN BY: M. LOVETT
DESIGNED BY: B. COLBURN	CHECKED BY: S. IRELAND
MISCELANEOUS DETAILS - WATER	SHEET 11 OF 94



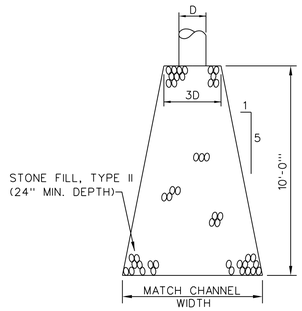
DRAIN PIPE TRENCH

NOT TO SCALE



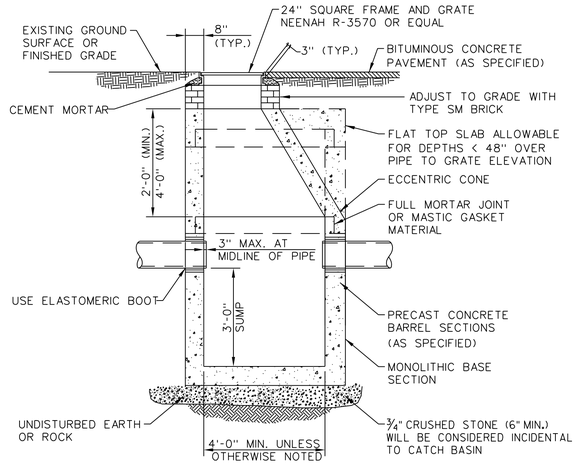
DRAINAGE MANHOLE

NOT TO SCALE



OUTLET PROTECTION DETAIL

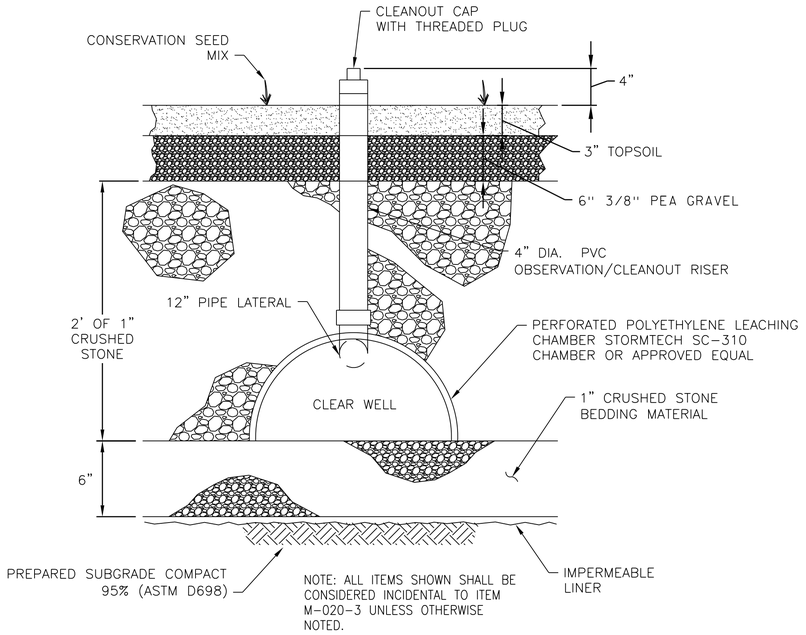
NOT TO SCALE



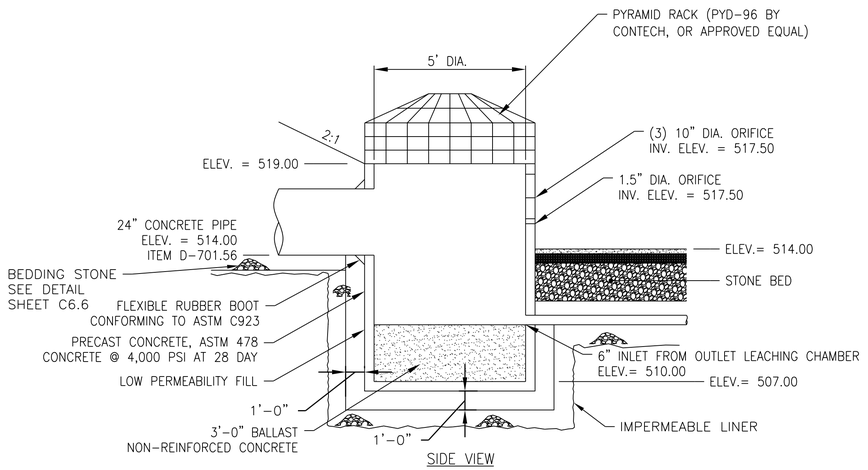
CATCH BASIN

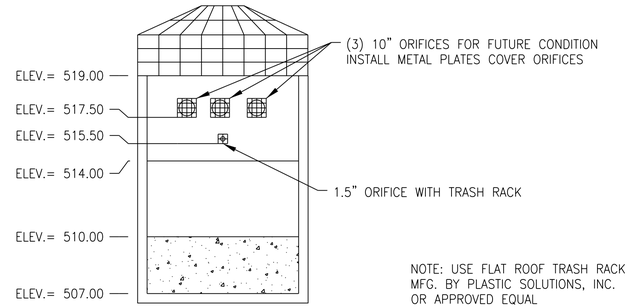
NOT TO SCALE

PROJECT NAME:	HARTFORD
PROJECT NUMBER:	STP 0113(59)S
FILE NAME: zc334wat2.dgn	PLOT DATE: 8/12/2019
PROJECT LEADER: S. IRELAND	DRAWN BY: M. LOVETT
DESIGNED BY: B. COLBURN	CHECKED BY: S. IRELAND
MISCELANEOUS DETAILS - WATER	SHEET 12 OF 94

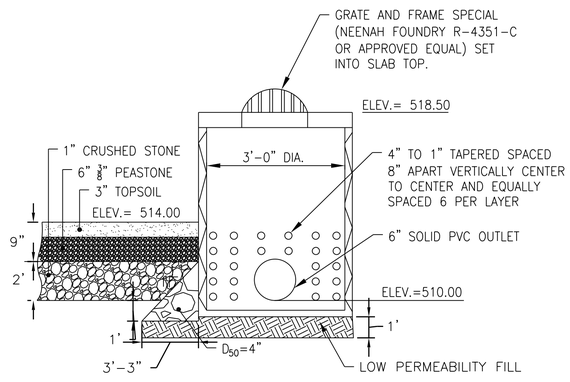


PERFORATED CLEAR WELL PIPE DISTRIBUTION LATERAL
N.T.S.

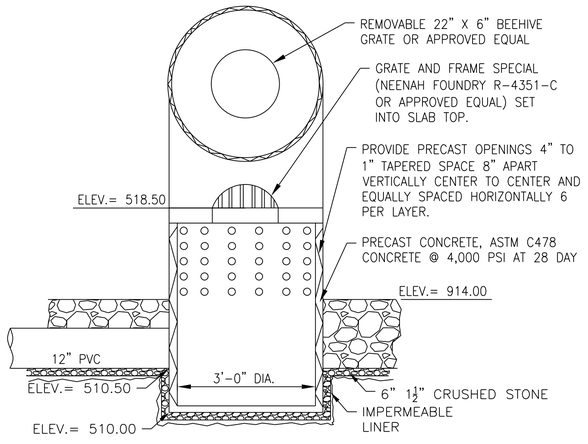




GRAVEL WETLAND STORMWATER BASIN
OUTLET STRUCTURE DETAIL
N.T.S.

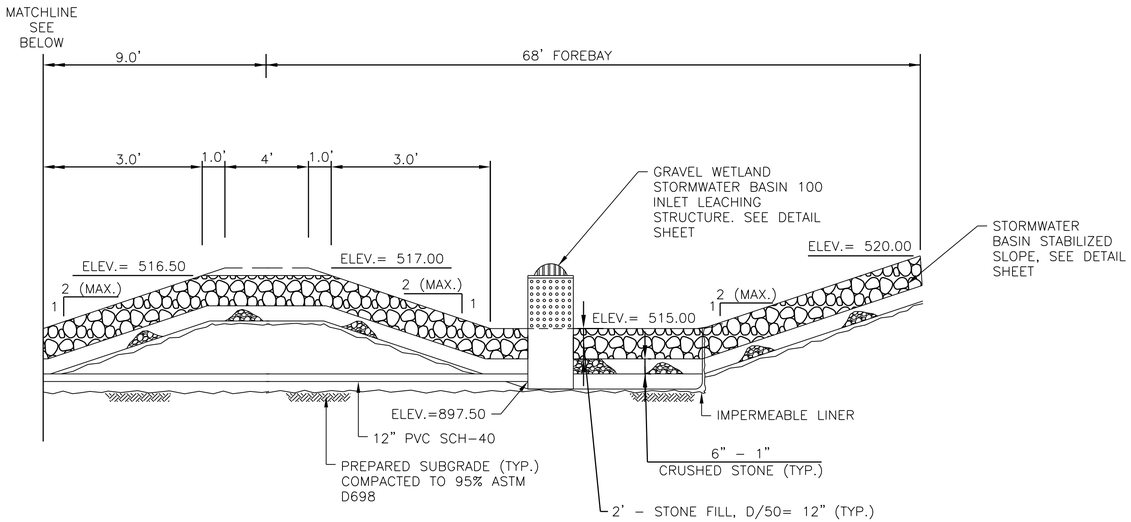


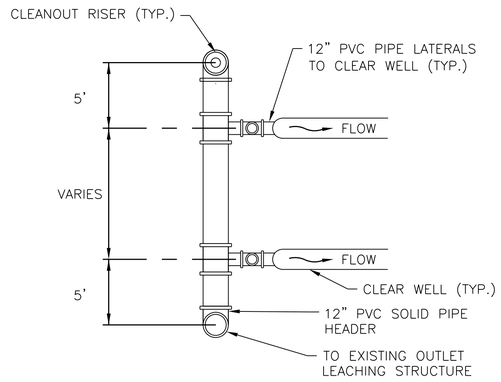
GRAVEL WETLAND STORMWATER BASIN
OUTLET LEACHING CHAMBER DETAIL
N.T.S.



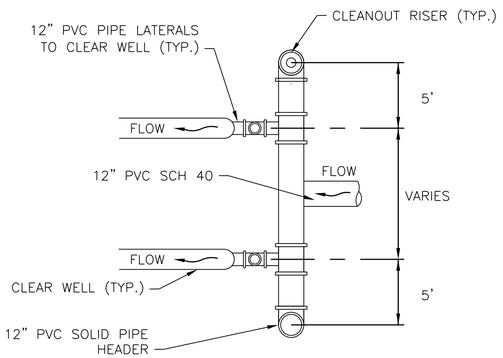
GRAVEL WETLAND STORMWATER BASIN
INLET LEACHING STRUCTURE DETAIL
N.T.S.

PROJECT NAME: HARTFORD	
PROJECT NUMBER: STP 0113(59)S	
FILE NAME: zc334dtll.dgn	PLOT DATE: 8/12/2019
PROJECT LEADER: S. IRELAND	DRAWN BY: M. LOVETT
DESIGNED BY: B. COLBURN	CHECKED BY: B. COLBURN
GRAVEL WETLAND DETAILS	SHEET 13 OF 94

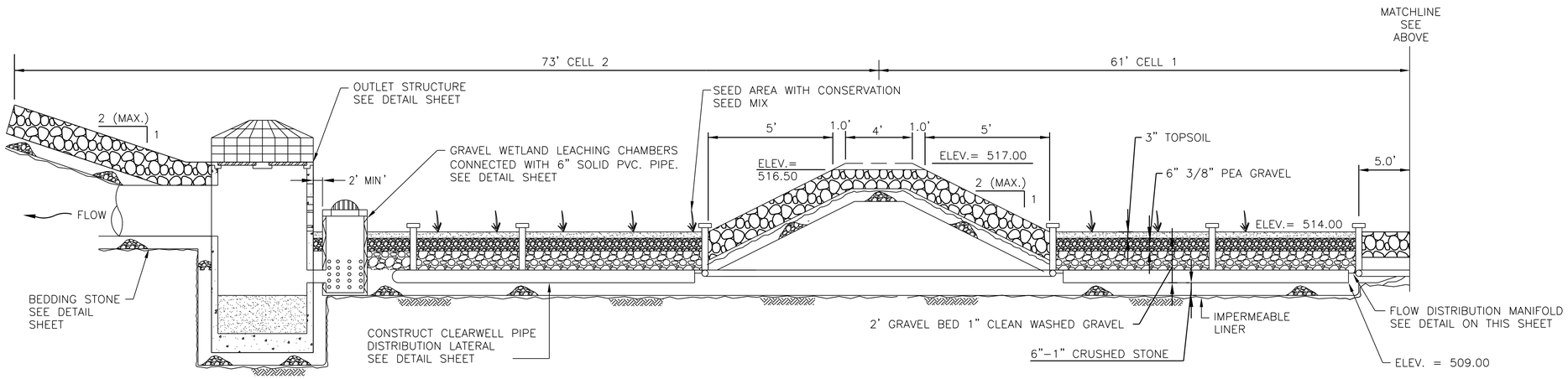




GRAVEL WETLAND OUTLET FLOW DISTRIBUTION MANIFOLD DETAIL.
N.T.S.



GRAVEL WETLAND INLET FLOW DISTRIBUTION MANIFOLD DETAIL.
N.T.S.



GRAVEL WETLAND STORMWATER BASIN PROFILE
N.T.S.

PROJECT NAME:	VAOT PROJECT NAME
PROJECT NUMBER:	PROJECT NUMBER
FILE NAME: zc334dt13.dgn	PLOT DATE: 8/12/2019
PROJECT LEADER: S. IRELAND	DRAWN BY: M. LOVETT
DESIGNED BY: B. COLBURN	CHECKED BY: S. IRELAND
GRAVEL WETLAND DETAILS	SHEET 14 OF 94

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 1

SUMMARY OF ESTIMATED QUANTITIES								TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
ROADWAY	NON-GOVERNMENT PART.	LANDSCAPING	EROSION CONTROL	FULL C.E. ITEMS				GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
1								1		LS	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	201.10	-			
9500								9500		CY	COMMON EXCAVATION	203.15	57			ITEM 490.30 SUPERPAVE BITUMINOUS CONCRETE PAVEMENT
300								300		CY	TRENCH EXCAVATION OF EARTH	204.20	6			U.S. ROUTE 5
1600								1600		SY	COLD PLANING, BITUMINOUS PAVEMENT	210.10	81.2			TYPE I-S
8000								8000		CY	SUBBASE OF DENSE GRADED CRUSHED STONE	301.35	12.7	1290.2	TON	BASE COURSE
19								19		CWT	EMULSIFIED ASPHALT	404.65	4.5			TYPE II-S
300								300		TON	BITUMINOUS CONCRETE PAVEMENT	406.25	6.7	907.5	TON	BINDER COURSE
4400								4400		TON	SUPERPAVE BITUMINOUS CONCRETE PAVEMENT	490.30	63.1			TYPE III-S
40								40		CY	CONCRETE, HIGH PERFORMANCE CLASS B	501.34	0.4	557.0	TON	WEARING COURSE
31500								31500		LB	REINFORCING STEEL, LEVEL II	507.12	95	2754.7	TON	SUB-TOTAL
150								150		LF	12" CPEP(SL)	601.2605	2			SYKES MOUNTAIN AVENUE
320								320		LF	15" CPEP(SL)	601.2610	2			TYPE I-S
1800								1800		LF	18" CPEP(SL)	601.2615	31	31.8	TON	BASE COURSE
950								950		LF	24" CPEP(SL)	601.2620	10			TYPE II-S
43								43		EACH	PRECAST REINFORCED CONCRETE CATCH BASIN WITH CAST IRON GRATE	604.20	-	678.4	TON	BINDER COURSE
9								9		EACH	PRECAST REINFORCED CONCRETE MANHOLE WITH CAST IRON COVER	604.21	-			TYPE III-S
1								1		EACH	REHAB. DROP INLETS, CATCH BASINS, OR MANHOLES, CLASS II	604.415	-	342.8	TON	WEARING COURSE
100								100		LF	6 INCH UNDERDRAIN PIPE	605.10	-	1053.0	TON	SUB-TOTAL
355								355		MGAL	DUST CONTROL WITH WATER	609.10	4.6			RALPH LEHMAN DRIVE
11								11		CY	STONE FILL, TYPE II	613.11	0.6			TYPE II-S
1900								1900		LF	GRANITE SLOPE EDGING	616.20	82.9	59.9	TON	BINDER COURSE
3200								3200		LF	VERTICAL GRANITE CURB	616.21	92.6			TYPE III-S
1800								1800		LF	REMOVING AND RESETTING CURB	616.40	31.2	33.0	TON	WEARING COURSE
700								700		SY	PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH	618.10	4.7	92.9	TON	SUB-TOTAL
7								7		EACH	YIELDING MARKER POSTS	619.17	-			BESWICK DRIVE
700								700		LF	CHAIN-LINK FENCE, 6 FEET	620.12	-			TYPE II-S
12								12		LF	GATE FOR CHAIN-LINK FENCE, 6 FEET	620.16	-	16.3	TON	BINDER COURSE
8								8		EACH	BRACING ASSEMBLY FOR CHAIN-LINK FENCE, 6 FEET	620.21	-			TYPE III-S
550								550		LF	STEEL BEAM GUARDRAIL, GALVANIZED	621.20	5	26.2	TON	WEARING COURSE
2								2		EACH	ENERGY ABSORPTION ATTENUATOR	621.56	-	42.5	TON	SUB-TOTAL
2								2		EACH	ANCHOR FOR STEEL BEAM RAIL	621.60	-			DRIVES
780								780		LF	DUCTILE IRON PIPE, CEMENT-LINED (12")	629.24	8.3			TYPE II-S
120								120		LF	DUCTILE IRON PIPE, CEMENT-LINED (6")	629.24	8.8	262.5	TON	BINDER COURSE
22								22		LF	DUCTILE IRON PIPE, CEMENT-LINED (8")	629.24	0.7			TYPE III-S
9								9		EACH	GATE VALVE WITH VALVE BOX	629.27	-	131.3	TON	WEARING COURSE
2								2		EACH	RELOCATE HYDRANT	629.29	-	393.8	TON	SUB-TOTAL
1								1		EACH	TAPPING SLEEVE AND VALVE WITH VALVE BOX (6")	629.35	-			
2								2		EACH	TAPPING SLEEVE AND VALVE WITH VALVE BOX (8")	629.35	-	4336.9	TON	SUB-TOTAL
2100								2100		HR	UNIFORMED TRAFFIC OFFICERS	630.10	20	63.1	TON	ROUNDING
4200								4200		HR	FLAGGERS	630.15	40	4400	TON	TOTAL

PROJECT NAME: HARTFORD
PROJECT NUMBER: STP 0113(59)S

FILE NAME: zc334qtyl.dgn
PROJECT LEADER: S. IRELAND
DESIGNED BY: B. COLBURN
QUANTITY SHEET 1

PLOT DATE: 8/12/2019
DRAWN BY: B. PATINSKAS
CHECKED BY: S. IRELAND
SHEET 15 OF 94

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 2

SUMMARY OF ESTIMATED QUANTITIES									TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
						ROADWAY	NON-GOVERNMENT PART.	LANDSCAPING	EROSION CONTROL	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
										1	1		LS	FIELD OFFICE, ENGINEERS	631.10	-			
										1	1		LS	TESTING EQUIPMENT, BITUMINOUS	631.17	-			
										3000	3000		DL	FIELD OFFICE TELEPHONE (N.A.B.I.)	631.26	-			
						1					1		LS	MOBILIZATION/DEMOBILIZATION	635.11	-			
						1					1		LS	TRAFFIC CONTROL	641.10	-			
						4					4		EACH	PORTABLE CHANGEABLE MESSAGE SIGN	641.15	-			
						4					4		EACH	PORTABLE ARROW BOARD	641.16	-			
						3300					3300		LF	DURABLE 4 INCH WHITE LINE, THERMOPLASTIC	646.402	25.6			
						2700					2700		LF	DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC	646.412	53			
						60					60		LF	DURABLE 8 INCH YELLOW LINE, THERMOPLASTIC	646.452	5			
						180					180		LF	DURABLE 12 INCH WHITE LINE, THERMOPLASTIC	646.462	5.5			
						30					30		LF	DURABLE 24 INCH STOP BAR, THERMOPLASTIC	646.482	0.1			
						9					9		EACH	DURABLE LETTER OR SYMBOL, THERMOPLASTIC	646.492	-			
						400					400		LF	DURABLE CROSSWALK MARKING, THERMOPLASTIC	646.502	3			
						6550					6550		LF	TEMPORARY 4 INCH WHITE LINE, PAINT	646.602	1.2			
						5300					5300		LF	TEMPORARY 4 INCH YELLOW LINE, PAINT	646.612	6			
						110					110		LF	TEMPORARY 8 INCH YELLOW LINE, PAINT	646.652	-			
						350					350		LF	TEMPORARY 12 INCH WHITE LINE, PAINT	646.662	1			
						200					200		EACH	RAISED PAVEMENT MARKERS, TYPE II	646.75	-			
						200					200		EACH	LINE STRIPING TARGETS	646.76	-			
						2300					2300		LF	PAINTED CURB	646.81	66.5			
						4400					4400		SF	PAVEMENT MARKING MASK	646.86	54.7			
						430					430		SY	GEOTEXTILE UNDER STONE FILL	649.31	0.2			
									110		110		LB	SEED	651.15	9.2			
									810		810		LB	FERTILIZER	651.18	9.9			
									4		4		TON	AGRICULTURAL LIMESTONE	651.20	0.8			
									4		4		TON	HAY MULCH	651.25	0.8			
						570					570		CY	TOPSOIL	651.35	7.3			
									1		1		LS	EPSC PLAN	652.10	-			
									90		90		HR	MONITORING EPSC PLAN	652.20	3			
									1		1		LU	MAINTENANCE OF EPSC PLAN (N.A.B.I.)	652.30	-			
									1400		1400		SY	TEMPORARY EROSION MATTING	653.20	77.1			
									16		16		CY	TEMPORARY STONE CHECK DAM, TYPE I	653.25	-			
									90		90		CY	VEHICLE TRACKING PAD	653.35	1.1			
									5		5		EACH	INLET PROTECTION DEVICE, TYPE I	653.40	-			
									56		56		EACH	INLET PROTECTION DEVICE, TYPE II	653.41	-			
									360		360		LF	BARRIER FENCE	653.50	4			
									1900		1900		LF	PROJECT DEMARCATION FENCE	653.55	86.9			
									2200		2200		LF	EROSION LOG	653.60	6.4			
								16			16		EACH	EVERGREEN TREES (PINUS NIGRA)	656.20	-			

PROJECT NAME: HARTFORD
PROJECT NUMBER: STP 0113(59)S

FILE NAME: zc334qty2.dgn
PROJECT LEADER: S. IRELAND
DESIGNED BY: B. COLBURN
QUANTITY SHEET 2

PLOT DATE: 8/12/2019
DRAWN BY: B. PATINSKAS
CHECKED BY: S. IRELAND
SHEET 16 OF 94

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 3

SUMMARY OF ESTIMATED QUANTITIES									TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
						ROADWAY	NON-GOVERNMENT PART.	LANDSCAPING	EROSION CONTROL	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
								5			5		EACH	EVERGREEN TREES (THUJA ACCIDENTALIS)	656.20	-			
								8			8		EACH	EVERGREEN SHRUBS (ILEX GLABRA)	656.25	-			
								3			3		EACH	DECIDUOUS TREES (FRAXINUS PENNSYLVANICA "PATMORE")	656.30	-			
								7			7		EACH	DECIDUOUS TREES (MALUS "HARFOZUM")	656.30	-			
								3			3		EACH	DECIDUOUS TREES (MALUS "ROBINSON")	656.30	-			
								6			6		EACH	DECIDUOUS TREES (QUERCUS RUBRA)	656.30	-			
								3			3		EACH	DECIDUOUS TREES (ULMUS AMERICANA "PRINCETON")	656.30	-			
								28			28		EACH	DECIDUOUS SHRUBS (CORNUS ALBA "BUDS YELLOW")	656.35	-			
								25			25		EACH	DECIDUOUS SHRUBS (CORNUS RACEMOSA "MUSZAM")	656.35	-			
								18			18		EACH	DECIDUOUS SHRUBS (CORNUS SERICEA)	656.35	-			
								10			10		EACH	DECIDUOUS SHRUBS (DIERVILLA LONICERA "COPPER")	656.35	-			
								6			6		EACH	DECIDUOUS SHRUBS (FORSYNTHIA OVATA "NORTHERN GOLD")	656.35	-			
								35			35		EACH	DECIDUOUS SHRUBS (GENISTA "LYDIA")	656.35	-			
								34			34		EACH	DECIDUOUS SHRUBS (HYDRANGEA ARBORESCENS "ANNABELLE")	656.35	-			
								47			47		EACH	DECIDUOUS SHRUBS (ILEX VERTICILLATA "AFTERGLOW")	656.35	-			
								2			2		EACH	DECIDUOUS SHRUBS (ILEX VERTICILLATA "JIM DANDY")	656.35	-			
								28			28		EACH	DECIDUOUS SHRUBS (PHILADELPHUS "MOCK ORANGE")	656.35	-			
								6			6		EACH	DECIDUOUS SHRUBS (SPIRAEA ALBIFLORA)	656.35	-			
								6			6		EACH	DECIDUOUS SHRUBS (SPIRAEA JAPONICA "MAGIC CARPET")	656.35	-			
								10			10		EACH	DECIDUOUS SHRUBS (SYRINGA VULGARIS)	656.35	-			
								17			17		EACH	DECIDUOUS SHRUBS (VIBURNUM X JUDDII)	656.35	-			
								66			66		EACH	GROUND COVERS AND VINES (JUNIPERUS PROCUMBENS "NANA")	656.40	-			
								27			27		EACH	GROUND COVERS AND VINES (JUNIPERUS X PFITZERIANA "SEA GREEN")	656.40	-			
								27			27		EACH	GROUND COVERS AND VINES (MICROBIOTA DECUSSATE)	656.40	-			
								5			5		EACH	GROUND COVERS AND VINES (PARTHENOCISSIS TRICUSPIDATA "VEITCHII")	656.40	-			
								400			400		EACH	PERENNIALS (HEMEROCALLIS "STELLA D'ORO")	656.41	-			
								80			80		EACH	PERENNIALS (HEMEROCALLIS FLAVA 100, 200)	656.41	-			
								150			150		EACH	PERENNIALS (HEMEROCALLIS FULVA 300, 400)	656.41	-			
								40			40		EACH	PERENNIALS (ROSA RUGOSA "PURPLE PAVEMENT")	656.41	-			
						400					400		SF	TRAFFIC SIGNS, TYPE A	675.20	7.7			
						830					830		LF	SQUARE TUBE SIGN POST AND ANCHOR	675.341	5			
						17					17		EACH	REMOVING SIGNS	675.50	-			
						4					4		EACH	ERECTING SALVAGED SIGNS	675.60	-			
						1100					1100		LF	ELECTRICAL CONDUIT (2")	678.21	-			
						10					10		EACH	JUNCTION BOX	678.26	-			
						1					1		EACH	TEMPORARY TRAFFIC SIGNAL SYSTEM	678.40	-			
						8					8		EACH	LIGHT POLE BASE	679.21	-			
						8					8		EACH	LIGHT POLE	679.45	-			
						8					8		EACH	LUMINAIRE	679.50	-			
							50				50		CY	SPECIAL PROVISION (EXCAVATION OF PETROLEUM CONTAMINATED SOILS, CLASS I)	900.608	-			

PROJECT NAME: HARTFORD
PROJECT NUMBER: STP 0113(59)S

FILE NAME: zc334qty3.dgn
PROJECT LEADER: S. IRELAND
DESIGNED BY: B. COLBURN
QUANTITY SHEET 3

PLOT DATE: 8/12/2019
DRAWN BY: B. PATINSKAS
CHECKED BY: S. IRELAND
SHEET 17 OF 94

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 4

SUMMARY OF ESTIMATED QUANTITIES										TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
						ROADWAY	NON-GOVERNMENT PART.	LANDSCAPING	EROSION CONTROL	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
						1					1		EACH	SPECIAL PROVISION (PRECAST CONCRETE OUTLET STRUCTURE WITH CAST IRON GRATE)	900.620	-			
						490					490		LF	SPECIAL PROVISION (VERTICAL GRANITE CURB, MOUNTABLE)	900.640	3.3			
						30					30		SY	SPECIAL PROVISION (PORTLAND CEMENT CONCRETE ISLAND TREATMENT, 5 INCH)	900.675	8.8			
						620					620		SY	SPECIAL PROVISION (STAMPED CONCRETE ISLAND, 8 INCH)	900.675	1.3			

PROJECT NAME: HARTFORD
PROJECT NUMBER: STP 0113(59)S

FILE NAME: zc334qty4.dgn
PROJECT LEADER: S. IRELAND
DESIGNED BY: B. COLBURN
QUANTITY SHEET 4

PLOT DATE: 8/12/2019
DRAWN BY: B. PATINSKAS
CHECKED BY: S. IRELAND
SHEET 18 OF 94

STATE OF VERMONT
AGENCY OF TRANSPORTATION

ITEM DETAIL AND DRAINAGE SHEET

STATION	STATION	POS.	DRN NOTE #	INLET/OUTLET TYPE INLET	INLET/OUTLET TYPE OUTLET	PIPE D IN	PIPE L FT	ALLOWABLE OPTIONS PCCSP TH	ALLOWABLE OPTIONS CAAP TH	ALLOWABLE OPTIONS CPEP SL	PIPE ELBOW NO. DEG.	ES EA	CB EA	PRCCR	DEPTH DI FT	CONC CLASS B CY	REHAB DI CLASS I EA	DI GRATE TYPE	PRCMH EA	OUTLET STUCT. EA	TRENCH EXCAVATION EARTH CY	TRENCH EXCAVATION ROCK CY	GRAN BKFILL STRUCT CY	EROS MATT SY	STONE FILL CY	STONE FILL TYPE	MARKER POSTS LT EA	MARKER POSTS RT EA	REMARKS	GUARDRAIL BEGIN STATION	GUARDRAIL END STATION	GUARDRAIL POSITION LEFT FT	GUARDRAIL POSITION RIGHT FT	GUARDRAIL END TREATMENT LEFT FT	GUARDRAIL END TREATMENT RIGHT FT
15+48.0	14+65.4	LT	1			18	66			X				1				E									1							
16+50.0	15+48.0	LT	2			18	108			X				1				E												22+10.5	27+48.4	545'			
17+50.0	16+50.0	LT	3			18	96			X				1				E																	
20+50.0	17+50.0	LT	4			24	296			X				1				E												22+10.5	22+23.0			ANCHOR	
22+90.0	20+50.0	LT	5			24	236			X									1															(G-1d)	
20+50.0	22+90.0	LT	6			24	25			X									1						5.19	II									
25+00.0	24+82.1	LT	6A			24	23			X										1					5.19	II				27+35.0	27+48.4			ANCHOR	
17+50.0	17+39.2	LT/RT	7			24	65			X				1				E																(G-1d)	
17+39.2	16+25.0	RT	8			24	111			X				1				E																	
16+25.0	16+35.1	RT	9			18	25			X				1				E												11+69.0				(2) ATTENUATORS	
16+25.0	16+25.0	RT	10			18	20			X				1				E																	
16+25.0	15+50.0	RT	11			24	75			X									1																
15+50.0	32+50.0	RT/LT	12			24	53			X				1				E																	
32+50.0	32+50.0	LT/RT	13			24	36			X				1				E																	
32+50.0	32+59.0	RT	14			24	20			X									1										5' DIAMETER						
32+59.0	14+25.0	RT	15			18	74			X									1																
14+25.0	13+50.0	RT	16			18	73			X				1				E																	
13+50.0	13+50.0	RT	17			18	23			X				1				E																	
13+50.0	13+25.0	RT	17A			18	21			X				1				E																	
13+50.0	13+50.0	RT/LT	18			18	35			X				1				E																	
13+25.0	13+00.0	RT	18A			18	21			X				1				E																	
13+50.0	12+52.0	LT	19			18	92			X				1				E																	
13+00.0	12+75.0	RT	19A			18	22			X				1				E																	
12+52.0	11+50.0	LT	20			18	93			X				1				E																	
11+50.0	11+25.0	LT	21			18	23			X				1				E																	
32+59.0	33+50.0	RT	22			18	88			X				1				E																	
33+50.0	33+50.0	RT/LT	23			18	73			X				1				E																	
33+50.0	33+53.4	LT	24			18	20			X				1				E																	
33+53.5	33+07.2	LT	25			18	44			X				1				E																	
33+50.0	51+25.0	RT/LT	26			18	26			X				1				E																	
51+25.0	51+20.0	LT/RT	27			18	28			X				1				E																	
51+12.7	51+37.0	LT	28			12	24			X									1																
50+57.5	51+12.7	LT	29			12	55			X									1																
33+50.0	34+75.0	RT	30			18	124			X				1				E																	
34+75.0	35+00.0	RT	31			18	21			X				1				E																	
35+00.0	35+12.0	RT/LT	32			18	44			X				1				E																	
35+12.0	34+75.0	LT	33			18	33			X				1				E																	
35+00.0	35+25.0	RT	34			18	21			X				1				E																	
35+25.0	61+55.0	RT/LT	35			18	65			X									1																
61+55.0	61+10.0	LT	36			18	46			X				1				E																	
60+75.0	61+42.2	LT	36A			12	69			X				1				E											CONNECT TO EXISTING PIPE (INCIDENTAL)						
61+10.0	60+50.0	LT	37			18	56			X				1				E																	
60+25.0	60+25.0	RT/LT	37A			15	46			X				1				E																	
60+50.0	60+35.0	LT/RT	38			18	30			X				1				E																	
60+25.0		RT	38A											1				E											CONNECT TO EXISTING PIPE (INCIDENTAL)						
61+55.0	61+55.0	LT/RT	39			18	76			X									1											TOTALS					
61+55.0	37+25.0	RT	40			18	69			X				1				E																	
37+25.0	37+25.0	RT/LT	41			18	30			X				1				E																	
37+25.0	36+45.0	LT	42			18	83			X				1				E																	
37+25.0	38+50.0	RT	43			15	120			X				1				E																	
38+50.0	38+50.0	RT/LT	44			15	26			X				1				E											ECCENTRIC CONE						
38+50.0	39+50.0	RT	45			15	96			X				1				E																	
39+50.0	39+50.0	RT/LT	46			15	30			X				1				E																	
38+04.0		LT	47														1																		
60+25.0	61+60.0	RT	48																		60.7							REMOVE EXISTING 15" PIPE & DI						
61+60.0	61+60.4	RT/LT	49																		15.3							REMOVE EXISTING 12" PIPE & DI						
51+42.2	51+38.5	LT/RT	50																		15.5							REMOVE EXISTING 12" PIPE & DI						
50+57.4	51+42.2	LT	51																		39.3							REMOVE EXISTING 12" PIPE & DI						
51+42.2	33+73.2	LT/RT	52																		31.4							REMOVE EXISTING 8" PIPE & DI						
33+73.2	33+73.7	RT/LT	53																		27.1							REMOVE EXISTING 8" PIPE & DI						
13+77.4	14+78.6	LT	54																		104.6							REMOVE EXISTING 18" PIPE & DI						
24+80.0	24+80.0	LT	55																									REM. EX. 18" PIPE (INCIDENTAL)						
						12	**148**																												
						15	**318**																												
						18	**1769**																												
						24	**940**											1-5' DIA.																
TOTALS														**43**			**1**	**43**	**8**	**1**	**294.0**				**15.6**		**1**							

UNDERDRAIN

BEGIN STATION	END STATION	POSITION	TYPE	DIA IN.	LENGTH FT	TRENCH EARTH CY.	TRENCH ROCK CY.	GRAN BKFILL CF	FB EA	MRK. POST EA
TOTALS										

PROJECT NAME: HARTFORD
PROJECT NUMBER: STP 0113(59)S

FILE NAME: zc334dds.dgn
PROJECT LEADER: S. IRELAND
DESIGNED BY: B. COLBURN
DRAINAGE DETAIL SHEET

PLOT DATE: 8/12/2019
DRAWN BY: B. PATINSKAS
CHECKED BY: S. IRELAND
SHEET 19 OF 94

STATE OF VERMONT
AGENCY OF TRANSPORTATION

EARTHWORKS

STATION	DIST	TOTAL EXCAVATION EARTH AND ROCK AREA S.F.	TOTAL EXCAVATION EARTH AND ROCK VOLUME C.Y.	ROCK EXCAVATION AREA S.F.	ROCK EXCAVATION VOLUME C.Y.	EMBANKMENT AREA S.F.	EMBANKMENT VOLUME C.Y.	AREA S.F.	VOLUME C.Y.
U.S. ROUTE 5									
11+00		24.22		0.00		17.05			
	50		306.9		0.0		23.7		
11+50		307.25		0.00		8.50			
	50		542.1		0.0		17.1		
12+00		278.21		0.00		9.94			
	50		492.0		0.0		26.7		
12+50		253.20		0.00		18.92			
	50		453.7		0.0		47.1		
13+00		236.81		0.00		31.97			
	50		402.8		0.0		79.9		
13+50		198.19		0.00		54.35			
	50		330.2		0.0		146.6		
14+00		158.43		0.00		104.02			
	50		321.7		0.0		167.0		
14+50		188.96		0.00		76.31			
	50		337.2		0.0		275.4		
15+00		175.26		0.00		221.09			
	50		288.3		0.0		217.3		
15+50		136.05		0.00		13.59			
	50		166.6		0.0		29.6		
16+00		43.86		0.00		18.40			
	50		78.1		0.0		31.4		
16+50		40.50		0.00		15.52			
	38		75.4		0.0		19.9		
16+88		66.61		0.00		12.69			
	12		22.7		0.0		5.2		
17+00		35.42		0.00		10.57			
	50		101.3		0.0		13.7	CUT	4023
17+50		73.97		0.00		4.25		ROCK	0
	25		66.5		0.0		4.1	R.FAC	.495
17+75		69.69		0.00		4.58		FILL	1113
	25		37.2		0.0		8.5	F.FAC	1.15
18+00		10.75		0.00		13.70		EX. C	2743
SYKES MOUNTAIN AVENUE									
30+15		151.68		0.00		0.00			
	35		224.3		0.0		0.8		
30+50		194.42		0.00		1.25			
	20		129.6		0.0		4.6		
30+70		155.46		0.00		11.05			
ROUNDABOUT (U.S. ROUTE 5 QUANTITY)									
32+25		56.91		0.00		37.82			
	25		50.5		0.0		30.7		
32+50		52.07		0.00		28.49			
	50		116.3		0.0		39.5		
33+00		73.49		0.00		14.21			
	50		175.7		0.0		19.6		
33+50		116.30		0.00		6.99			
	50		235.2		0.0		7.6		
34+00		137.72		0.00		1.23			
	50		315.6		0.0		15.1		
34+50		203.16		0.00		15.06			
	50		244.2		0.0		47.6		
35+00		60.55		0.00		36.31			
	50		124.3		0.0		65.9		
35+50		73.72		0.00		34.86			
	50		86.5		0.0		96.2		
36+00		19.68		0.00		69.04			
	50		89.9		0.0		70.9		
36+50		77.36		0.00		7.55			
	10		28.2		0.0		4.1		
36+60		74.76		0.00		14.55			
	40		84.5		0.0		31.9		
37+00		39.35		0.00		28.49			
	50		76.4		0.0		51.5		
37+50		43.13		0.00		27.08			
	50		78.7		0.0		45.4		

STATION	DIST	TOTAL EXCAVATION EARTH AND ROCK AREA S.F.	TOTAL EXCAVATION EARTH AND ROCK VOLUME C.Y.	ROCK EXCAVATION AREA S.F.	ROCK EXCAVATION VOLUME C.Y.	EMBANKMENT AREA S.F.	EMBANKMENT VOLUME C.Y.	AREA S.F.	VOLUME C.Y.
SYKES MOUNTAIN AVENUE (CONTINUED)									
38+00		41.90		0.00		21.91			
	50		55.6		0.0		38.3	CUT	2275
38+50		18.10		0.00		19.46		ROCK	0
	50		85.7		0.0		18.2	R.FAC	.495
39+00		74.47		0.00		0.16		FILL	600
	50		73.5		0.0		12.4	F.FAC	1.15
39+50		4.87		0.00		13.28		EX. C	1584
RALPH LEHMAN DRIVE									
60+25		16.44		0.00		1.57			
	25		46.4		0.0		2.1	CUT	240
60+50		83.87		0.00		2.95		ROCK	0
	50		136.3		0.0		5.7	R.FAC	.495
61+00		63.34		0.00		3.25		FILL	16
	25		57.4		0.0		8.6	F.FAC	1.15
61+25		60.56		0.00		15.28		EX. C	221
BESWICK DRIVE									
51+10		17.13		0.00		0.51		CUT	118
	40		117.7		0.0		0.6	ROCK	0
51+50		141.79		0.00		0.31		R.FAC	.495
								FILL	1
								F.FAC	1.15
								EX. C	117
DETENTION BASIN									
								CUT	2232
								ROCK	0
								R.FAC	.495
								FILL	173
								F.FAC	1.15
								EX. C	2034
TOPSOIL EXCAVATION									
								CUT	556
								ROCK	0
								R.FAC	.495
								FILL	0
								F.FAC	1.15
								EX. C	556

STATION	DIST	TOTAL EXCAVATION EARTH AND ROCK AREA S.F.	TOTAL EXCAVATION EARTH AND ROCK VOLUME C.Y.	ROCK EXCAVATION AREA S.F.	ROCK EXCAVATION VOLUME C.Y.	EMBANKMENT AREA S.F.	EMBANKMENT VOLUME C.Y.	AREA S.F.	VOLUME C.Y.

SUMMARY AND BALANCES

STATION TO STATION		TOT EXC. EARTH & ROCK C.Y.	ROCK EXCAV C.Y.	EMBANK C.Y.	EXCESSES CUT	EXCESSES FILL	ACUMULATIVE EXCESSES CUT	ACUMULATIVE EXCESSES FILL
COMMON EXC.								
U.S. ROUTE 5								
11+00	18+00	4023	0	1113	2910		2910	
SYKES MOUNTAIN AVENUE								
30+15	30+70	354	0	5	349		3259	
32+25	39+50	1921	0	595	1326		4585	
RALPH LEHMAN DRIVE								
60+25	61+25	240	0	16	224		4809	
BESWICK DRIVE								
51+10	51+50	118	0	1	117		4926	
DETENTION BASIN								
	TOTAL=	2232	0	173	2059		6985	
TOPSOIL EXCAVATION								
	TOTAL=	556	0	0	556		7541	
TOTAL EXC.								
	TOTAL=	9444	0	1903				

REMARKS

EARTH AND ROCK EXCAVATION	9444	
SOLID ROCK EXCAVATION	0	
EARTH EXCAVATION	9444	
PLANIMETERED FILL	1903	
LESS FACTORED SOLID ROCK	0	
LESS DISPLACEMENT OF ANY LARGE STRUCTURES	0	
NET PLANIMETERED FILL	1903	
FACTOR	285	
PLANIMETERED FILL INCLUDING FACTOR	2188	
MATERIALS AVAILABLE FOR FILLS		
EARTH EXCAVATION	9444	
CHANNEL EXCAVATION	0	
UNDERDRAIN EXCAVATION	0	
STRUCTURE EXCAVATION	0	
TOTAL MATERIAL AVAILABLE FOR FILL	9444	
TOTAL FILL INCLUDING FACTOR	2188	
TOTAL MATERIAL FOR FILL	9444	
BORROW	0	
EXCESS EXCAVATION	7256	

PROJECT NAME: HARTFORD
PROJECT NUMBER: STP 0113(59)S

FILE NAME: zc334ewl.dgn
PROJECT LEADER: S. IRELAND
DESIGNED BY: B. COLBURN
EARTHWORK SHEET

PLOT DATE: 8/12/2019
DRAWN BY: B. PATINSKAS
CHECKED BY: S. IRELAND
SHEET 20 OF 94

NETWORK CONTROL

HVCTRL #2

Standard Disk Stamped

Sykes Mt Ave
North = 417914.10
East = 1684046.76
Elev. =

To reach from Interstate I-91 Overpass over U.S. Route 5 in White River Junction, proceed northeasterly along Route 5 for 0.15 miles (0.24 Km) to a traffic light and Sykes Mt Ave on the right. To reach from the junction of U.S. Route 5 and U.S. route 4 west, proceed southwesterly along Route 5 for 0.5 miles (0.8 Km) to a traffic light and Sykes Mt Ave on the left. Turn on to Sykes Mt Ave and proceed southeasterly for 200 feet (61.0 M) to Beswick Drive on the right. Turn right on to Beswick Drive for 80 feet (24.4 M) to a paved parking lot and the mark on the right. The mark is set in the southerly corner of a concrete pad for a telephone. The mark is located 58 feet (17.7 M) northwest of the centerline of Beswick Drive and 4 feet (1.2 M) southwest of a telephone.

HVCTRL #50

Standard Disk Stamped

E56
North = 418205.82
East = 1683403.90
Elev. = 573.98'

To reach the station from the junction of Interstate 89 and 91, proceed north 0.35 miles (0.56 Km) along Interstate 91 to the junction of Interstae 91 (Exit 5) and State Highway 5. Turn left from the Interstate 91 off ramp, and proceed southwest 0.1 miles (0.2 Km) passing underneath Interstate 91, to the onramp for Interstate 91 southbound on the right. Turn right and proceed northerly and then easterly 0.3 miles (0.5 Km) along the onramp to the station on the left in the median between Interstate 91 southbound and the onramp. The station is a standard NGS vertical control disk stamped "E56 1978" set flush in the top of a rock outcrop approximately 4 M (13.1 feet) by 6 M (19.7 feet) in size and projecting 1.3 M (4.3 feet) above the ground. The station is located 27.00 M (88.58 feet) on a bearing of north 15 degrees east from a catch basin near the joining of the onramp and the highway, 12.70 M (41.67 feet) on a bearing of north 60 degrees west from the east edge of pavement of the onramp, 11.75 M (38.55 feet) on a bearing of north 74 degrees east from the west edge of pavement of the highway, 10.19 M (33.43 feet) on a bearing of north 12 degrees west from the west post of a double posted sign "Merging Lane", and 1.14 M (3.74 feet) on a bearing of north 80 degrees east from a fiberglass marker. All distances are slope distances and the directions are magnetic compass bearings.

LOCAL CONTROL

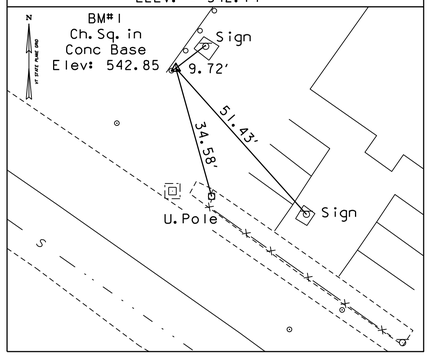
HVCTRL #1

NORTH = 417006.90
EAST = 1685781.72
ELEV. =

Temporary Point was
Located using GPS
NOT TIED

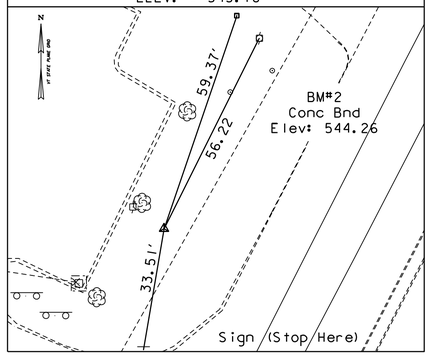
HVCTRL #3

NORTH = 417902.40
EAST = 1684313.21
ELEV. = 542.74



HVCTRL #4

NORTH = 418196.18
EAST = 1683928.36
ELEV. = 543.78



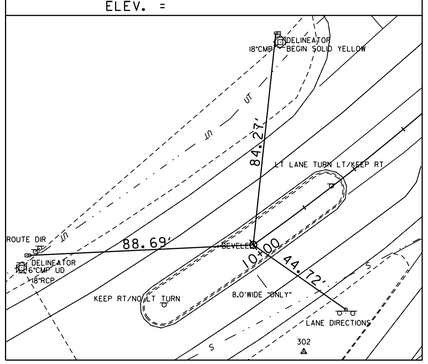
NORTH = / EAST = / ELEV. =

NORTH = / EAST = / ELEV. =

ALIGNMENT TIES

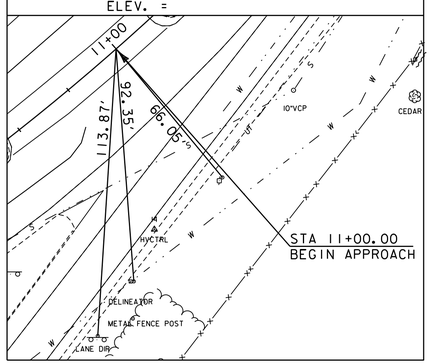
PC STA. 10+00.00

NORTH = 417694.27
EAST = 1683613.75
ELEV. =



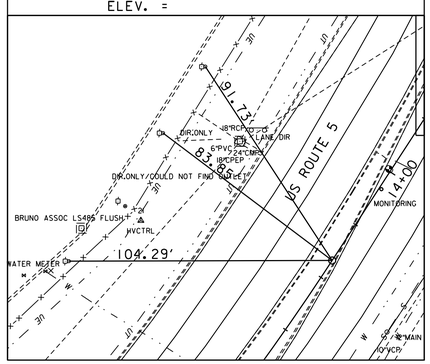
BEGIN APPROACH

NORTH = 417756.31
EAST = 1683692.11
ELEV. =



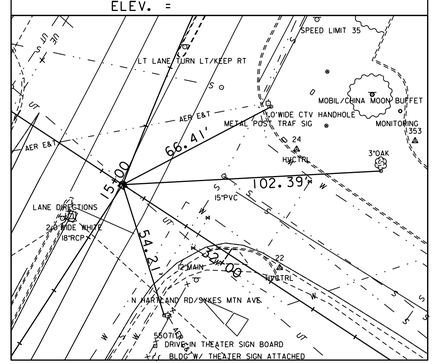
PT STA. 13+58.07

NORTH = 417950.96
EAST = 1683860.35
ELEV. =



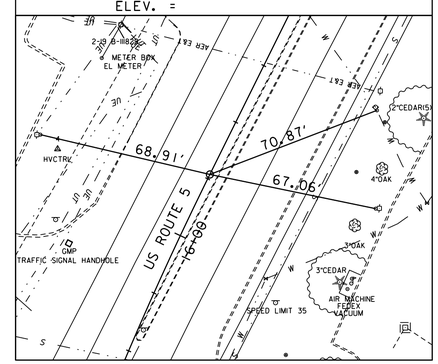
PC STA. 15+00.00

NORTH = 418069.92
EAST = 1683937.76
ELEV. =



PT STA. 16+26.92

NORTH = 418186.13
EAST = 1683988.66
ELEV. =



DATUM

VERTICAL _____

HORIZONTAL _____

ADJUSTMENT _____

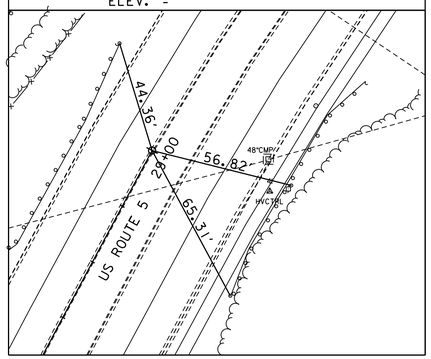
PROJECT NAME: HARTFORD
PROJECT NUMBER: STP 0113(59)S

FILE NAME: zc334ti.dgn
PROJECT LEADER: S. IRELAND
DESIGNED BY: B. COLBURN
TIE SHEET

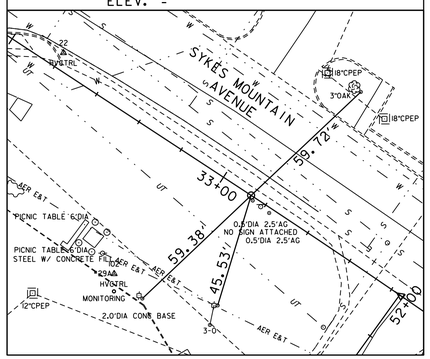
PLOT DATE: 8/12/2019
DRAWN BY: M. LOVETT
CHECKED BY: S. IRELAND
SHEET 21 OF 94

ALIGNMENT TIES

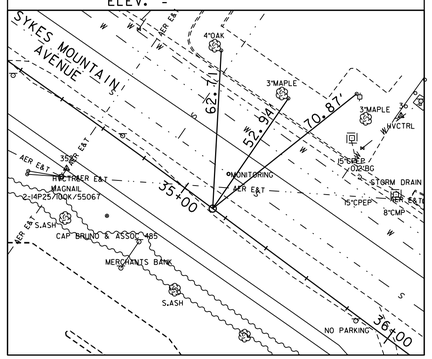
PT STA. 29+00.00
NORTH = 419320.00
EAST = 1684566.66
ELEV. =



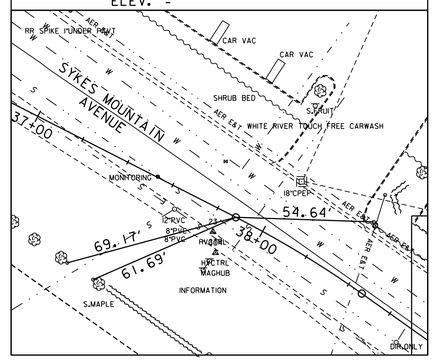
PC STA. 33+13.12
NORTH = 417980.52
EAST = 1684074.19
ELEV. =



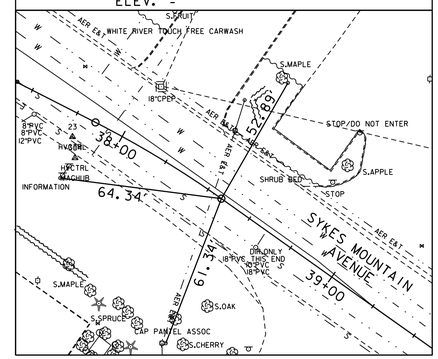
PT STA. 35+13.74
NORTH = 417865.67
EAST = 1684238.64
ELEV. =



PC STA. 37+88.04
NORTH = 417724.65
EAST = 1684472.83
ELEV. =

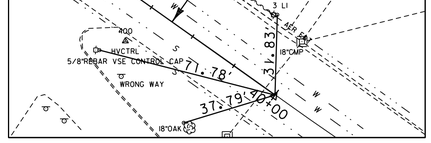


PT STA. 38+46.39
NORTH = 417694.45
EAST = 1684522.70
ELEV. =

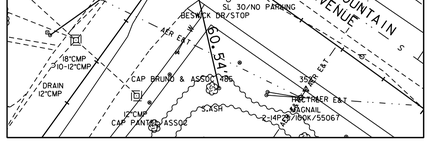


ALIGNMENT TIES

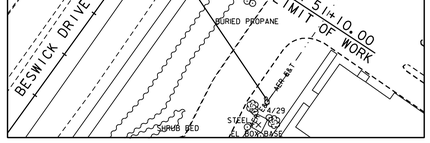
END APPROACH
NORTH = 417605.52
EAST = 1684647.94
ELEV. =



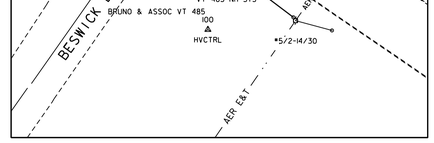
POE ?
NORTH =
EAST =
ELEV. =



LIMIT OF WORK
NORTH =
EAST =
ELEV. =



POB ?
NORTH = 417718.18
EAST = 1683971.95
ELEV. =



POE ?
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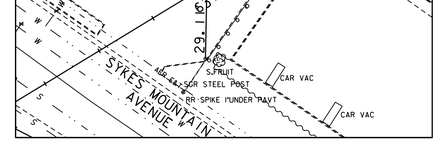
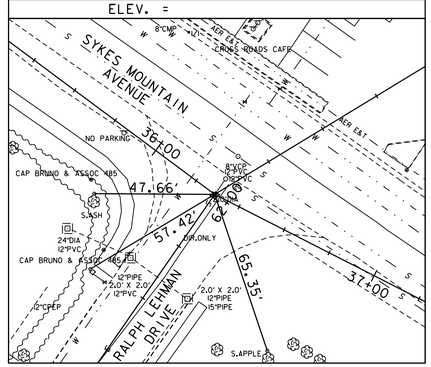
ELEV. =



ALIGNMENT TIES

NORTH =
EAST =
ELEV. =



LIMIT OF WORK
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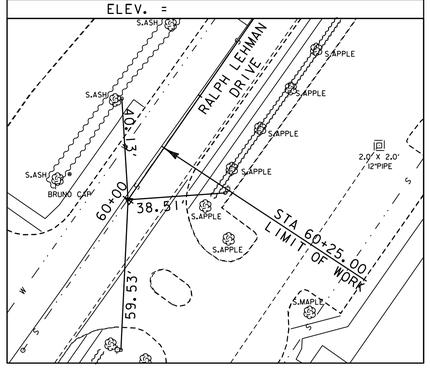
ELEV. =



NORTH =
EAST =
ELEV. =

NORTH =
EAST =
ELEV. =

NORTH =
EAST =
ELEV. =

DATUM

VERTICAL _____

HORIZONTAL _____

ADJUSTMENT _____

PROJECT NAME: HARTFORD
PROJECT NUMBER: STP 0113(59)S

FILE NAME: zc334ti.dgn
PROJECT LEADER: S. IRELAND
DESIGNED BY: B. COLBURN
TISHEET 2

PLOT DATE: 8/12/2019
DRAWN BY: M. LOVETT
CHECKED BY: S. IRELAND
SHEET 22 OF 94

MATCHLINE STA 16+50

5
KBT ENTERPRISES, LLC, LESSOR
SUMMIT DISTRIBUTING, LLC, LESSEE

STATE OF VERMONT
PROJ. I NO. 91-2(2)

US ROUTE 5

PI 16+26.92

2" 45° BEND, MJ

PI 15+63.51

STA 15+00.00 US RTE 5 =
STA 31+50.00 SYKES MT AVE

STA 33+83.93 SYKES MT AVE =
STA 52+00.00 BESWICK DRIVE

PAVED
RELOCATE FIRE HYDRANT

12" DI

SYKES MOUNTAIN AVENUE

PI 31+13.46

PI 52+00.00

12" 45° BEND, MJ

PC 15+00.00

PLUG AND ABANDON EXISTING SEWER OUTLET AFTER CONNECTING NEW SERVICE LINE

STATE OF VERMONT
PROJ. I NO. 91-2(2)

4A
HARTFORD LAND CO.

GRASS

9
RUTH H. GUERNSEY, TRUSTEE OF THE REVOCABLE TRUST OF RUTH H. GUERNSEY, DATED APRIL 5, 1985

MATCHLINE STA 34+75

3
RYDER TRUCK RENTAL, INC.

US ROUTE 5

PT 13+58.07

STATE OF VERMONT
PROJ. I NO. 91-2(2)

RELOCATE FIRE HYDRANT
6" D. I. WATER LINE TO
RELOCATED HYDRANT

12" D. I. PIPE, AS REQ'D LENGTH TO EXISTING 12" GATE VALVE

2
TAMARACK SERVICES OF WHITE RIVER JUNCTION, INC., LESSOR
McDONALD'S CORPORATION, LESSEE

8
HARTFORD LAND CORPORATION, LESSOR
COMMUNITY BANK, N.A., LESSEE

4B

STATE OF VERMONT
PROJ. I NO. 91-2(2)

MATCHLINE STA 13+25

N
VT STATE PLANE GRID

LINES SHOWN ON THIS PLAN AS EXISTING PROPERTY LINES P/L ARE BELIEVED TO BE ACCURATE BUT SHOULD NOT BE RELIED UPON FOR PURPOSES UNRELATED TO THE TOWN OF HARTFORD'S ACQUISITION OF LAND AND RIGHTS FOR THIS PROJECT.

EXISTING RIGHT-OF-WAY LIMITS REFERENCED TO: ROW PROJECT I NO. 91-2(2)

FOR GENERAL CONSTRUCTION PLANS SEE SHEETS 12-18 OF 47
FOR EPSC CONSTRUCTION PLANS SEE SHEETS 31-36 OF 47
FOR LANDSCAPE PLANS SEE SHEETS OF 37-41 OF 47

0 20 40
SCALE IN FEET

PROJECT NAME: HARTFORD
PROJECT NUMBER: STP 0113(59)S

FILE NAME: zc334bdr_nul.dgn
PROJECT LEADER: S. IRELAND
DESIGNED BY: B. COLBURN
LAYOUT PLAN I

PLOT DATE: 3/10/2017
DRAWN BY: M. LOVETT
CHECKED BY: S. IRELAND
SHEET 23 OF 94

GRANITE CURB TABLE		
LOCATION (STA-STA)	VERTICAL CURB (7" REVEAL)	CURB RADIUS
13+25.0 TO 13+62.2, LT	35.8	-
13+62.2 TO 13+76.0, LT	15.0	40
13+76.0TO 13+85.0, LT	9.5	10
13+85.0 TO 14+12.4, LT	28.2	-
14+12.4 TO 14+33.7, LT	24.3	60
14+33.7 TO 14+76.3, LT	69.7	-
14+76.3 TO 14+71.5, LT	9.4	5
14+71.5 TO 14+53.5, LT	18.1	-
14+53.5 TO 14+48.5, LT	7.9	5
14+48.5 TO 14+48.4, LT	15.1	-
15+84.6 TO 15+52.5, LT	34.8	-
15+52.5 TO 15+47.3, LT	7.3	5
15+47.3 TO 15+48.1, LT	22.4	35
15+48.1 TO 15+64.8, LT	30.0	55
15+64.8 TO 16+21.4, LT	62.2	-
16+21.4 TO 16+27.7, LT	7.2	10
16+27.7 TO 16+34.5, LT	7.5	10
16+34.5 TO 16+50.0, LT	11.0	-
SHEET TOTAL	415.4	

GRANITE CURB TABLE		
LOCATION (STA-STA)	VERTICAL CURB (7" REVEAL)	CURB RADIUS
16+50.0 US 5, RT TO 32+66.5 SYKES, LT	182.3	-
32+66.5 TO 32+77.8, LT	16.8	10
32+77.8 TO 32+78.2, LT	17.3	-
32+78.2 TO 32+76.5, LT	3.0	2
32+76.5 SYKES, LT TO 16+50.0 US 5, RT	148.3	-
33+17.7 TO 34+23.1, LT	106.3	-
33+17.7 TO 33+07.8, LT	15.9	10
33+07.8 TO 33+08.4, LT	23.1	-
33+08.4 TO 33+10.5, LT	3.2	2
33+10.5 TO 33+12.2, LT	1.8	-
33+12.2 TO 33+14.1, LT	3.2	2
33+14.1 TO 33+13.8, LT	11.0	-
33+13.8 TO 34+29.0, LT	117.0	-
34+29.0 TO 34+29.0, LT	12.0	-
34+29.0 TO 34+33.0, LT	6.3	2
34+33.0 TO 34+33.0, LT	22.0	-
34+33.0 TO 34+23.1, LT	15.7	10
34+62.6 TO 34+72.5, LT	15.6	10
34+72.5 TO 34+75.0, LT	2.5	10
34+62.6 TO 34+62.6, LT	22.1	10
34+62.6 TO 34+75.0, LT	15.7	10
SHEET TOTAL	758.1	

GRANITE CURB TABLE		
LOCATION (STA-STA)	VERTICAL CURB (7" REVEAL)	CURB RADIUS
13+25.0 TO 13+39.1, RT	14.6	-
13+39.1 TO 13+45.3, RT	7.0	10
13+45.3 TO 13+50.6, RT	6.0	10
13+50.6 US 5, RT TO 32+87.1 SYKES, RT	191.6	-
32+87.1 SYKES, RT TO 51+10.0 BESWICK, LT	114.4	70
51+10.0 BESWICK, RT TO 34+69.2 SYKES, RT	111.5	70
34+69.2 TO 34+75.0, RT	5.7	-
14+23.2 TO 14+24.0, RT	12.2	-
14+24.0 US R, RT TO 32+41.6 SYKES, RT	3.6	2
32+41.6 TO 32+37.3, RT	16.0	-
31+21.5 TO 31+78.5	179.1	28.5
SHEET TOTAL	661.7	

GRANITE SLOPE EDGING TABLE	
LOCATION (STA-STA)	SLOPE EDGING (TYPE 4")
13+25.0, LT TO 14+35.0, CL	138.6
14+35.0, CL TO 13+25.0, RT	115.9
15+65.0, CL TO 16+50.0, LT	94.3
16+50.0, RT TO 15+65.0, CL	98.4
30+25.0, CL TO 30+68.0, CL	53.7
30+68.0, CL TO 30+25.0, CL	48.0
32+15.0, CL TO 34+75.0, RT	270.7
32+15.0, CL TO 34+75.0, LT	269.2
SHEET TOTAL	1088.8

DETECTABLE WARNING SURFACE TABLE	
LOCATION (STA)	OFFSET
14+08.8, RT	33.4
14+09.0, LT	37.4
14+15.1, LT	17.3
14+16.0, LT	0.2
15+96.0, RT	7.6
16+01.0, RT	31.2
16+02.6, LT	5.2
16+04.1, LT	33.0

DETECTABLE WARNING SURFACE TABLE	
LOCATION (STA)	OFFSET
30+54.9, LT	30.2
30+55.0, LT	3.6
30+55.0, RT	6.1
30+55.3, RT	28.0
32+43.0, RT	5.2
32+47.0, LT	3.5
32+47.5, RT	30.2
32+54.7, LT	34.8
33+36.2, RT	36.9
34+19.1, RT	38.9

VERTICAL GRANITE CURB, MOUNTABLE TABLE	
LOCATION (STA-STA)	SLOPE EDGING (TYPE 4")
31+05.0, CL TO 31+95.0, CL	141.4
31+95.0, CL TO 31+05.0, CL	141.4
SHEET TOTAL	282.8

DRIVEWAY TABLE		
LOCATION	WIDTH	RADIUS
32+93 LT	30	10
34+48 LT	30	10

CONSTRUCT SHARED PATH
STA 30+50.8, RT TO STA 13+83.8, LT
STA 13+58.6, RT TO STA 33+61.3, RT
STA 33+99.0, RT TO STA 34+75.0, RT
STA 30+50.0, LT TO STA 16+50.0, LT
STA 16+50.0, RT TO STA 34+75.0, LT

CONSTRUCT 8" CONCRETE SIDEWALK
STA 31+05.0, CL TO STA 31+95.0, CL
STA 31+95.0, CL TO STA 31+05.0, CL

0 20 40

SCALE IN FEET

PROJECT NAME: HARTFORD

PROJECT NUMBER: STP 0113(59)S

FILE NAME: zc334bdr_nul.dgn
PROJECT LEADER: S. IRELAND
DESIGNED BY: B. COLBURN
LAYOUT PLAN 1- NOTES AND TABLES

PLOT DATE: 8/12/2019
DRAWN BY: M. LOVETT
CHECKED BY: S. IRELAND
SHEET 24 OF 94

N

VT STATE PLANE GRID

END R.O.W. PROJECT
HARTFORD STP 0113(59)S
STA. 39+52 LT

(9)
RUTH H. GUERNSEY, TRUSTEE OF THE REVOCABLE TRUST OF RUTH HALL GUERNSEY, DATED APRIL 5, 1989

(10)
JACOBS, RANDOLPH P.

(11)
HALL, ALLEN J. & HALL, CHARLES H. D.B.A. HALL AND HALL PARTNERSHIP

(12)
TCSVT, LLC

(13)
UNITED STATES POSTAL SERVICE (NO IMPACTS TO THIS PARCEL)

(4D)
HARTFORD LAND CO.

(4C)
HARTFORD LAND CO., LESSOR NORTHMAC, INC., LESSEE

(4B)
HARTFORD LAND CO., LESSOR COMMUNITY BANK, N.A., LESSEE

MATCHLINE STA 34+75

STA 36+29.12 SYKES MT AVE =
STA 62+00.00 RALPH LEHMAN DRIVE

63+00

62+00

61+00

SYKES MOUNTAIN AVENUE

RALPH LEHMAN DRIVE

12" DI

8" DI

RELOCATE FIRE HYDRANT 6" D.I. WATER LINE TO RELOCATED HYDRANT

AER E&T

P/L

31 32 34 35 36 36A 37 37A 38 38A 39 40 41 42 43 44 45 46 47 48 49

LINES SHOWN ON THIS PLAN AS EXISTING PROPERTY LINES P/L ARE BELIEVED TO BE ACCURATE BUT SHOULD NOT BE RELIED UPON FOR PURPOSES UNRELATED TO THE TOWN OF HARTFORD'S ACQUISITION OF LAND AND RIGHTS FOR THIS PROJECT.

FOR GENERAL CONSTRUCTION PLANS SEE SHEETS 12-18 OF 47
FOR EPSC CONSTRUCTION PLANS SEE SHEETS 31-36 OF 47
FOR LANDSCAPE PLANS SEE SHEETS OF 37-41 OF 47

EXISTING RIGHT-OF-WAY LIMITS REFERENCED TO:
ROW PROJECT I NO. 91-2(2)

0 20 40
SCALE IN FEET

PROJECT NAME: HARTFORD
PROJECT NUMBER: STP 0113(59)S

FILE NAME: zc334bdr_nul.dgn
PROJECT LEADER: S. IRELAND
DESIGNED BY: B. COLBURN
LAYOUT PLAN 2

PLOT DATE: 3/10/2017
DRAWN BY: M. LOVETT
CHECKED BY: S. IRELAND
SHEET 25 OF 94

GRANITE CURB TABLE		
LOCATION (STA-STA)	VERTICAL CURB (7" REVEAL)	CURB RADIUS
34+75.0 TO 35+22.3, LT	47.7	-
35+22.3 TO 35+42.8, LT	23.9	25
35+42.8 TO 35+45.7, LT	5.1	-
35+45.7 TO 35+51.2, LT	18.4	30
34+75.0 TO 35+51.2, LT	76.9	-
35+58.1 TO 35+63.0, LT	11.8	5
35+63.0 TO 35+68.2, LT	5.3	-
35+68.2 TO 35+91.7, LT	27.0	45
35+91.7 TO 36+47.0, LT	51.1	52.5
36+47.0 TO 36+50.9, LT	5.1	3
36+50.9 TO 36+52.9, LT	6.4	33
36+52.9 TO 35+86.0, LT	61.6	62.3
35+86.0 TO 35+81.2, LT	5.4	7
35+81.2 TO 35+75.9, LT	5.3	-
35+75.9 TO 35+75.9, LT	3	-
35+75.9 TO 35+68.6, LT	7.3	-
35+68.6 TO 35+58.1, LT	18.3	-
36+70.8 TO 36+76.4, LT	22.8	15
36+76.4 TO 37+86.5, LT	112.8	-
37+86.5 TO 37+93.2, LT	9.9	7
37+93.2 TO 37+95.4, LT	17.3	-
36+70.8 TO 36+92.1, LT	25.3	-
36+92.1 TO 36+92.9, LT	6.8	-
38+29.3 TO 38+29.0, LT	13.7	-
38+29.0 TO 38+35.7, LT	11.0	7
38+35.7 TO 38+69.9, LT	34.7	-
38+69.9 TO 38+84.9, LT	23.6	15
38+84.9 TO 38+84.9, LT	8.3	-
39+24.8 TO 39+24.8, LT	3.6	-
39+24.8 TO 39+41.3, LT	25.1	15
39+41.3 TO 39+50.0, LT	8.7	-
SHEET TOTAL	703.2	

GRANITE CURB TABLE		
LOCATION (STA-STA)	VERTICAL CURB (7" REVEAL)	CURB RADIUS
34+75.0 TO 35+67.4, RT	93.0	-
35+67.4 SYKES, RT TO 61+46.3 LEHMAN, LT	44.0	50
61+46.3 TO 60+25.0, LT	123.1	-
60+25.0 TO 61+40.7, RT	117.0	-
61+40.7 LEHMAN, RT TO 36+77.5 SYKES, RT	43.8	60
36+77.5 TO 38+43.7, RT	166.6	-
38+43.7 TO 38+75.4, RT	34.1	50
39+30.0 TO 39+24.7, RT	5.7	-
39+24.7 TO 39+23.4, RT	30	2
39+23.4 TO 39+37.9, RT	19.8	15
39+37.9 TO 39+50.0, RT	12.1	-
SHEET TOTAL	689.2	

GRANITE SLOPE EDGING TABLE	
LOCATION (STA-STA)	SLOPE EDGING (TYPE 4")
34+75.0, RT TO 35+76.6, CL	106.6
34+75.0, LT TO 35+76.6, CL	104.4
36+81.7, CL TO 37+39.9, CL	73.5
37+39.9, CL TO 36+81.7, CL	59.8
61+47.5, CL TO 60+96.6, CL	60.9
60+96.6, CL TO 61+47.5, CL	58.2
SHEET TOTAL	463.4

VERTICAL GRANITE CURB, MOUNTABLE TABLE	
LOCATION (STA-STA)	SLOPE EDGING (TYPE 4")
35+96.6, CL TO 36+61.6, CL	96.7
36+61.6, CL TO 35+96.6, CL	107.5
SHEET TOTAL	204.2

DETECTABLE WARNING SURFACE TABLE	
LOCATION (STA)	OFFSET
35+54.8, RT	22.0
35+55.1, RT	4.29
35+55.7, LT	3.5
35+63.6, LT	25.8
37+05.0, LT	19.5
37+05.0, RT	0.5
37+05.0, RT	7.0
37+04.9, RT	25.2

DETECTABLE WARNING SURFACE TABLE	
LOCATION (STA)	OFFSET
61+22.0, LT	26.3
61+22.0, LT	4.4
61+22.0, RT	1.8
61+22.0, RT	19.5

DRIVEWAY TABLE			
LOCATION	WIDTH	RADIUS	
35+44 LT	18	25 LT	5 RT
36+57 LT	19	3 LT	15 RT
38+13 LT	37.2	7	
39+05 LT	39.9	15	
39+09 RT	29.8	15 LT	50 RT

CONSTRUCT SHARED PATH
STA 34+75.0, RT TO STA 60+82.1, RT
STA 60+25.0, RT TO STA 38+75.4, RT
STA 34+75.0, LT TO STA 38+83.7, LT

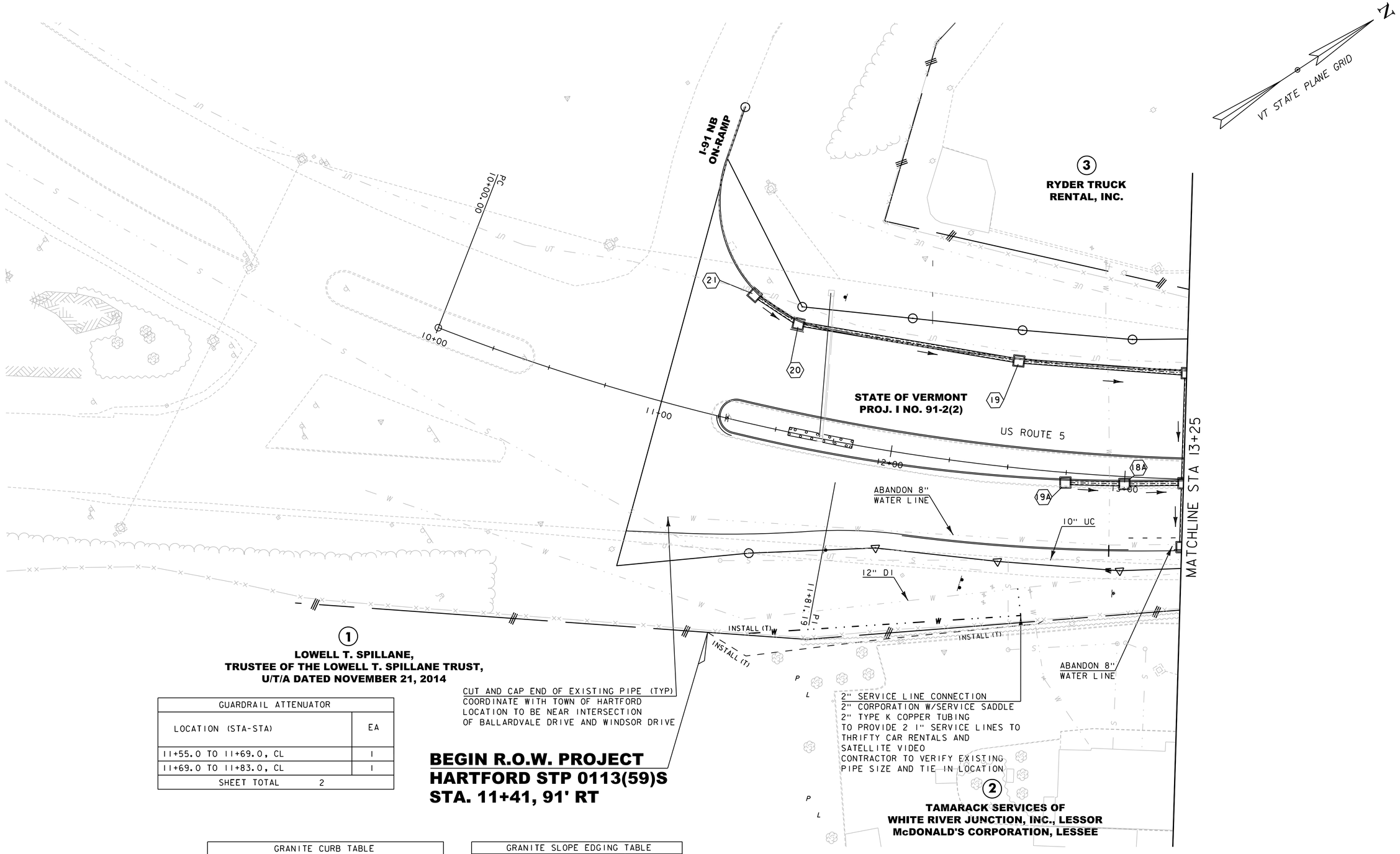
CONSTRUCT 8" CONCRETE SIDEWALK
STA 35+96.6, CL TO STA 36+61.6, CL
STA 36+61.6, CL TO STA 35+96.6, CL

0 20 40
SCALE IN FEET

PROJECT NAME: HARTFORD
PROJECT NUMBER: STP 0113(59)S

FILE NAME: zc334bdr_nul.dgn
PROJECT LEADER: S. IRELAND
DESIGNED BY: B. COLBURN
LAYOUT PLAN 2 - NOTES AND TABLES

PLOT DATE: 8/12/2019
DRAWN BY: M. LOVETT
CHECKED BY: S. IRELAND
SHEET 26 OF 94



GUARDRAIL ATTENUATOR	
LOCATION (STA-STA)	EA
11+55.0 TO 11+69.0, CL	1
11+69.0 TO 11+83.0, CL	1
SHEET TOTAL 2	

GRANITE CURB TABLE		
LOCATION (STA-STA)	VERTICAL CURB (7" REVEAL)	CURB RADIUS
11+00.0 TO 13+25.0, RT	236.3	-
11+00.0 TO 11+60.2, LT	81.2	55
11+60.2 TO 13+25.0 , LT	81.2	55
SHEET TOTAL	398.7	

GRANITE SLOPE EDGING TABLE	
LOCATION (STA-STA)	SLOPE EDGING (TYPE 4")
11+25.2, CL TO 13+25.0, RT	203.7
11+25.2, CL TO 13+25.0, LT	203.9
SHEET TOTAL	407.6

LINES SHOWN ON THIS PLAN AS EXISTING PROPERTY LINES P/L ARE BELIEVED TO BE ACCURATE BUT SHOULD NOT BE RELIED UPON FOR PURPOSES UNRELATED TO THE TOWN OF HARTFORD'S ACQUISITION OF LAND AND RIGHTS FOR THIS PROJECT.

0 20 40
SCALE IN FEET

PROJECT NAME: HARTFORD
PROJECT NUMBER: STP 0113(59)S

FILE NAME: zc334bdr_nul.dgn
PROJECT LEADER: S. IRELAND
DESIGNED BY: B. COLBURN
LAYOUT PLAN 3

PLOT DATE: 3/10/2017
DRAWN BY: M. LOVETT
CHECKED BY: S. IRELAND
SHEET 27 OF 94

WHITE, MARILYN I., LESSOR
EXECUSUITE, LLC, LESSEE

RYDER TRUCK
RENTAL, INC.

3

FIRE HYDRANT
8"X8"X6" TEE, MJ
6" GATE VALVE, MJ W/BOX
8" D.I. WATER LINE,
AS REQ'D LENGTH

6

RANDY HOWE
SUNOCO, INC.
(NO IMPACTS TO THIS PARCEL)

FIRE HYDRANT
8"X8"X6" TEE, MJ
6" GATE VALVE, MJ W/BOX
8" D.I. WATER LINE,
AS REQ'D LENGTH

2" 90° BEND,MJ

8" GATE VALVE, MJ W/BOX
8" D.I. WATER LINE,
AS REQ'D LENGTH CAP END

2" SERVICE LINE
CONNECTION 2"
CORPORATION W/
SERVICE SADDLE
2" TYPE K COPPER
TUBING 2" UNION
TO EXISTING 2" PIPE
CONTRACTOR TO VERIFY EXISTING
PIPE SIZE AND TIE IN LOCATION

VT STATE PLANE GRID

CONSTRUCT NEW
8" D.I. WATERLINE

STATE OF VERMONT
PROJ. I NO. 91-2(2)

US ROUTE 5

MATCHLINE STA 16+50

MATCHLINE STA 21+75

17+00
18+00
19+00
20+00
20+00.75 PC
21+00

CONSTRUCT NEW
8" D.I. WATERLINE

12" 45°
BEND,MJ

EXISTING WATER LINE INTERCONNECTION
12" 45° BEND, MJ
12" D.I. WATER LINE, AS REQ'D LENGTH
12"X8" REDUCER, MJ
8" D.I. WATER LINE, AS REQ'D LENGTH
8" GATE VALVE, MJ W/BOX

7

EVANS GROUP, INC.

ABANDON WATER LINE
CUT AND CAP ENDS

CONSTRUCT NEW
12" D.I. WATERLINE

5

KBT ENTERPRISES, LLC, LESSOR
SUMMIT DISTRIBUTING, LLC, LESSEE

LINES SHOWN ON THIS PLAN AS EXISTING PROPERTY LINES P/L ARE BELIEVED TO BE ACCURATE BUT SHOULD NOT BE RELIED UPON FOR PURPOSES UNRELATED TO THE TOWN OF HARTFORD'S ACQUISITION OF LAND AND RIGHTS FOR THIS PROJECT.

EXISTING RIGHT-OF-WAY LIMITS REFERENCED TO:
ROW PROJECT I NO. 91-2(2)

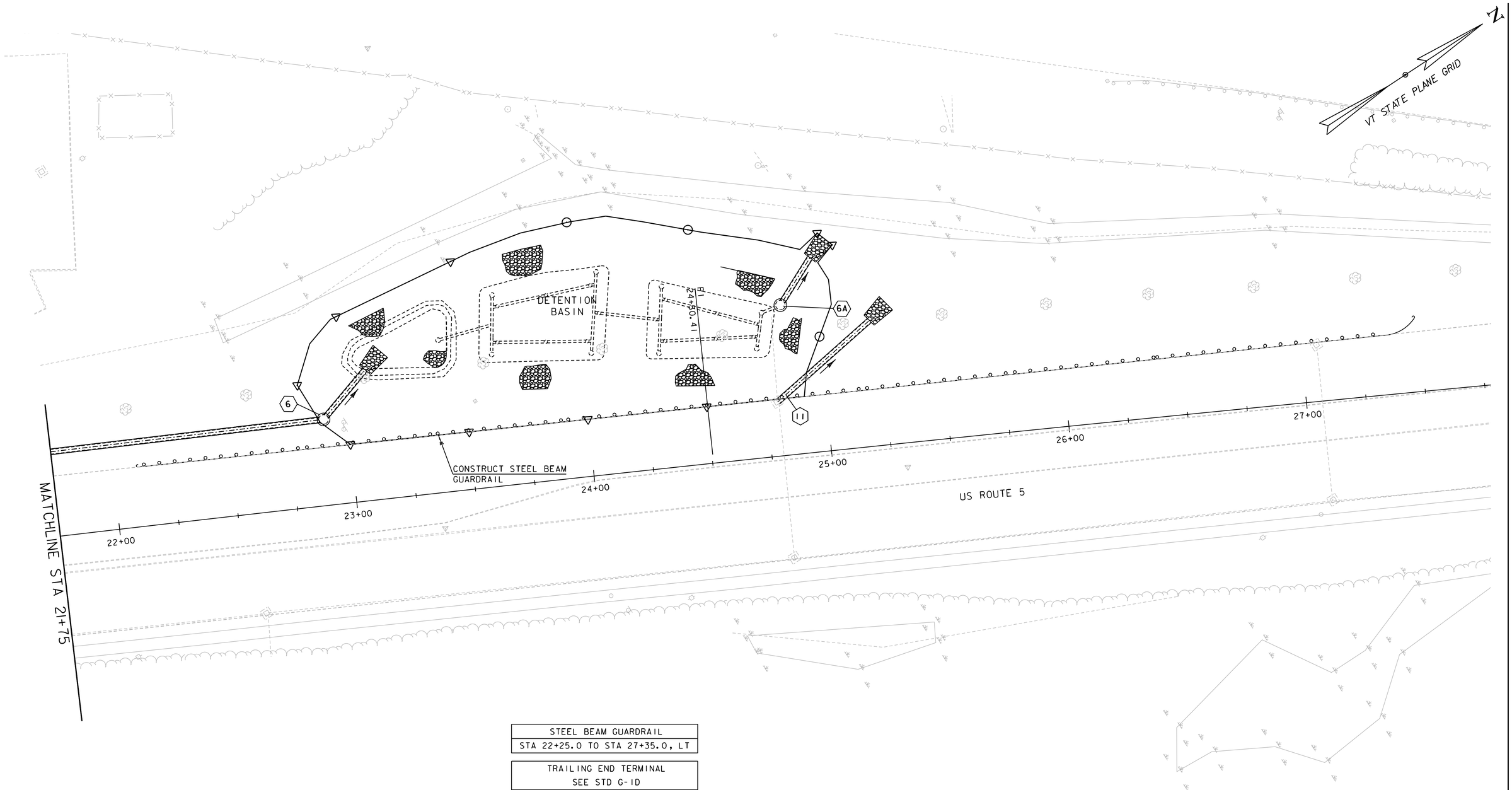
FOR GENERAL CONSTRUCTION PLANS SEE SHEETS 12-18 OF 47
FOR EPSC CONSTRUCTION PLANS SEE SHEETS 31-36 OF 47
FOR LANDSCAPE PLANS SEE SHEETS OF 37-41 OF 47

0 20 40
SCALE IN FEET

PROJECT NAME: HARTFORD
PROJECT NUMBER: STP 0113(59)S

FILE NAME: zc334bdr_nul.dgn
PROJECT LEADER: S. IRELAND
DESIGNED BY: B. COLBURN
LAYOUT PLAN 4

PLOT DATE: 3/10/2017
DRAWN BY: M. LOVETT
CHECKED BY: S. IRELAND
SHEET 28 OF 94



STEEL BEAM GUARDRAIL
STA 22+25.0 TO STA 27+35.0, LT

TRAILING END TERMINAL SEE STD G-1D
STA 22+12.5 TO STA 22+25.0, LT

APPROACH END TERMINAL SEE STD G-1D
STA 27+35.0 TO STA 27+47.5, LT

LINES SHOWN ON THIS PLAN AS EXISTING PROPERTY LINES P/L ARE BELIEVED TO BE ACCURATE BUT SHOULD NOT BE RELIED UPON FOR PURPOSES UNRELATED TO THE TOWN OF HARTFORD'S ACQUISITION OF LAND AND RIGHTS FOR THIS PROJECT.

EXISTING RIGHT-OF-WAY LIMITS REFERENCED TO: ROW PROJECT I NO. 91-2(2)

FOR GENERAL CONSTRUCTION PLANS SEE SHEETS 12-18 OF 47
FOR EPSC CONSTRUCTION PLANS SEE SHEETS 31-36 OF 47
FOR LANDSCAPE PLANS SEE SHEETS OF 37-41 OF 47

0 20 40
SCALE IN FEET

PROJECT NAME: HARTFORD
PROJECT NUMBER: STP 0113(59)S

FILE NAME: zc334bdr_nul.dgn
PROJECT LEADER: S. IRELAND
DESIGNED BY: B. COLBURN
LAYOUT PLAN 5

PLOT DATE: 3/10/2017
DRAWN BY: M. LOVETT
CHECKED BY: S. IRELAND
SHEET 29 OF 94

(1) STA 15+48.0, LT 71.2 TO STA 14+65.4 LT 79.6
CONSTRUCT 18 IN X 65 FT CPEP (SL)
CONSTRUCT PRCCB WITH TYPE E GRATE
AT STA 14+65.4, LT 79.6
GRATE ELEV. = 544.71
18 IN INV. OUT = 540.15

(2) STA 16+50.0, LT 36.4 TO STA 15+48.0, LT 71.2
CONSTRUCT 18 IN X 107 FT CPEP (SL)
CONSTRUCT PRCCB WITH TYPE E GRATE
AT STA 15+48.0, LT 71.2
GRATE ELEV. = 544.72
18 IN INV. IN = 539.80
18 IN INV. OUT = 538.15

(3) STA 17+50.0, LT 33.4 TO STA 16+50.0, LT 36.4
CONSTRUCT 18 IN X 96 FT CPEP (SL)
CONSTRUCT PRCCB WITH TYPE E GRATE
AT STA 16+50.0, LT 36.4
GRATE ELEV. = 542.54
18 IN INV. IN = 537.10
18 IN INV. OUT = 537.10

(4) STA 20+50.0, LT 35.6 TO STA 17+50.0, LT 33.4
CONSTRUCT 24 IN X 296 FT CPEP (SL)
CONSTRUCT PRCCB WITH TYPE E GRATE
AT STA 17+50.0, LT 33.4
GRATE ELEV. = 541.07
18 IN INV. IN = 536.55
24 IN INV. IN = 528.90
24 IN INV. OUT = 528.90

(5) STA 22+90.0, LT 36.0 TO STA 20+50.0, LT 35.6
CONSTRUCT 24 IN X 236 FT CPEP (SL)
CONSTRUCT PRCMH
AT STA 20+50.0, LT 35.6
RIM ELEV. = 536.28
24 IN INV. IN = 525.65
24 IN INV. OUT = 525.65

(6) STA 20+50.0, LT 35.6 TO STA 22+90.0, LT 36.0
CONSTRUCT 24 IN X 25 FT CPEP (SL)
CONSTRUCT PRCMH
AT STA 22+90.0, LT 36.0
RIM ELEV. = 527.77
24 IN INV. IN = 523.25
24 IN INV. OUT = 515.50
INV. @ OUTLET = 515.00
CONSTRUCT STONE FILL
(SEE DRAINAGE DETAIL SHEET)

(6A) STA 25+00.0, LT 81.4 TO STA 24+82.1, LT 63.3
CONSTRUCT 24 IN X 23 FT CPEP (SL)
CONSTRUCT OUTLET STRUCTURE
GRATE ELEV. = 519.00
24 IN INV. OUT = 514.00
24 IN INV. @ OUTLET = 511.25
(SEE DETENTION BASIN DETAIL SHEET)
CONSTRUCT STONE PAD AT OUTLET
(SEE DRAINAGE DETAIL SHEET)

(7) STA 17+50.0, LT 33.4 TO STA 17+00.0, RT 31.6
CONSTRUCT 24 IN X 77 FT CPEP (SL)
CONSTRUCT PRCCB WITH TYPE E GRATE
AT STA 17+00.0, RT 31.6
GRATE ELEV. = 542.32
24 IN INV. IN = 529.49
24 IN INV. OUT = 529.25

(8) STA 17+00.0, RT 31.6 TO STA 16+25.0, RT 25.7
CONSTRUCT 24 IN X 71FT CPEP (SL)
CONSTRUCT PRCCB WITH TYPE E GRATE
AT STA 16+25.0, RT 25.7
GRATE ELEV. = 543.23
18 IN INV. IN (E) = 538.50
24 IN INV. IN (S) = 529.85
24 IN INV. OUT = 529.85

(9) STA 13+50, LT 60.28
CONSTRUCT PRCDI WITH TYPE E GRATE
GRATE ELEV. = 541.22
CONNECT TO EXISTING PIPE (INCIDENTAL)
EXIST. 18 IN INV = 532.43

(10) NOT USED

(11) STA 16+25.0, RT 25.7 TO STA 15+75.0, RT 38.9
CONSTRUCT 24 IN X 47 FT CPEP (SL)
CONSTRUCT PRCCB WITH TYPE E GRATE
AT STA 15+75.0, RT 38.9
RIM ELEV. = 544.17
24 IN INV. IN = 530.10
24 IN INV. OUT = 530.10

(12) STA 15+75.0, RT 38.9 TO STA 32+49.8, LT 34.1
CONSTRUCT 24 IN X 84 FT CPEP (SL)
CONSTRUCT PRCCB WITH TYPE E GRATE
AT STA 32+49.8, LT 34.1
GRATE ELEV. = 544.75
24 IN INV. IN = 530.50
24 IN INV. OUT = 530.50

(13) NOT USED

(14) STA 32+49.8, LT 34.1 TO STA 32+40.0, RT 31.5
CONSTRUCT 24 IN X 62 FT CPEP (SL)
CONSTRUCT PRCCB WITH TYPE E GRATE 5 FT DIAMETER
AT STA 32+40.0, RT 31.5
GRATE ELEV. = 545.92
18 IN INV. IN (E) = 531.20
18 IN INV. IN (W) = 534.95
24 IN INV. OUT = 530.95

(15) STA 32+40.0, RT 31.5 TO STA 14+25.0, RT 40.2
CONSTRUCT 18 IN X 62 FT CPEP (SL)
CONSTRUCT PRCCB WITH TYPE E GRATE
AT STA 14+25.0, RT 40.2
GRATE ELEV. = 546.10
18 IN INV. IN = 535.35
18 IN INV. OUT = 535.35

(16) STA 14+25.0, RT 40.2 TO STA 13+25.0, RT 29.0
CONSTRUCT 18 IN X 98 FT CPEP (SL)
CONSTRUCT PRCCB WITH TYPE E GRATE
AT STA 13+25.0, RT 29.0
GRATE ELEV. = 545.25
18 IN INV. IN = 536.20
18 IN INV. OUT = 536.00

(17) STA 13+25.0, RT 29.0 TO STA 13+25.0, RT 1.8
CONSTRUCT 18 IN X 23 FT CPEP (SL)
CONSTRUCT PRCCB WITH TYPE E GRATE
AT STA 13+25.0, RT 1.8
GRATE ELEV. = 545.60
18 IN INV. IN (S) = 540.05
18 IN INV. IN (W) = 536.60
18 IN INV. OUT = 536.35

(18) STA 13+25.0, RT 1.8 TO STA 13+25.0, LT 46.0
CONSTRUCT 18 IN X 35 FT CPEP (SL)
CONSTRUCT PRCCB WITH TYPE E GRATE
AT STA 13+25.0, LT 46.0
GRATE ELEV. = 544.66
18 IN INV. IN = 537.05
18 IN INV. OUT = 536.85

(18A) STA 13+25.0, RT 1.8 TO STA 13+00.0, RT 3.1
CONSTRUCT 18 IN X 21FT CPEP (SL)
CONSTRUCT PRCCB WITH TYPE E GRATE
AT STA 13+00.0, RT 3.1
GRATE ELEV. = 545.60
18 IN INV. IN = 540.55
18 IN INV. OUT = 540.30

(19) STA 13+25.0, LT 46.0 TO STA 12+50.0, LT 46.0
CONSTRUCT 18 IN X 68 FT CPEP (SL)
CONSTRUCT PRCCB WITH TYPE E GRATE
AT STA 12+50.0, LT 46.0
GRATE ELEV. = 543.50
18 IN INV. IN = 537.75
18 IN INV. OUT = 537.50

(19A) STA 13+00.0, RT 3.1 TO STA 12+75.0, RT 4.3
CONSTRUCT 18 IN X 21FT CPEP (SL)
CONSTRUCT PRCCB WITH TYPE E GRATE
AT STA 12+75.0, RT 4.3
GRATE ELEV. = 545.71
18 IN INV. OUT = 540.80

(20) STA 12+50.0, LT 37.0 TO STA 11+49.8, LT 47.0
CONSTRUCT 18 IN X 92 FT CPEP (SL)
CONSTRUCT PRCCB WITH TYPE E GRATE
AT STA 11+49.8, LT 47.0
GRATE ELEV. = 541.58
18 IN INV. IN = 538.50
18 IN INV. OUT = 538.25

(21) STA 11+49.8, LT 37.8 TO STA 11+28.3, LT 54.8
CONSTRUCT 18 IN X 22 FT CPEP (SL)
CONSTRUCT PRCCB WITH TYPE E GRATE
AT STA 11+28.3, LT 54.8
GRATE ELEV. = 542.09
18 IN INV. OUT = 538.60

(22) STA 32+40.0, RT 29.0 TO STA 33+50.0, RT 47.8
CONSTRUCT 18 IN X 88 FT CPEP (SL)
CONSTRUCT PRCCB WITH TYPE E GRATE
AT STA 33+50.0, RT 47.8
GRATE ELEV. = 542.92
18 IN INV. IN (N) = 538.85
18 IN INV. IN (E) = 531.80
18 IN INV. OUT = 531.80

(23) STA 33+50.0, RT 47.8 TO STA 33+50.0, LT 29.0
CONSTRUCT 18 IN X 73 FT CPEP (SL)
CONSTRUCT PRCCB WITH TYPE E GRATE
AT STA 33+50.0, LT 29.0
GRATE ELEV. = 544.05
18 IN INV. OUT = 539.45

(24) TO (26) NOT USED

(27) STA 33+50, RT 47.8 TO STA 34+13, RT 43.6
CONSTRUCT 18 IN X 28 FT CPEP (SL)
CONSTRUCT PRCCB WITH TYPE E GRATE
AT STA 34+13, RT 43.6
GRATE ELEV. = 543.4318
18 IN INV. IN = 532.12
18 IN INV. OUT = 531.80

(28) TO (29) NOT USED

(30) STA 34+13, RT 43.6 TO STA 34+75.0, RT 17.0
CONSTRUCT 18 IN X 124 FT CPEP (SL)
CONSTRUCT PRCCB WITH TYPE E GRATE
AT STA 34+75.0, RT 17.0
GRATE ELEV. = 543.66
18 IN INV. IN = 532.45
18 IN INV. OUT = 532.45

(31) STA 34+75.0, RT 17.0 TO STA 35+00.0, RT 17.0
CONSTRUCT 18 IN X 21FT CPEP (SL)
CONSTRUCT PRCCB WITH TYPE E GRATE
AT STA 35+00.0, RT 17.0
GRATE ELEV. = 543.54
18 IN INV. IN (N)= 538.55
18 IN INV. IN (E)= 532.55
18 IN INV. OUT = 532.55

(32) STA 35+00.0, RT 17.0 TO STA 35+12.0, LT 29.0
CONSTRUCT 18 IN X 44 FT CPEP (SL)
CONSTRUCT PRCCB WITH TYPE E GRATE
AT STA 35+12.0, LT 29.0
GRATE ELEV. = 543.24
18 IN INV. IN = 538.90
18 IN INV. OUT = 538.90

(33) STA 35+12.0, LT 29.0 TO STA 34+75.0, LT 29.0
CONSTRUCT 18 IN X 33 FT CPEP (SL)
CONSTRUCT PRCCB WITH TYPE E GRATE
AT STA 34+75.0, LT 29.0
GRATE ELEV. = 543.42
18 IN INV. OUT = 539.15

(34) STA 35+00.0, RT 17.0 TO STA 35+25.0, RT 17.0
CONSTRUCT 18 IN X 21FT CPEP (SL)
CONSTRUCT PRCCB WITH TYPE E GRATE
AT STA 35+25.0, RT 17.0
GRATE ELEV. = 543.41
18 IN INV. IN = 532.65
18 IN INV. OUT = 532.65

(35) STA 35+25.0, RT 17.0 TO STA 35+90.5, RT 45.9
CONSTRUCT 18 IN X 72 FT CPEP (SL)
CONSTRUCT PRCCB WITH TYPE E GRATE
AT STA 35+90.5, RT 45.9
RIM ELEV. = 543.88
18 IN INV. IN (E) = 533.00
18 IN INV. IN (S) = 533.55
18 IN INV. OUT = 533.00

(36) STA 35+90.5, RT 45.9 TO STA 61+10.0, LT 22.0
CONSTRUCT 18 IN X 43 FT CPEP (SL)
CONSTRUCT PRCCB WITH TYPE E GRATE
AT STA 61+10.0, LT 22.0
GRATE ELEV. = 543.06
18 IN INV. IN = 533.80
18 IN INV. OUT = 533.80

(36A) STA 60+75.0, LT 33.7 TO STA 61+42.2, LT 52.5
CONSTRUCT 12 IN X 69 FT CPEP (SL)
CONSTRUCT PRCCB WITH TYPE E GRATE
AT STA 61+42.2, LT 52.5
GRATE ELEV. = 543.00
12 IN INV. OUT = 540.25
12 IN INV. @ OUTLET = 540.25

(37) STA 61+10.0, LT 22.0 TO STA 60+50.0, LT 16.0
CONSTRUCT 18 IN X 56 FT CPEP (SL)
CONSTRUCT PRCCB WITH TYPE E GRATE
AT STA 60+50.0, LT 16.0
GRATE ELEV. = 542.53
18 IN INV. IN = 534.10
18 IN INV. OUT = 534.10

(37A) STA 60+25.0, RT 14.0 TO STA 60+25.0, LT 35.7
CONSTRUCT 15 IN X 46 FT CPEP (SL)
CONSTRUCT PRCCB WITH TYPE E GRATE
AT STA 60+25.0, LT 35.7
GRATE ELEV. = 540.69
12 IN INV. OUT = 538.75

(38) STA 60+50.0, LT 16.0 TO STA 60+35.0, RT 13.5
CONSTRUCT 18 IN X 30 FT CPEP (SL)
CONSTRUCT PRCCB WITH TYPE E GRATE
AT STA 60+35.0, RT 13.5
GRATE ELEV. = 542.82
18 IN INV. OUT = 534.25

(38A) STA 60+25.0, RT 14.0
CONSTRUCT PRCCB WITH TYPE E GRATE
RIM ELEV. = 542.80
15 IN INV. IN = 538.50
EX. 15 IN INV. OUT = 538.25
CONNECT TO EXISTING PIPE (INCIDENTAL)

(39) STA 35+90.5, RT 45.9 TO STA 36+55.6, RT 48.8
CONSTRUCT 18 IN X 62 FT CPEP (SL)
CONSTRUCT PRCCB WITH TYPE E GRATE
AT STA STA 36+55.6, RT 48.8
RIM ELEV. = 543.49
18 IN INV. IN = 535.05
18 IN INV. OUT = 533.40

(40) STA 36+55.6, RT 48.8 TO STA 37+25.0, RT 18.9
CONSTRUCT 18 IN X 73 FT CPEP (SL)
CONSTRUCT PRCCB WITH TYPE E GRATE
AT STA 37+25.0, RT 18.9
GRATE ELEV. = 542.27
15 IN INV. IN = 535.45
18 IN INV. IN = 536.10
18 IN INV. OUT = 535.45

(41) STA 37+25.0, RT 18.9 TO STA 37+25.0, LT 15.1
CONSTRUCT 18 IN X 30 FT CPEP (SL)
CONSTRUCT PRCCB WITH TYPE E GRATE
AT STA 37+25.0. LT 15.1
GRATE ELEV. = 542.10
18 IN INV. IN = 537.55
18 IN INV. OUT = 536.25

(42) STA 37+25.0, LT 15.1 TO STA 36+45.0, LT 49.0
CONSTRUCT 18 IN X 83 FT CPEP (SL)
CONSTRUCT PRCCB WITH TYPE E GRATE
AT STA 36+45.0, LT 49.0
GRATE ELEV. = 542.65
18 IN INV. OUT = 538.00

(43) STA 37+25.0, RT 18.9 TO STA 38+50.0, RT 13.0
CONSTRUCT 15 IN X 120 FT CPEP (SL)
CONSTRUCT PRCCB WITH TYPE E GRATE
AT STA 38+50.0, RT 13.0
GRATE ELEV. = 541.44
15 IN INV. IN (N)= 536.70
15 IN INV. IN (E)= 536.05
15 IN INV. OUT = 536.05

(44) STA 38+50.0, RT 13.0 TO STA 38+50.0, LT 15.0
CONSTRUCT 15 IN X 26 FT CPEP (SL)
CONSTRUCT PRCCB ECCENTRIC CONE WITH TYPE E GRATE
AT STA 38+50.0, LT 15.0
GRATE ELEV. = 541.40
15 IN INV. OUT = 536.85

(45) STA 38+50.0, RT 13.0 TO STA 39+50.0, RT 13.0
CONSTRUCT 15 IN X 96 FT CPEP (SL)
CONSTRUCT PRCCB WITH TYPE E GRATE
AT STA 39+50.0, RT 13.0
GRATE ELEV. = 541.01
15 IN INV. IN = 536.55
15 IN INV. OUT = 536.55

(46) STA 39+50.0, RT 13.0 TO STA 39+50.0, LT 20.3
CONSTRUCT 15 IN X 30 FT CPEP (SL)
CONSTRUCT PRCCB WITH TYPE E GRATE
AT STA 39+50.0, LT 20.3
GRATE ELEV. = 540.47
15 IN INV. OUT = 536.70

(47) STA 38+04.0, LT 24.4
ADJUST GRATE AND FRAME
GRATE ELEV. = 542.00

(48) STA 60+25.0, RT 13.9 TO STA 61+60.0, RT 14.7
REMOVE EXISTING 15 IN PIPE & DI

(49) STA 61+60.0, RT 14.7 TO STA 61+60.4, LT 13.1
REMOVE EXISTING 12 IN PIPE & DI

(50) STA 51+42.2, LT 11.5 TO STA 51+38.5, RT 20.9
REMOVE EXISTING 12 IN CGMP & DI

(51) STA 51+42.2, LT 11.5
CONVERT EXISTING DI TO MH
GRATE ELEV. =

(52) NOT USED

(53) STA 51+42.2, LT 11.5 TO STA 33+73.7, LT 44.7
REMOVE EXISTING 8 IN PIPE & DI

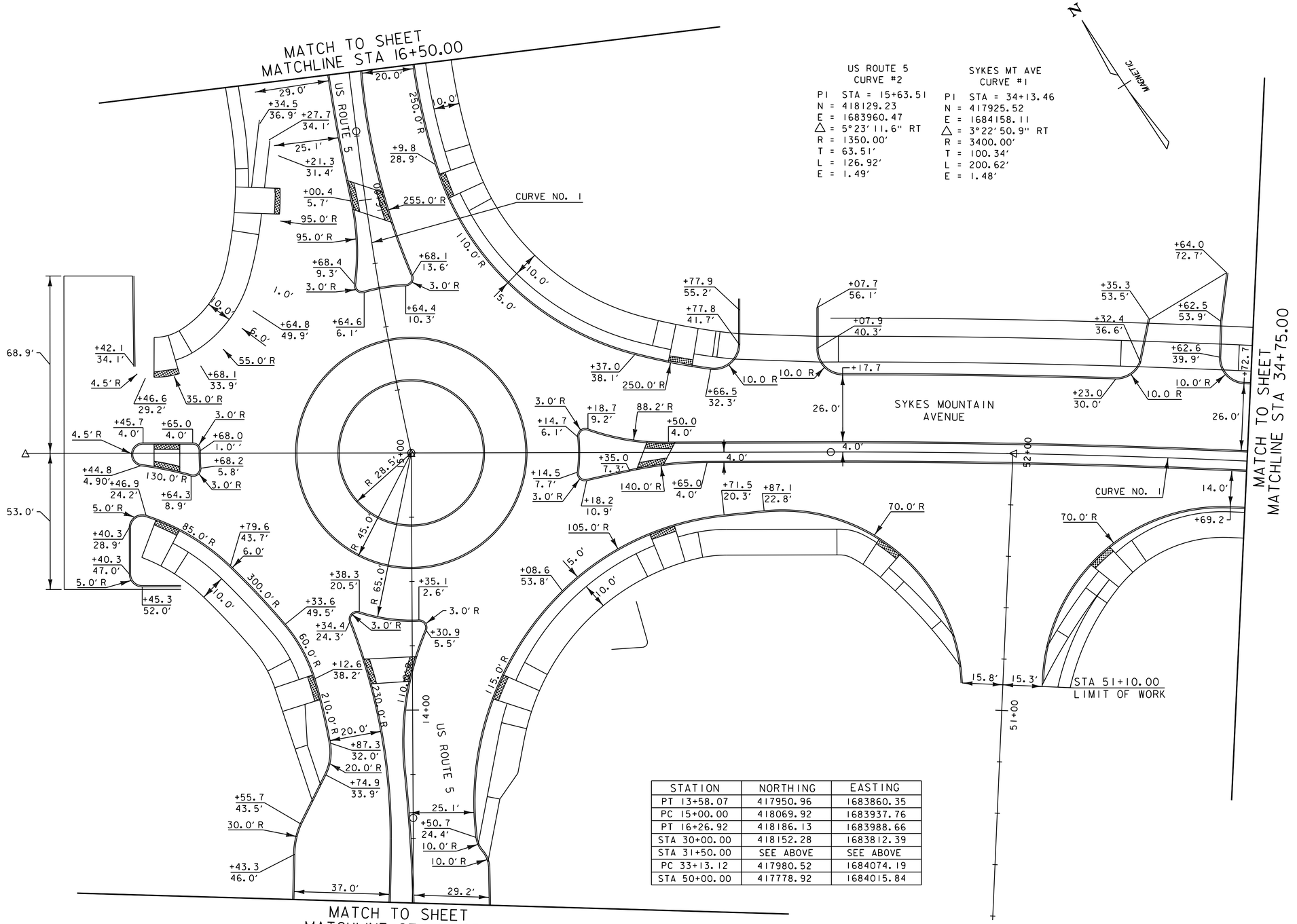
(54) STA 14+78.6, LT 10.5
CONVERT EXISTING DI TO MH
GRATE ELEV. =

(55) STA 24+80.0, LT 59.0 TO STA 24+80.0, LT 35.0
REMOVE EXISTING 18 IN RCP (PREVIOUSLY ABANDONED)
(INCIDENTAL)

PROJECT NAME: HARTFORD
PROJECT NUMBER: STP 0113(59)S

FILE NAME: zc334drnt.dgn
PROJECT LEADER: S. IRELAND
DESIGNED BY: B. COLBURN
DRAINAGE NOTES

PLOT DATE: 8/12/2019
DRAWN BY: M. FUGERE
CHECKED BY: S. IRELAND
SHEET 30 OF 94



STATION	NORTHING	EASTING
PT 13+58.07	417950.96	1683860.35
PC 15+00.00	418069.92	1683937.76
PT 16+26.92	418186.13	1683988.66
STA 30+00.00	418152.28	1683812.39
STA 31+50.00	SEE ABOVE	SEE ABOVE
PC 33+13.12	417980.52	1684074.19
STA 50+00.00	417778.92	1684015.84

0 20 40
SCALE IN FEET

PROJECT NAME:	HARTFORD
PROJECT NUMBER:	STP 0113(59)S
FILE NAME: zc334bdr_nu2.dgn	PLOT DATE: 8/12/2019
PROJECT LEADER: S. IRELAND	DRAWN BY: M. LOVETT
DESIGNED BY: B. COLBURN	CHECKED BY: S. IRELAND
PAVEMENT LAYOUT PLAN 1	SHEET 31 OF 94

SYKES MT AVE
CURVE #2

PI STA = 38+17.27
N = 417711.37
E = 1684498.86
△ = 8°21'29.5" RT
R = 400.00'
T = 29.23'
L = 58.35'
E = 1.07'

MAGNETIC

MATCH TO SHEET
MATCHLINE STA 34+75.00

PT 35+13.74

STA 39+50.00
END APPROACH
MATCH EXISTING
PAVEMENT WIDTH

SYKES MOUNTAIN AVENUE

PC 37+88.04

PT 38+46.39

CURVE NO. 2

STA 37+30.00
END PROJECT

STA 60+25.00
LIMIT OF WORK

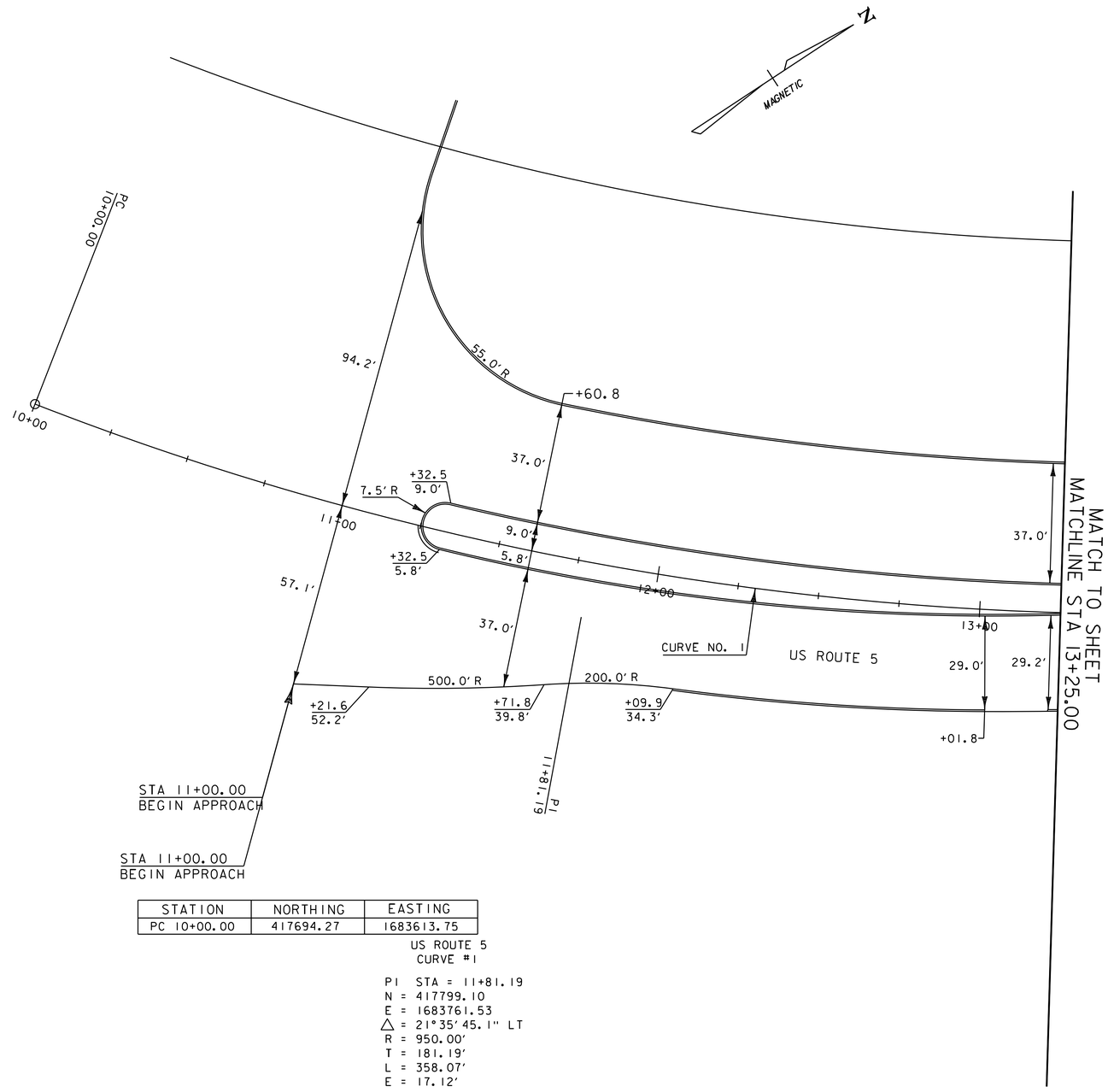
STATION	NORTHING	EASTING
PT 34+13.74	417865.67	1684238.64
PI 36+29.12	417796.84	1684331.25
PC 37+88.04	417724.65	1684472.83
PT 38+46.39	417694.45	1684522.70
STA 40+00.00	417605.52	1684647.94
STA 60+00.00	417632.49	1684217.29
STA 62+00.00	SEE ABOVE	SEE ABOVE
STA 63+00.00	417848.79	1684416.70

0 20 40
SCALE IN FEET

PROJECT NAME: HARTFORD
PROJECT NUMBER: STP 0113(59)S

FILE NAME: zc334bdr_nu2.dgn
PROJECT LEADER: S. IRELAND
DESIGNED BY: B. COLBURN
PAVEMENT LAYOUT PLAN 2

PLOT DATE: 8/12/2019
DRAWN BY: M. LOVETT
CHECKED BY: S. IRELAND
SHEET 32 OF 94



STATION	NORTHING	EASTING
PC 10+00.00	417694.27	1683613.75

US ROUTE 5
CURVE #1

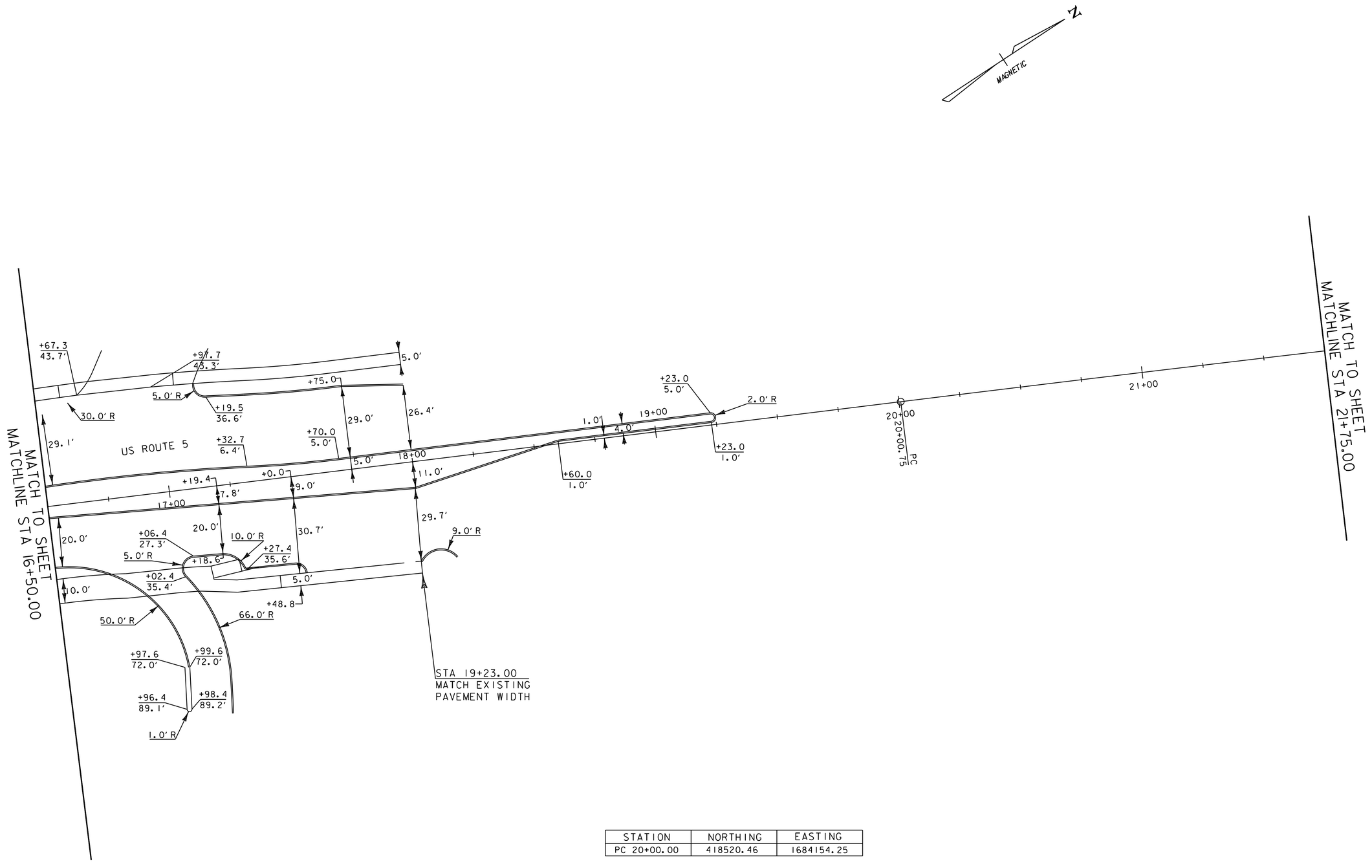
PI STA = 11+81.19
N = 417799.10
E = 1683761.53
△ = 21°35'45.1" LT
R = 950.00'
T = 181.19'
L = 358.07'
E = 17.12'

0 20 40
SCALE IN FEET

PROJECT NAME: HARTFORD
PROJECT NUMBER: STP 0113(59)S

FILE NAME: zc334bdr_nu2.dgn
PROJECT LEADER: S. IRELAND
DESIGNED BY: B. COLBURN
PAVEMENT LAYOUT PLAN 3

PLOT DATE: 8/12/2019
DRAWN BY: M. LOVETT
CHECKED BY: S. IRELAND
SHEET 33 OF 94



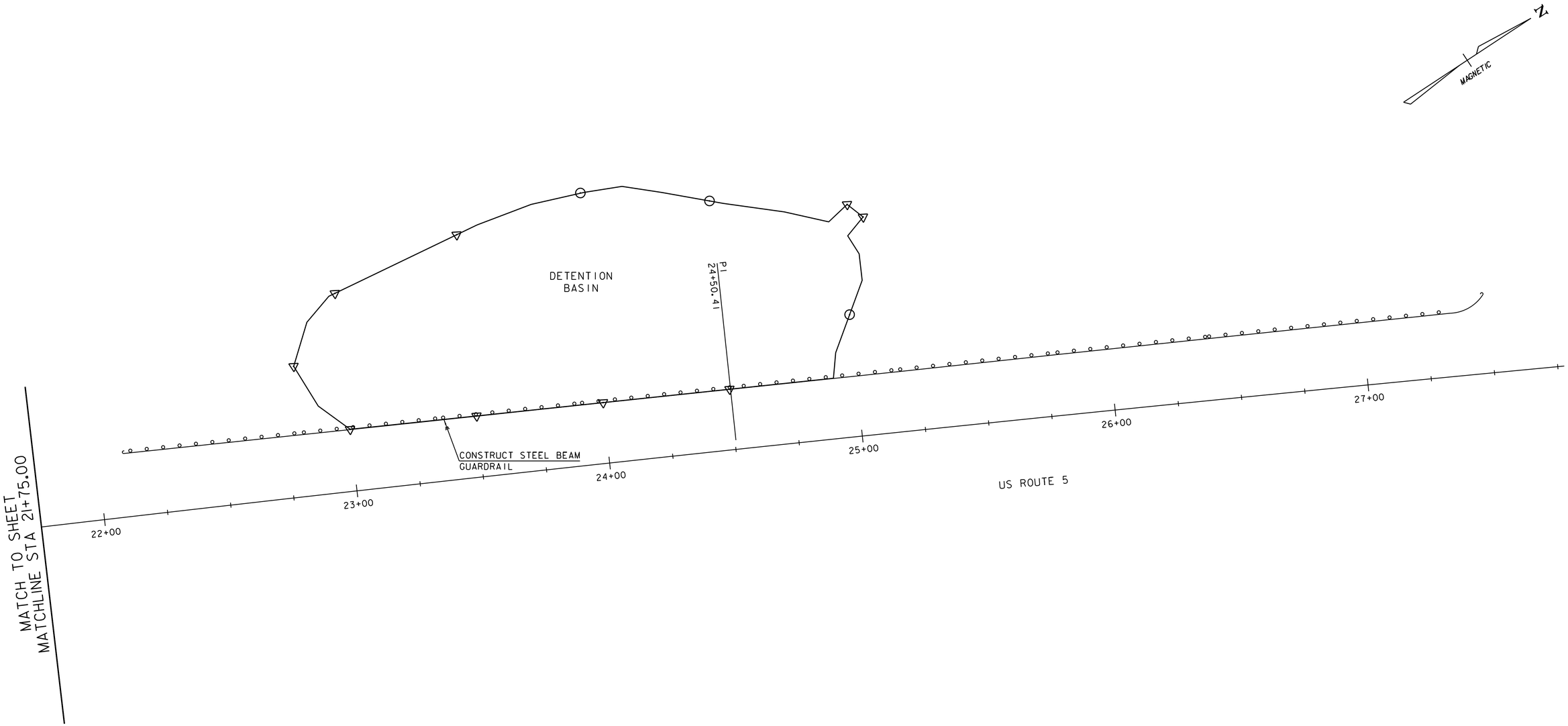
STATION	NORTHING	EASTING
PC 20+00.00	418520.46	1684154.25

0 20 40
SCALE IN FEET

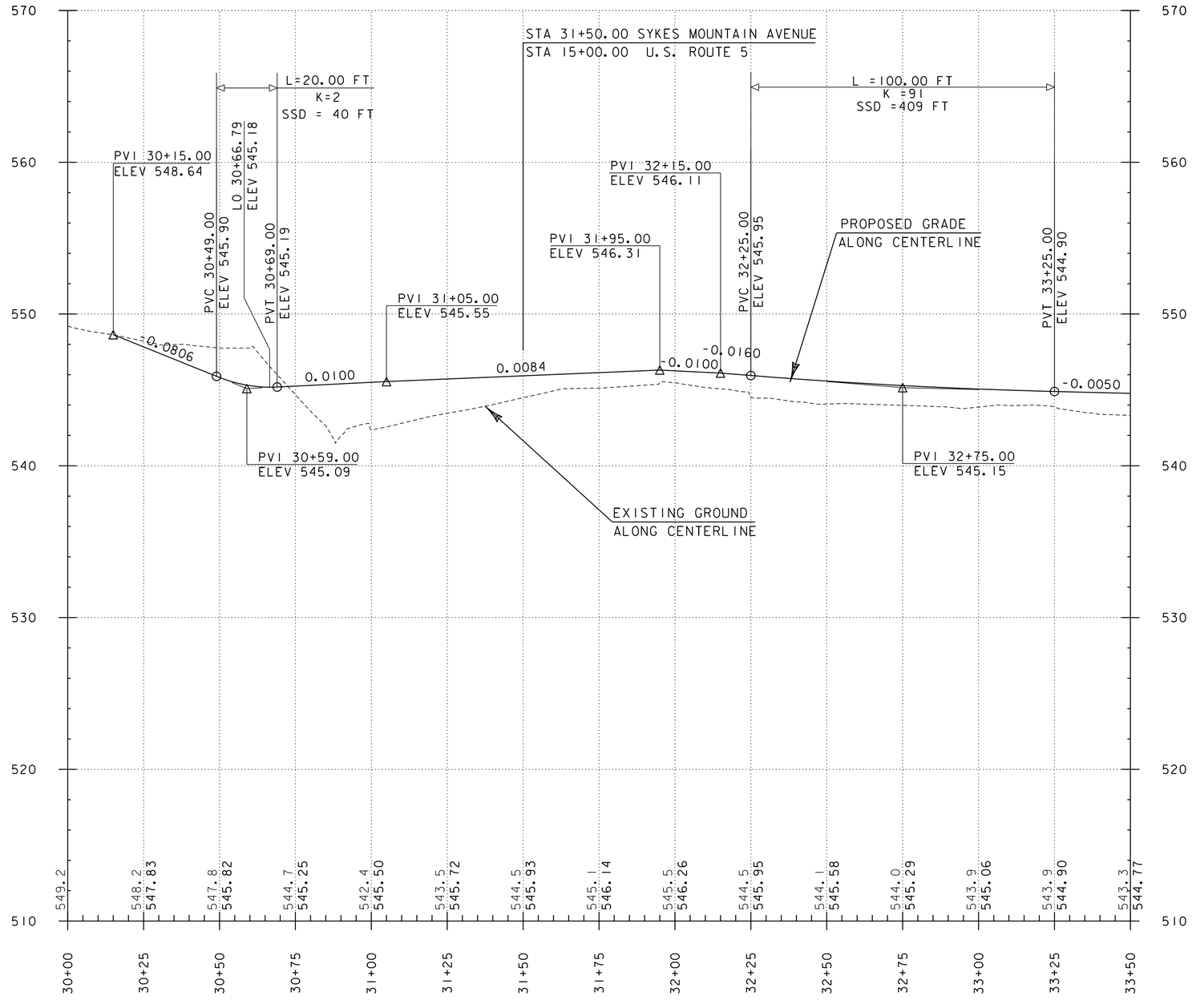
PROJECT NAME: HARTFORD
PROJECT NUMBER: STP 0113(59)S

FILE NAME: zc334bdr-nu2.dgn
PROJECT LEADER: S. IRELAND
DESIGNED BY: B. COLBURN
PAVEMENT LAYOUT PLAN 4

PLOT DATE: 8/12/2019
DRAWN BY: M. LOVETT
CHECKED BY: S. IRELAND
SHEET 34 OF 94



PROJECT NAME:	HARTFORD
PROJECT NUMBER:	STP 0113(59)S
FILE NAME: zc334bdr_nu2.dgn	PLOT DATE: 8/12/2019
PROJECT LEADER: S. IRELAND	DRAWN BY: M. LOVETT
DESIGNED BY: B. COLBURN	CHECKED BY: S. IRELAND
PAVEMENT LAYOUT PLAN 5	SHEET 35 OF 94



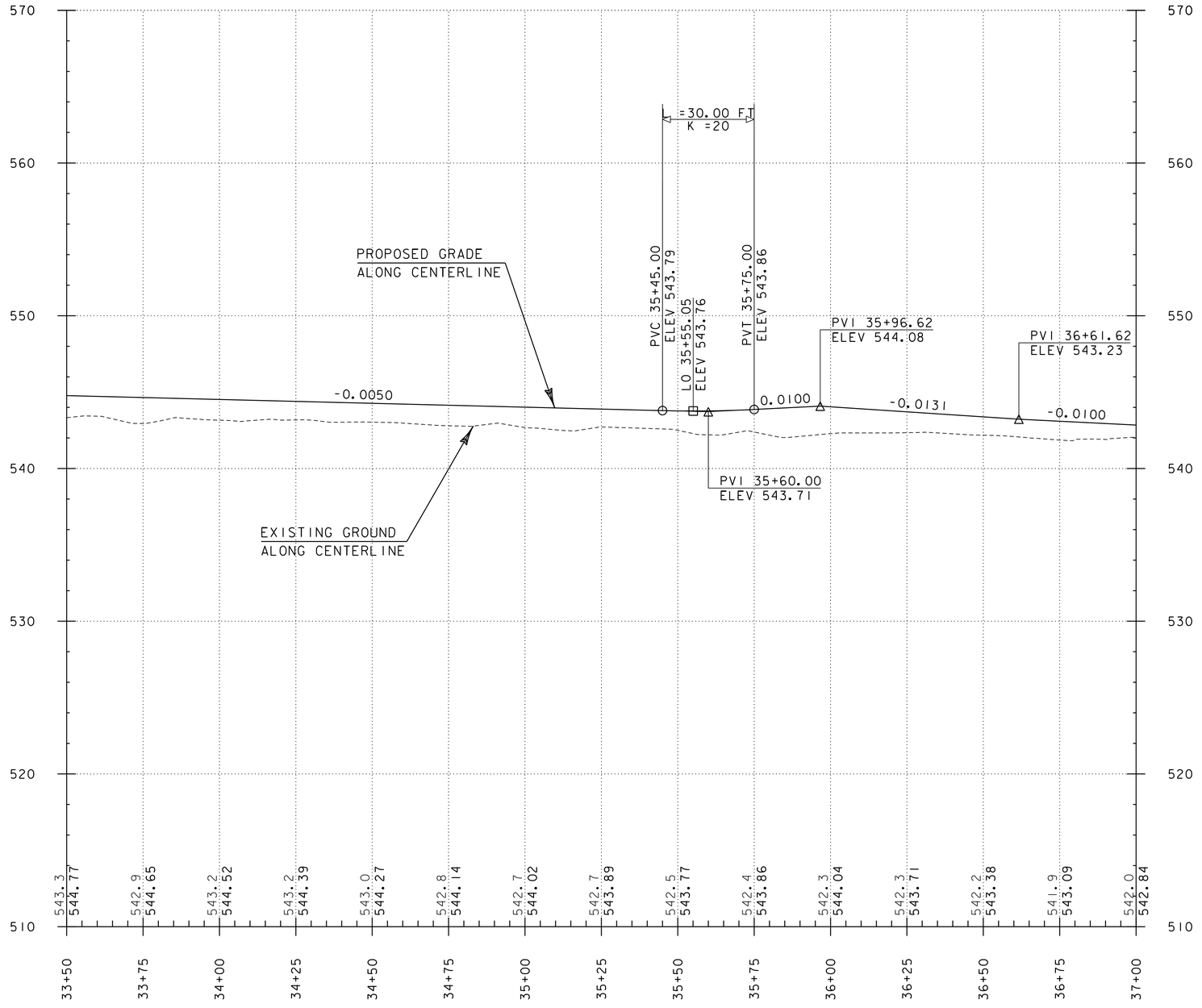
SYKES MOUNTAIN AVENUE

HORIZONTAL 0 10 20 30
VERTICAL 0 2 4 6
SCALE IN FEET

PROJECT NAME: HARTFORD
PROJECT NUMBER: STP 0113(59)S

FILE NAME: zc334prof.dgn
PROJECT LEADER: S. IRELAND
DESIGNED BY: B. COLBURN
PROFILE - SYKES MOUNTAIN AVENUE

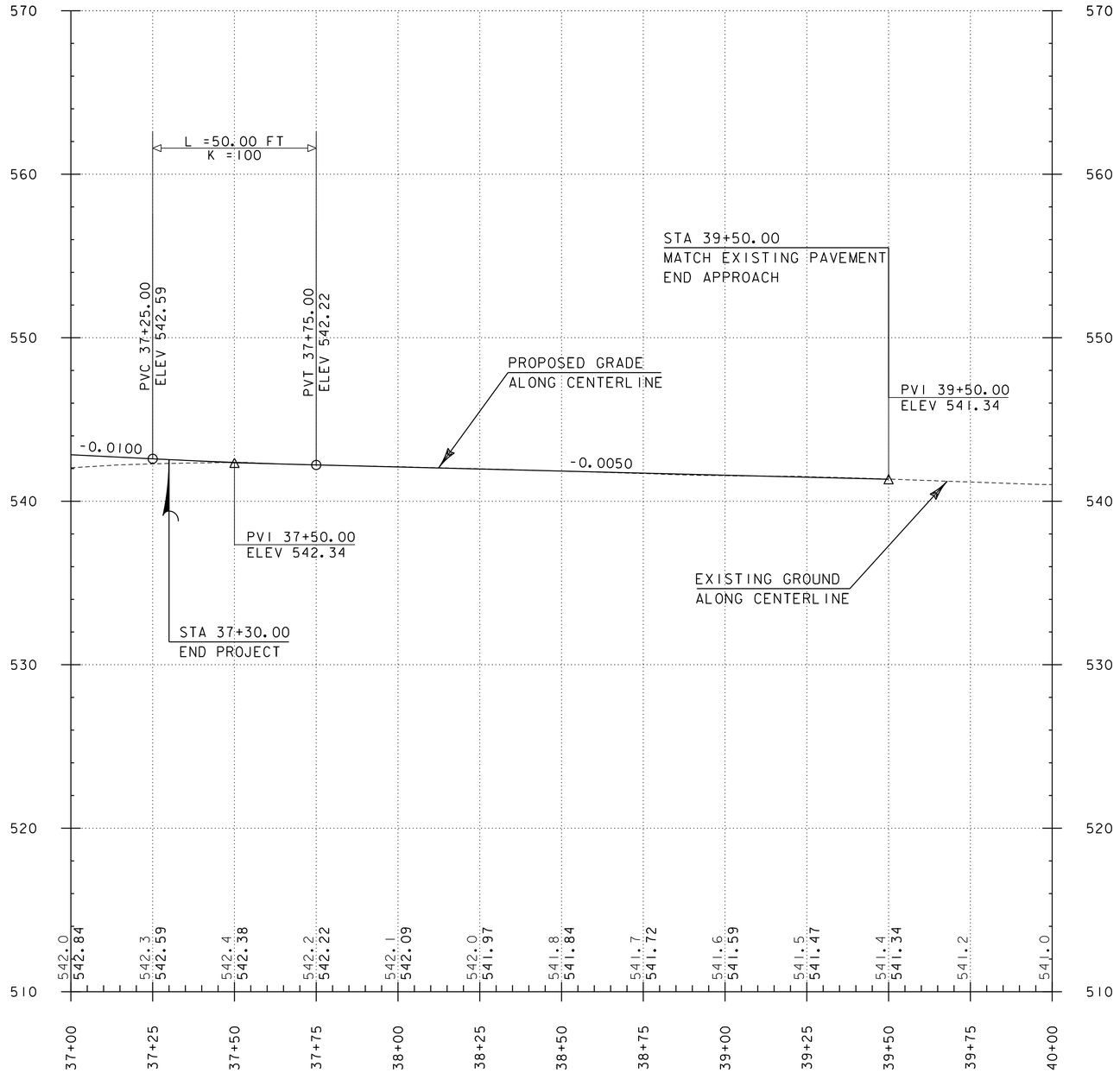
PLOT DATE: 8/12/2019
DRAWN BY: M. LOVETT
CHECKED BY: S. IRELAND
SHEET 36 OF 94



SYKES MOUNTAIN AVENUE

VERTICAL 0 2 4 6
HORIZONTAL 0 10 20 30
SCALE IN FEET

PROJECT NAME: HARTFORD	
PROJECT NUMBER: STP 0113(59)S	
FILE NAME: zc334pro2.dgn	PLOT DATE: 8/12/2019
PROJECT LEADER: S. IRELAND	DRAWN BY: M. LOVETT
DESIGNED BY: B. COLBURN	CHECKED BY: S. IRELAND
PROFILE - SYKES MOUNTAIN AVENUE	SHEET 37 OF 94

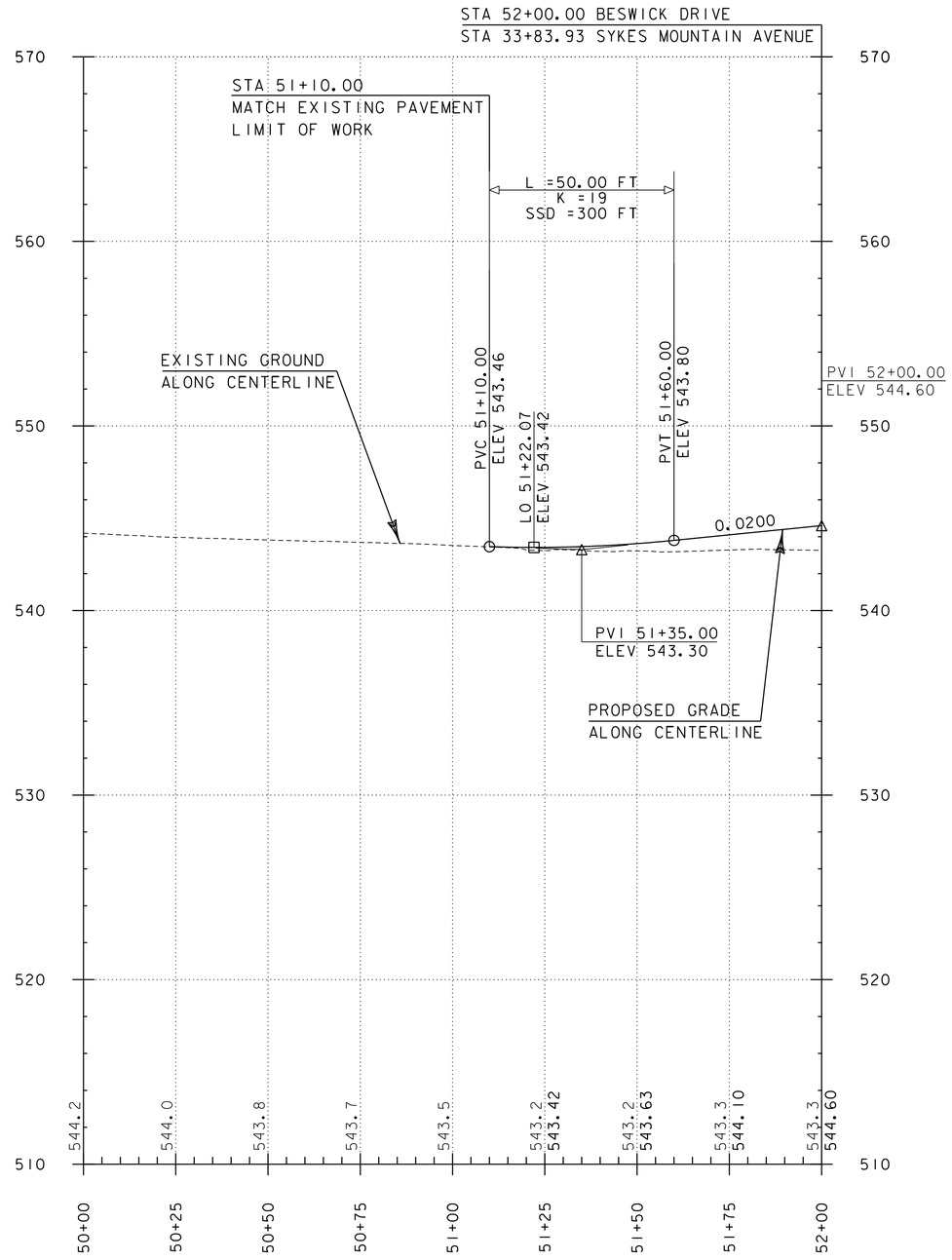


SYKES MOUNTAIN AVENUE

HORIZONTAL
0 10 20 30
SCALE IN FEET

VERTICAL
0 2 4 6

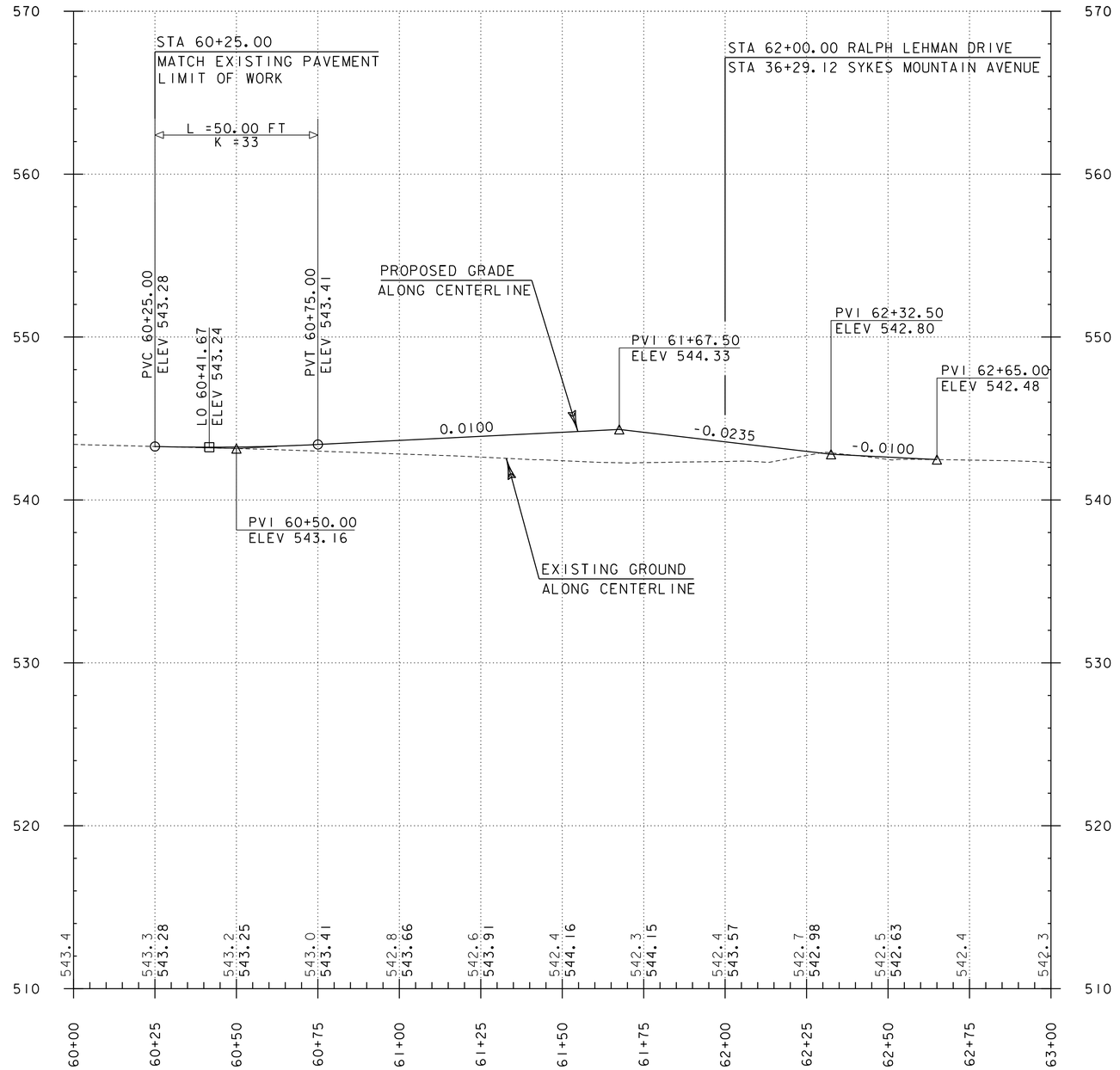
PROJECT NAME:	HARTFORD
PROJECT NUMBER:	STP 0113(59)S
FILE NAME: zc334pro3.dgn	PLOT DATE: 8/12/2019
PROJECT LEADER: S. IRELAND	DRAWN BY: M. LOVETT
DESIGNED BY: B. COLBURN	CHECKED BY: S. IRELAND
PROFILE - SYKES MOUNTAIN AVENUE	SHEET 38 OF 94



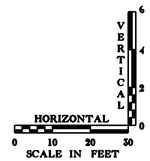
BESWICK DRIVE

VERTICAL 0 2 4 6
HORIZONTAL 0 10 20 30
SCALE IN FEET

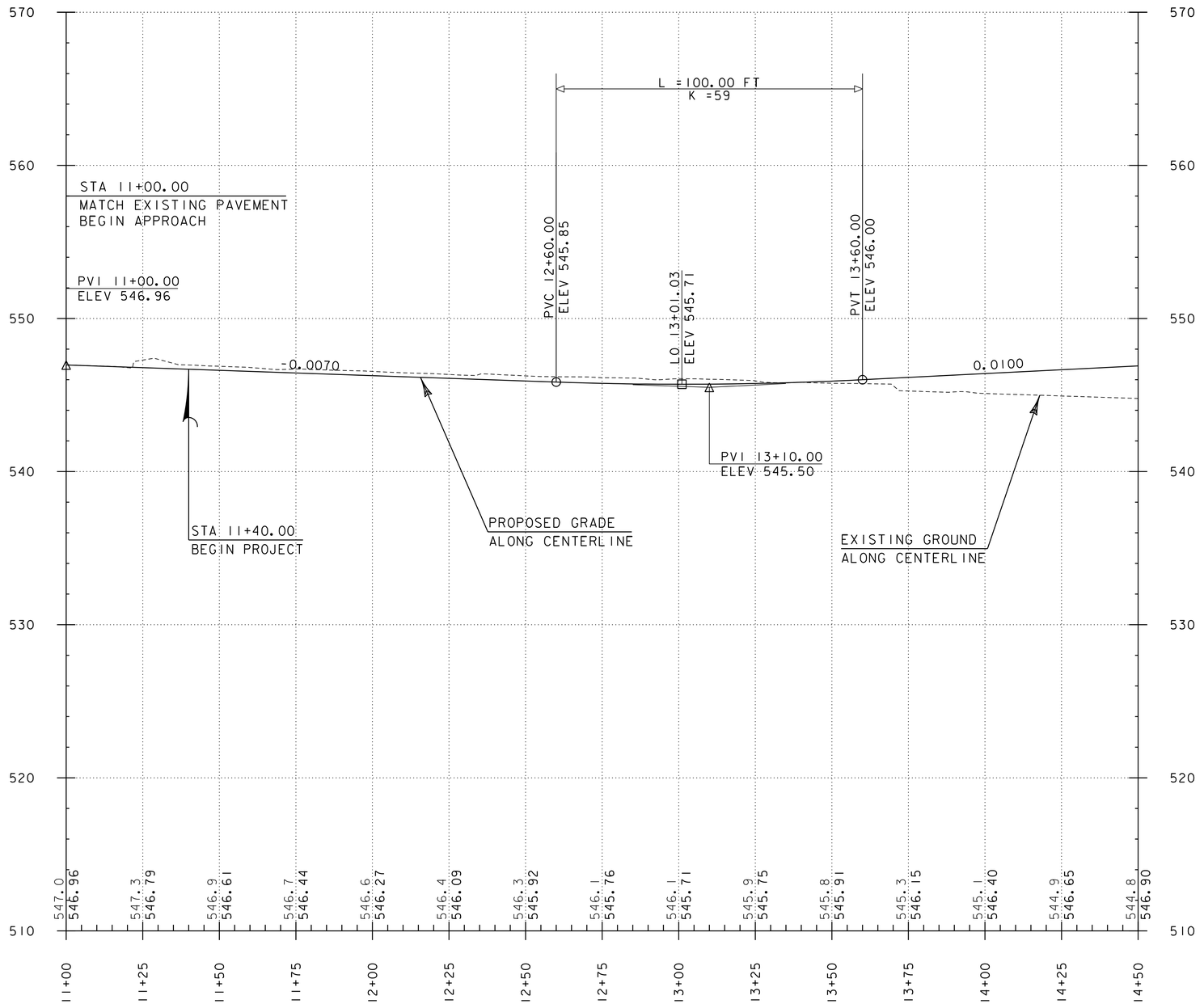
PROJECT NAME:	HARTFORD
PROJECT NUMBER:	STP 0113(59)S
FILE NAME: zc334pro4.dgn	PLOT DATE: 8/12/2019
PROJECT LEADER: S. IRELAND	DRAWN BY: M. LOVETT
DESIGNED BY: B. COLBURN	CHECKED BY: S. IRELAND
PROFILE - BESWICK DRIVE	SHEET 39 OF 94



RALPH LEHMAN DRIVE



PROJECT NAME: HARTFORD	
PROJECT NUMBER: STP 0113(59)S	
FILE NAME: zc334pro5.dgn	PLOT DATE: 8/12/2019
PROJECT LEADER: S. IRELAND	DRAWN BY: M. LOVETT
DESIGNED BY: B. COLBURN	CHECKED BY: S. IRELAND
PROFILE - RALPH LEHMAN DRIVE	SHEET 40 OF 94



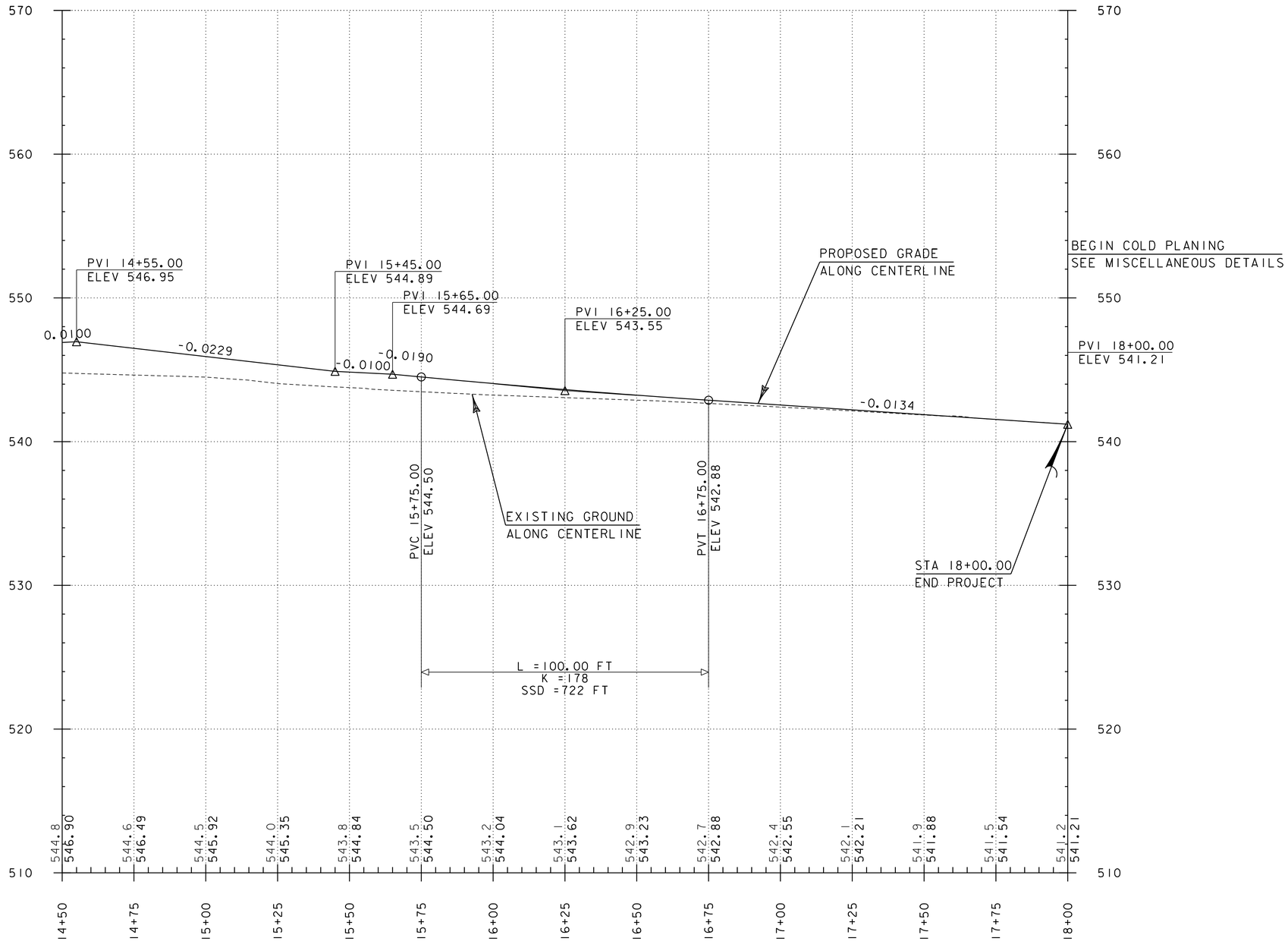
US ROUTE 5

VERTICAL
0 2 4 6
HORIZONTAL
0 10 20 30
SCALE IN FEET

PROJECT NAME: HARTFORD
PROJECT NUMBER: STP 0113(59)S

FILE NAME: zc334pro6.dgn
PROJECT LEADER: S. IRELAND
DESIGNED BY: B. COLBURN
PROFILE - US ROUTE 5

PLOT DATE: 8/12/2019
DRAWN BY: M. LOVETT
CHECKED BY: S. IRELAND
SHEET 41 OF 94



US ROUTE 5

VERTICAL 0 2 4 6
HORIZONTAL 0 10 20 30
SCALE IN FEET

PROJECT NAME:	HARTFORD
PROJECT NUMBER:	STP 0113(59)S
FILE NAME: zc334pro7.dgn	PLOT DATE: 8/12/2019
PROJECT LEADER: S. IRELAND	DRAWN BY: M. LOVETT
DESIGNED BY: B. COLBURN	CHECKED BY: S. IRELAND
PROFILE - US ROUTE 5	SHEET 42 OF 94

MATCH TO SHEET
MATCHLINE STA 16+50.00

N STA 16+15.7
49.1' LT

JUNCTION BOX

2" 45° BEND, MJ

JUNCTION BOX

N STA 30+59.1
47.5' LT

STATE OF VERMONT
PROJ. I NO. 91-2(2)

US ROUTE 5

16+26.92
PI

PI
15+63.51

JUNCTION
BOX

12" 45°
BEND, MJ

PC
15+00.00

15+00

31+00

30+00

PLUG AND ABANDON
EXISTING SEWER
OUTLET AFTER
CONNECTING NEW
SERVICE LINE

N STA 15+92.2
49.1' LT

5

KBT ENTERPRISES, LLC, LESSOR
SUMMIT DISTRIBUTING, LLC, LESSEE

JUNCTION
BOX

STA 15+00.00 US RTE 5 =
STA 31+50.00 SYKES MT AVE

JUNCTION
BOX

N STA 32+68.4
47.3' LT

STA 33+83.93 SYKES MT AVE =
STA 52+00.00 BESWICK DRIVE

N STA 33+63.4
44.0' LT

JUNCTION
BOX

JUNCTION
BOX

PAVED

RELOCATE
FIRE
HYDRANT

12" DI

12" DI

SYKES MOUNTAIN
AVENUE

STATE OF VERMONT
PROJ. I NO. 91-2(2)

PI
31+13.46

42+00

34+00

PI
52+00.00

52+00

33+00

PC
33+13.12

JUNCTION
BOX

4A

HARTFORD LAND CO.

RUTH H. GUERNSEY, TRUSTEE OF
THE REVOCABLE TRUST OF RUTH H.
GUERNSEY, DATED APRIL 5, 1985

9

MATCH TO SHEET
MATCHLINE STA 34+75.00

MAGNETIC

3

RYDER TRUCK
RENTAL, INC.

JUNCTION BOX

N STA 14+16.14
57.2' LT

US ROUTE 5

JUNCTION
BOX

PT
13+58.07

14+00

STATE OF VERMONT
PROJ. I NO. 91-2(2)

JUNCTION
BOX

N STA 13+88.0
43.4' RT

2

TAMARACK SERVICES OF
WHITE RIVER JUNCTION, INC., LESSOR
McDONALD'S CORPORATION, LESSEE

GRASS

RELOCATE FIRE HYDRANT
6" D.I. WATER LINE TO
RELOCATED HYDRANT

12" D.I. PIPE,
AS REQ'D LENGTH
TO EXISTING 12"
GATE VALVE

51+00

STATE OF VERMONT
PROJ. I NO. 91-2(2)

JUNCTION
BOX

N STA 34+57.1
31.6' RT

N STA 34+43.6
36.9' RT

8

HARTFORD LAND
CORPORATION,
LESSOR
COMMUNITY
BANK, N.A.,
LESSEE

4B

MATCH TO SHEET
MATCHLINE STA 13+25.00

0 20 40
SCALE IN FEET

PROJECT NAME: HARTFORD	
PROJECT NUMBER: STP 0113(59)S	
FILE NAME: zc334bdr_utl.dgn	PLOT DATE: 8/12/2019
PROJECT LEADER: S. IRELAND	DRAWN BY: M. LOVETT
DESIGNED BY: B. COLBURN	CHECKED BY: S. IRELAND
UTILITY LAYOUT PLAN I	SHEET 43 OF 94

MATCH TO SHEET
MATCHLINE STA 34+75.00

9
RUTH H. GUERNSEY, TRUSTEE OF THE REVOCABLE TRUST OF RUTH HALL GUERNSEY, DATED APRIL 5, 1989

10
JACOBS, RANDOLPH P.

11
HALL, ALLEN J. & HALL, CHARLES H. D.B.A. HALL AND HALL PARTNERSHIP

END R.O.W. PROJECT
HARTFORD STP 0113(59)S
STA. 39+52 LT

12
TCSVT, LLC

13
UNITED STATES POSTAL SERVICE (NO IMPACTS TO THIS PARCEL)

4B
HARTFORD LAND CO., LESSOR
COMMUNITY BANK, N.A., LESSEE

4C
HARTFORD LAND CO., LESSOR
NORTHMAC, INC., LESSEE

4D
HARTFORD LAND CO.

STA 36+29.12 SYKES MT AVE =
STA 62+00.00 RALPH LEHMAN DRIVE

N STA 35+79.9
43.2' LT

JUNCTION BOX

N STA 37+21.3
28.5' LT

JUNCTION BOX

63+00

62+00

61+00

SYKES MOUNTAIN AVENUE

12" DI

8" DI

N STA 35+38.9
31.7' RT

RELOCATE FIRE HYDRANT 6" D.I. WATER LINE TO RELOCATED HYDRANT

JUNCTION BOX

N STA 61+30.4
40.6' RT

JUNCTION BOX

N STA 36+90.4
42.7' RT

JUNCTION BOX

N STA 61+06.0
24.2' LT

RALPH LEHMAN DRIVE

UE

MUE

SE

W

S

AER E&T

0 20 40
SCALE IN FEET

PROJECT NAME: HARTFORD	
PROJECT NUMBER: STP 0113(59)S	
FILE NAME: zc334bdr_utl.dgn	PLOT DATE: 8/12/2019
PROJECT LEADER: S. IRELAND	DRAWN BY: M. LOVETT
DESIGNED BY: B. COLBURN	CHECKED BY: S. IRELAND
UTILITY LAYOUT PLAN 2	SHEET 44 OF 94

N

MAGNETIC

I-91 NB
ON-RAMP

PC
10+00.00

10+00

11+00

12+00

13+00

3

RYDER TRUCK
RENTAL, INC.

STATE OF VERMONT
PROJ. I NO. 91-2(2)

US ROUTE 5

ABANDON 8"
WATER LINE

10" UC

12" DI

11+81.19

INSTALL (T)

INSTALL (T)

INSTALL (T)

ABANDON 8"
WATER LINE

MATCH TO SHEET
MATCHLINE STA 13+25.00

1

LOWELL T. SPILLANE,
TRUSTEE OF THE LOWELL T. SPILLANE TRUST,
U/T/A DATED NOVEMBER 21, 2014

CUT AND CAP END OF EXISTING PIPE (TYP)
COORDINATE WITH TOWN OF HARTFORD
LOCATION TO BE NEAR INTERSECTION
OF BALLARDVALE DRIVE AND WINDSOR DRIVE

BEGIN R.O.W. PROJECT
HARTFORD STP 0113(59)S
STA. 11+41, 91' RT

2" SERVICE LINE CONNECTION
2" CORPORATION W/SERVICE SADDLE
2" TYPE K COPPER TUBING
TO PROVIDE 2 1" SERVICE LINES TO
THRIFTY CAR RENTALS AND
SATELLITE VIDEO
CONTRACTOR TO VERIFY EXISTING
PIPE SIZE AND TIE IN LOCATION

2

TAMARACK SERVICES OF
WHITE RIVER JUNCTION, INC., LESSOR
McDONALD'S CORPORATION, LESSEE

0 20 40
SCALE IN FEET

PROJECT NAME: HARTFORD	
PROJECT NUMBER: STP 0113(59)S	
FILE NAME: zc334bdr_util.dgn	PLOT DATE: 8/12/2019
PROJECT LEADER: S. IRELAND	DRAWN BY: M. LOVETT
DESIGNED BY: B. COLBURN	CHECKED BY: S. IRELAND
UTILITY LAYOUT PLAN 3	SHEET 45 OF 94

WHITE, MARILYN I., LESSOR
EXECUSUITE, LLC, LESSEE

RYDER TRUCK
RENTAL, INC.

3

6

RANDY HOWE
SUNOCO, INC.
(NO IMPACTS TO THIS PARCEL)

FIRE HYDRANT
8"X8"X6" TEE, MJ
6" GATE VALVE, MJ W/BOX
8" D.I. WATER LINE,
AS REQ'D LENGTH

FIRE HYDRANT
8"X8"X6" TEE, MJ
6" GATE VALVE, MJ W/BOX
8" D.I. WATER LINE,
AS REQ'D LENGTH

2" 90° BEND,MJ

8" GATE VALVE, MJ W/BOX
8" D.I. WATER LINE,
AS REQ'D LENGTH CAP END

2" SERVICE LINE
CONNECTION 2"
CORPORATION W/
SERVICE SADDLE
2" TYPE K COPPER
TUBING 2" UNION
TO EXISTING 2" PIPE
CONTRACTOR TO VERIFY EXISTING
PIPE SIZE AND TIE IN LOCATION

MAGNETIC

CONSTRUCT NEW
8" D.I. WATERLINE

CONSTRUCT NEW
SMH LOCATION TO BE FIELD
VERIFIED BY CONTRACTOR

STATE OF VERMONT
PROJ. I NO. 91-2(2)

US ROUTE 5

19+00

20+00

20+00.75 PC

21+00

MATCH TO SHEET
MATCHLINE STA 21+75.00

CONSTRUCT NEW
SEWER SERVICE LINE

18+00

17+00

12" 45°
BEND,MJ

CONSTRUCT NEW
8" D.I. WATERLINE

MATCH TO SHEET
MATCHLINE STA 16+50.00

EXISTING WATER LINE INTERCONNECTION
12" 45° BEND, MJ
12" D.I. WATER LINE, AS REQ'D LENGTH
12"X8" REDUCER, MJ
8" D.I. WATER LINE, AS REQ'D LENGTH
8" GATE VALVE, MJ W/BOX

WP

7

EVANS GROUP, INC.

ABANDON WATER LINE
CUT AND CAP ENDS

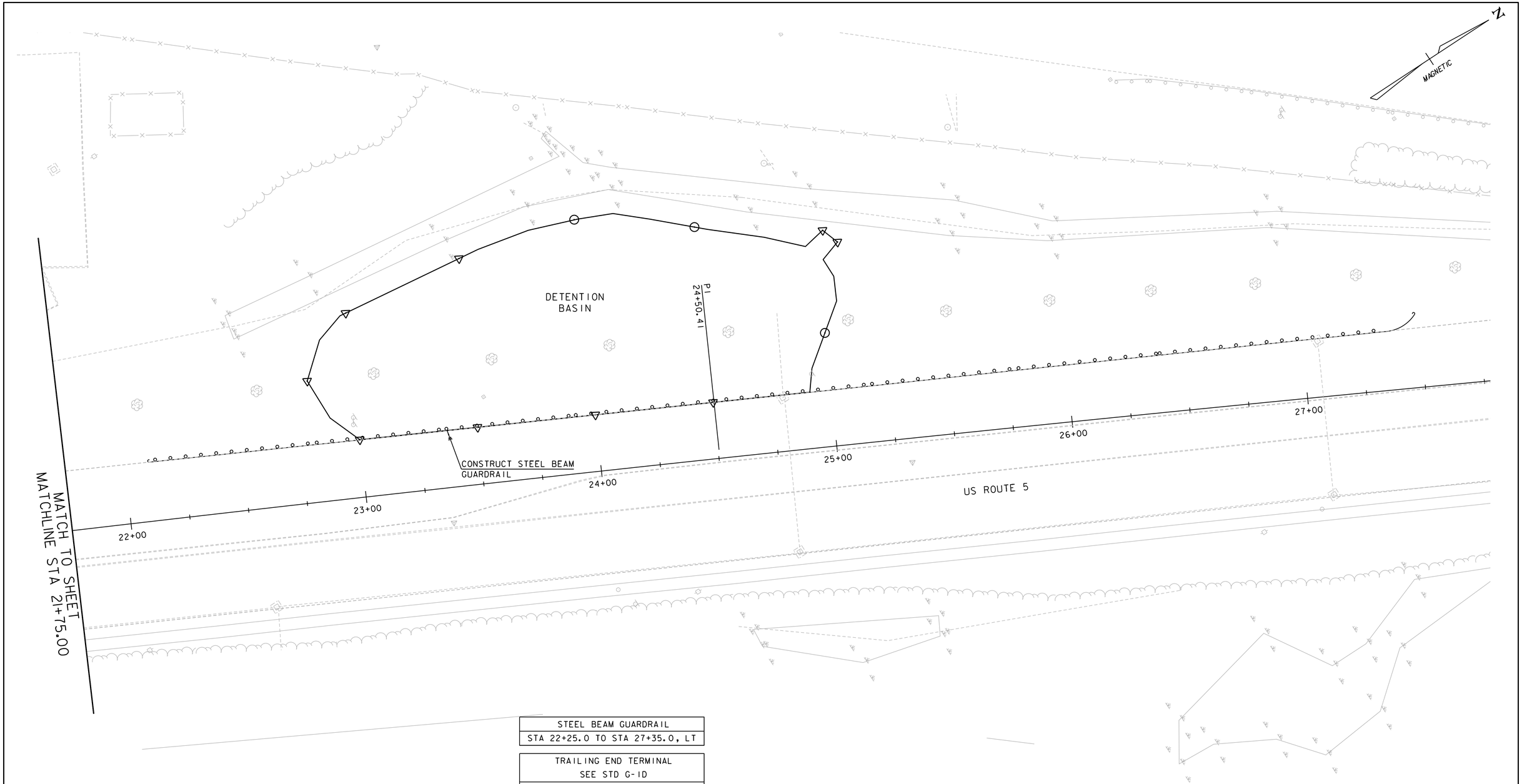
CONSTRUCT NEW
12" D.I. WATERLINE

5

KBT ENTERPRISES, LLC, LESSOR
SUMMIT DISTRIBUTING, LLC, LESSEE

0 20 40
SCALE IN FEET

PROJECT NAME:	HARTFORD
PROJECT NUMBER:	STP 0113(59)S
FILE NAME: zc334bdr_utl.dgn	PLOT DATE: 8/12/2019
PROJECT LEADER: S. IRELAND	DRAWN BY: M. LOVETT
DESIGNED BY: B. COLBURN	CHECKED BY: S. IRELAND
UTILITY LAYOUT PLAN 4	SHEET 46 OF 94



STEEL BEAM GUARDRAIL
STA 22+25.0 TO STA 27+35.0, LT

TRAILING END TERMINAL SEE STD G-ID
STA 22+12.5 TO STA 22+25.0, LT

APPROACH END TERMINAL SEE STD G-ID
STA 27+35.0 TO STA 27+47.5, LT

0 20 40
SCALE IN FEET

PROJECT NAME: HARTFORD
PROJECT NUMBER: STP 0113(59)S

FILE NAME: zc334bdr_utl.dgn
PROJECT LEADER: S. IRELAND
DESIGNED BY: B. COLBURN
UTILITY LAYOUT PLAN 5

PLOT DATE: 8/12/2019
DRAWN BY: M. LOVETT
CHECKED BY: S. IRELAND
SHEET 47 OF 94

EPSC PLAN NARRATIVE

1.1 PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE RECONFIGURATION OF THE INTERSECTION OF VERMONT ROUTE 5 AND SYKES MOUNTAIN AVENUE LOCATED IN THE TOWN OF HARTFORD. THE PROJECT WILL ALSO RECONFIGURE THE INTERSECTION OF SYKES MOUNTAIN AVENUE AND RALPH LEHMAN DRIVE. IN BOTH CASES THE EXISTING INTERSECTIONS WILL BE RECONSTRUCTED INTO ROUNDABOUTS TO INCREASE THE CAPACITY OF THE ROADWAYS. THE TOTAL ROADWAY WORK IS APPROXIMATELY 2000 FEET. NEW WATERLINES WILL BE CONSTRUCTED AND A NEW DRAINAGE SYSTEM INCLUDING A DETENTION BASIN WILL BE INSTALLED. NATURAL RESOURCES NEAR THAT PROJECT AREA HAVE BEEN CLEARLY IDENTIFIED AND ARE SHOWN ON THE EXISTING SITE CONDITIONS PLAN SHEET. IT IS ANTICIPATED THAT THIS PROJECT WILL BE COMPLETED IN ONE CONSTRUCTION SEASON WITH NO WORK BEING DONE OUTSIDE THE PLANTING SEASON.

TOTAL DISTURBED AREA (EXCLUDING WASTE, BORROW, AND STAGING AREAS):
191,000 SF (4.4 ACRES).

1.2 SITE INVENTORY

1.2.1 TOPOGRAPHY

THE TOPOGRAPHY OF THE PROJECT AREA IS SLOPING DOWN TO THE NORTHEAST WITH THE HIGHEST POINT AT THE SOUTHWESTERN CORNER OF THE SITE. THE SLOPES ARE STEEPEST AT THE SOUTHWESTERN QUADRANT AND FLATTENS OUT AS IT APPROACHES THE URBAN AREAS AT THE CENTER OF THE PROJECT AREA, THE SLOPE INCREASES AGAIN AT THE NORTH END OF THE SITE NEAR THE WETLAND AREA. THE ROADWAY ON THE SOUTH SIDE OF US ROUTE 5 IS SUPERELEVATED TO THE EAST. AS US ROUTE 5 APPROACHES THE INTERSECTION OF SYKES MOUNTAIN AVENUE IT GRADUALLY CHANGES SLOPE DOWNHILL TO THE NORTH WHERE IT CONTINUES PAST THE LIMIT OF WORK. SYKES MOUNTAIN AVENUE IS SLOPED TO THE EAST THROUGH THE ENTIRE SITE WHILE RALPH LEHMAN DRIVE AND BESWICK DRIVE SLOPE TO THE NORTH. THERE ARE EXISTING COMMERCIAL PROPERTIES WITH PAVED PARKING LOTS ALONG SYKES MOUNTAIN AVENUE AND AROUND THE INTERSECTION OF US ROUTE 5. THE NORTH END OF US ROUTE 5 CONSISTS OF MEADOWLANDS WITH SPARSE TREES. THE PROPERTY SURROUNDING THE PROJECT SITE IS MOSTLY URBAN WITH FLAT TO MODERATE SLOPES.THE PROJECT SITE DRAINS FROM THE SOUTH TO THE NORTH DOWN US ROUTE 5 AND FROM THE WEST TO THE EAST DOWN SYKES MOUNTAIN AVENUE WITH STORMWATER SHEET FLOWING OVER URBAN AREAS AND COLLECTING IN EITHER DITCHES OR CURBLINE DRAINAGE INLETS.

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

THERE IS AN EXISTING CLASS III WETLAND THAT EXISTS NORTHWEST OF US ROUTE 5, IT FLOWS FROM THE SOUTH TO THE NORTH AND IS SHOWN ON THE EXISTING CONDITIONS PLANS. THERE IS ALSO AN EXISTING DETENTION BASIN ON THE SOUTHWEST CORNER OF THE INTERSECTION OF SYKES MOUNTAIN AVENUE AND RALPH LEHMAN DRIVE.

1.2.3 VEGETATION

THE VEGETATION LOCATED ADJACENT TO U.S. ROUTE 5 AND SYKES MOUNTAIN AVENUE CONSISTS MAINLY OF GRASS, SMALL TREES, AND SHRUBS. THE IMPACT TO VEGETATION WILL BE LIMITED TO THAT WHICH IS DIRECTLY IMPACTED BY THE ROADWAY CONSTRUCTION. UPON COMPLETION OF THE PROJECT, DISTURBED VEGETATION WILL BE REESTABLISHED WITH STANDARD SEED AND MULCH PRACTICES.

1.2.4 SOILS

ALL SOIL DATA CAME FROM THE U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE FOR THE COUNTY OF WINDSOR, VERMONT. SOILS ON THE PROJECT SITE ARE:
URBAN LAND WINDSOR AGAWAM COMPLEX, 0% TO 8% SLOPES, "K FACTOR" = 0.28. THIS SOIL IS CONSIDERED NOT HIGHLY ERODIBLE,
WINDSOR LOAMY FINE SAND, 25% TO 60% SLOPES, "K FACTOR" = 0.17. THIS SOIL IS CONSIDERED HIGHLY ERODIBLE.
GLOVER VERSHIRE COMPLEX, 3% TO 15% SLOPES, "K FACTOR" = 0.32. THIS SOIL IS CONSIDERED POTENTIALLY HIGHLY ERODIBLE.
GLOVER VERSHIRE COMPLEX, 35% TO 60% SLOPES, "K FACTOR" = 0.32. THIS SOIL IS CONSIDERED HIGHLY ERODIBLE.

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

1.2.5 SENSITIVE RESOURCE AREAS

CRITICAL HABITATS: NO
HISTORICAL OR ARCHEOLOGICAL AREAS: NO
PRIME AGRICULTURAL LAND: NO
THREATENED AND ENDANGERED SPECIES: NO
WATER RESOURCE: WHITE RIVER
WETLANDS: A CLASS III WETLAND EXISTS ON THE NORTHWEST CORNER OF THE PROJECT

1.3 RISK EVALUATION

THIS PROJECT FALLS UNDER THE JURISDICTION OF CONSTRUCTION GENERAL PERMIT 3-9020 BASED ON THE PROJECT IMPACT AREA. THIS PROJECT IS CLASSIFIED AS "LOW RISK" BASED ON A DETAILED RISK EVALUATION. SHOULD CHANGES PRIOR TO OR DURING CONSTRUCTION RESULT IN A CHANGE TO THE RISK ASSESSMENT, THEN THE SELECTED CONTRACTOR WILL BE RESPONSIBLE FOR ADDITIONAL PERMITTING WITH VANR UNDER THE CONSTRUCTION GENERAL PERMIT PROCESS WITH COORDINATION WITH VTRANS.

1.4 EROSION PREVENTION AND SEDIMENT CONTROL

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

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

1.4.1 MARK SITE BOUNDARIES

SITE BOUNDARIES AND AREAS WHERE CONSTRUCTION EQUIPMENT CAN ACCESS SHALL BE DELINEATED. PROJECT DEMARCATION FENCING (PDF) SHALL BE PLACED 1.5 FEET FROM THE TOE OF SLOPE TO PHYSICALLY MARK SITE BOUNDARIES DUE TO THE CLOSE PROXIMITY TO BUSINESSES TO THE PROJECT SITE. PDF CAN BE LOCATED CLOSER TO THE PROPOSED SLOPE LIMITS IN SENSITIVE AREAS OR AS DIRECTED BY THE ENGINEER. PDF SHALL BE INSTALLED PRIOR TO THE BEGINNING OF ANY EARTHWORK ON THE PROJECT.

1.4.2 LIMIT DISTURBANCE AREA

PREVENTING INITIAL SOIL EROSION BY MINIMIZING THE EXPOSED AREA IS MUCH MORE EFFECTIVE THAN TREATING ERODED SEDIMENT. EARTH DISTURBANCE CAN BE MINIMIZED THROUGH CONSTRUCTION PHASING BY ONLY OPENING UP EARTH AS NECESSARY. THIS CAN LIMIT THE AREA THAT WILL BE DISTURBED AND EXPOSED TO EROSION. EMPLOY TEMPORARY CONSTRUCTION STABILIZATION PRACTICES IN INCREMENTAL STAGES AS CONSTRUCTION CHANGES.

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

1.4.3 SITE ENTRANCE/EXIT STABILIZATION

TRACKING OF SEDIMENT ONTO PUBLIC HIGHWAYS SHALL BE MINIMIZED TO REDUCE THE POTENTIAL FOR RUNOFF ENTERING RECEIVING WATERS. INSTALLATION SHALL COINCIDE WITH THE CONTRACTOR'S PROGRESS SCHEDULE.

STABILIZED CONSTRUCTION ENTRANCES SHOULD BE INSTALLED IF REQUIRED ANYWHERE EQUIPMENT WILL BE GOING FROM AREAS OF EXPOSED SOILS TO PAVED SURFACES. STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AS PROPOSED ON THE EPSC PLAN AND ANYWHERE EQUIPMENT WILL BE GOING FROM AREAS OF EXPOSED SOILS TO PAVED SURFACES. STONE WILL BE USED TO REMOVE SEDIMENT FROM THE TIRES OF CONSTRUCTION VEHICLES. IF SEDIMENT IS STILL BEING TRACKED ONTO PUBLIC ROADS, THE LENGTH OF THE PAD SHALL BE EXTENDED OR VEHICLES SHALL BE RINSED WITH A HOSE PRIOR TO LEAVING THE SITE.

1.4.4 INSTALL SEDIMENT BARRIERS

SEDIMENT BARRIERS SHALL BE UTILIZED TO INTERCEPT RUNOFF AND ALLOW SUSPENDED SEDIMENT TO SETTLE OUT. THEY SHALL BE INSTALLED PRIOR TO ANY UP SLOPE EARTHWORK IN ACCORDANCE WITH THE EROSION PREVENTION AND CONTROL PLANS.

EROSION LOGS WILL BE INSTALLED AT THE TOE OF SLOPE AS PROPOSED ON THE EPSC PLAN.

THE DETENTION BASIN WILL INITIALLY BE CONSTRUCTED AS A SEDIMENT SETTLING BASIN TO HELP PREVENT SEDIMENT FROM REACHING WATERS OF THE STATE.

INLET PROTECTION SHALL BE INSTALLED AT INLETS TO LIMIT THE AMOUNT OF SEDIMENT THAT ENTERS THE INLET. INLET PROTECTION SHALL BE PLACED AS SHOWN ON THE EROSION CONTROL PLAN AND PER THE DETAIL SHOWN IN THE PLANS. THIS MEASURE SHALL BE INSTALLED ONCE THE GRADE ADJACENT TO THE INLET IS WITHIN SIX INCHES OF FINAL GRADE. INLETS SHALL BE CLEANED WHEN THE SUMP BECOMES FILLED WITH SEDIMENT AND AT THE COMPLETION OF CONSTRUCTION.

IF THE CONTRACTOR CHOOSES TO USE A DIFFERENT METHOD FOR CONTAINING SEDIMENT IN THE WATERCOURSES, THE CONTRACTOR SHALL SUBMIT THE ALTERNATE METHOD TO THE ENGINEER FOR APPROVAL AT LEAST 14 DAYS PRIOR TO THE PRE-CONSTRUCTION MEETING. EROSION LOGS SHALL BE INSTALLED AS SHOWN ON THE EROSION PREVENTION AND SEDIMENT CONTROL PLANS PRIOR TO ANY CONSTRUCTION WITHIN 50 FEET OF WATERS OF THE STATE.

1.4.5 DIVERT UPLAND RUNOFF

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

1.4.6 SLOW DOWN CHANNELIZED RUNOFF

CHECK STRUCTURES SHALL BE UTILIZED TO REDUCE THE VELOCITY, AND THUS THE EROSIVE POTENTIAL, OF CONCENTRATED FLOW IN CHANNELS. CHECK STRUCTURES SHALL BE PLACED AS SHOWN ON THE EROSION CONTROL PLAN AND PER THE DETAIL SHOWN IN THE PLANS.

1.4.7 CONSTRUCT PERMANENT CONTROLS

PERMANENT STORMWATER TREATMENT DEVICES, SUCH AS STONE SLOPES, SHALL BE INSTALLED AS SHOWN ON THE PLANS. ALL DISTURBED SOIL SHALL BE STABILIZED WITH SEED AND MULCH.

1.4.8 STABILIZE EXPOSED SOILS DURING CONSTRUCTION

ALL AREAS OF DISTURBANCE MUST HAVE TEMPORARY STABILIZATION IN PLACE WITHIN 48 HOURS OF DISTURBANCE. TEMPORARY MULCHING, SHALL BE UTILIZED ON A REGULAR BASIS ON EXPOSED SOIL AREAS.BIODEGRADABLE EROSION CONTROL MATTING OR AN EQUIVALENT SHALL BE USED TO STABILIZE ALL SOIL SLOPES STEEPER THAN 1:3 AS SHOWN ON THE PLANS. THE FORECAST OF RAINFALL EVENTS SHALL TRIGGER IMMEDIATE PROTECTION OF EXPOSED SOILS.

1.4.9 WINTER STABILIZATION

VARIOUS MEASURES SPECIFIC TO WINTER MAY BE NECESSARY SHOULD THE PROJECT EXTEND INTO WINTER (OCTOBER 15 THROUGH APRIL 15). REFER TO THE LOW RISK SITE HANDBOOK FOR GUIDANCE.

1.4.10 STABILIZE SOIL AT FINAL GRADE

EXPOSED SOIL MUST BE STABILIZED WITHIN 48 HOURS OF REACHING FINAL GRADE. SEEDING AND MULCHING SHALL BE USED TO STABILIZE SOIL. SEE THE EROSION CONTROL DETAILS FOR SEED TYPES AND APPLICATION RATES. SEED, MULCH, FERTILIZER AND LIME SHALL BE USED TO ESTABLISH PERMANENT VEGETATION. FOR SLOPES STEEPER THAN 1:3, BIODEGRADABLE EROSION CONTROL MATTING OR AN EQUIVALENT SHALL BE USED INSTEAD OF MULCH.

1.4.11 DE-WATERING ACTIVITIES

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

1.4.12 INSPECT YOUR SITE

INSPECT THE PROJECT SITE BASED ON SPECIAL PROVISION REQUIREMENTS OR AFTER ANY RAINFALL EVENT THAT RESULTS IN DISCHARGE FROM THE SITE.

1.5 SEQUENCE AND STAGING

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

1.5.1 CONSTRUCTION SEQUENCE

1.5.2 OFFSITE ACTIVITIES

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

PROJECT NAME:	HARTFORD
PROJECT NUMBER:	STP 0113(59)S

FILE NAME: zC334ero_nar.dgn		PLOT DATE:	8/12/2019
PROJECT LEADER:	S. IRELAND	DRAWN BY:	B. PATINSKAS
DESIGNED BY:	B. COLBURN	CHECKED BY:	S. IRELAND
EPSC PLAN NARRATIVE		SHEET	48 OF 94

MATCH TO SHEET
MATCHLINE STA 16+50.00

MATCH TO SHEET
MATCHLINE STA 34+75.00

MATCH TO SHEET
MATCHLINE STA 13+25.00

N
MAGNETIC

5
KBT ENTERPRISES, LLC, LESSOR
SUMMIT DISTRIBUTING, LLC, LESSEE

STATE OF VERMONT
PROJ. I NO. 91-2(2)

US ROUTE 5

9
RUTH H. GUERNSEY, TRUSTEE OF
THE REVOCABLE TRUST OF RUTH H.
GUERNSEY, DATED APRIL 5, 1985

SYKES MOUNTAIN
AVENUE

STATE OF VERMONT
PROJ. I NO. 91-2(2)

4A
HARTFORD LAND CO.

PC
33+13.12

3
RYDER TRUCK
RENTAL, INC.

EXISTING INLET
(TYP.)

US ROUTE 5

STATE OF VERMONT
PROJ. I NO. 91-2(2)

2
TAMARACK SERVICES OF
WHITE RIVER JUNCTION, INC., LESSOR
McDONALD'S CORPORATION, LESSEE

STATE OF VERMONT
PROJ. I NO. 91-2(2)

BESWICK DRIVE

4B

8
HARTFORD LAND
CORPORATION,
LESSOR
COMMUNITY
BANK, N.A.,
LESSEE

AER E&T

30+00 31+00 15+00 32+00 33+00 52+00 34+00 14+00 51+00 16+00

545 550

0 20 40
SCALE IN FEET

PROJECT NAME:	HARTFORD
PROJECT NUMBER:	STP 0113(59)S
FILE NAME: zc334bdr_ecl.dgn	PLOT DATE: 8/12/2019
PROJECT LEADER: S. IRELAND	DRAWN BY: M. LOVETT
DESIGNED BY: B. COLBURN	CHECKED BY: S. IRELAND
EPSC EXISTING CONDITIONS PLAN 01	SHEET 49 OF 94

MATCH TO SHEET
MATCHLINE STA 34+75.00

9
RUTH H. GUERNSEY,
TRUSTEE OF THE REVOCABLE
TRUST OF RUTH HALL
GUERNSEY, DATED APRIL 5, 1989

10
JACOBS, RANDOLPH P.

11
HALL, ALLEN J. & HALL, CHARLES H.
D.B.A. HALL AND HALL PARTNERSHIP

12
TCSVT, LLC

13
UNITED STATES
POSTAL SERVICE
(NO IMPACTS TO THIS PARCEL)

4B
HARTFORD LAND CO., LESSOR
COMMUNITY BANK, N.A., LESSEE

4C
HARTFORD LAND CO., LESSOR
NORTHMAC, INC., LESSEE

4D
HARTFORD
LAND CO.

AER E&T

35+00
36+00
37+00
38+00
39+00
40+00
61+00
62+00
63+00

SYKES MOUNTAIN
AVENUE

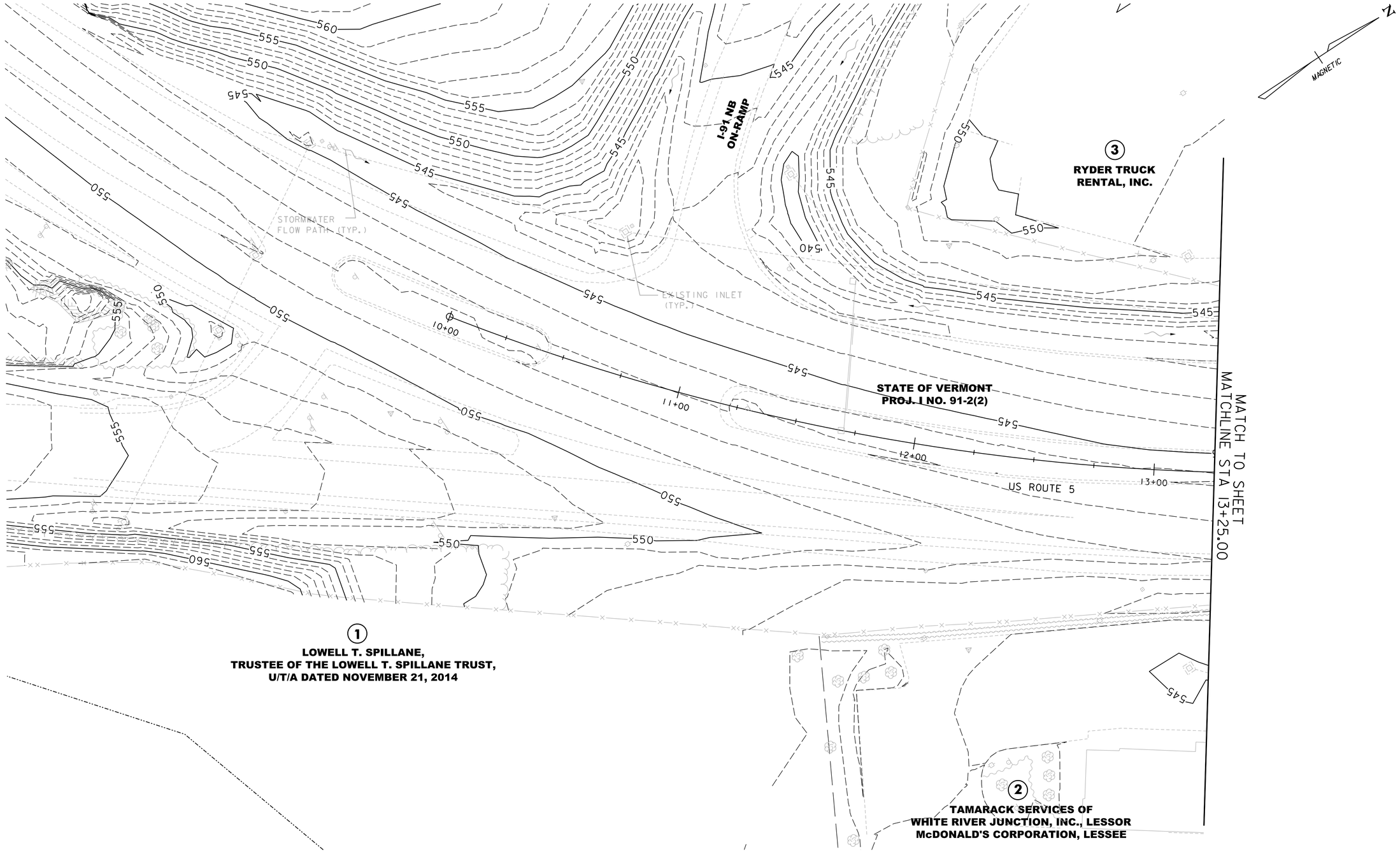
RALPH LEHMAN
DRIVE

540
545

MAGNETIC

0 20 40
SCALE IN FEET

PROJECT NAME: HARTFORD	
PROJECT NUMBER: STP 0113(59)S	
FILE NAME: zc334bdr_ecl.dgn	PLOT DATE: 8/12/2019
PROJECT LEADER: S. IRELAND	DRAWN BY: M. LOVETT
DESIGNED BY: B. COLBURN	CHECKED BY: S. IRELAND
EPSC EXISTING CONDITIONS PLAN 02	SHEET 50 OF 94



PROJECT NAME:	HARTFORD
PROJECT NUMBER:	STP 0113(59)S
FILE NAME: ppms"/Section/------.dgn	PLOT DATE: 8/12/2019
PROJECT LEADER: S. IRELAND	DRAWN BY: M. LOVETT
DESIGNED BY: B. COLBURN	CHECKED BY: S. IRELAND
EPSC EXISTING CONDITIONS PLAN 03	SHEET 51 OF 94

WHITE, MARILYN I., LESSOR
EXECUSUITE, LLC, LESSEE

N

MAGNETIC

RYDER TRUCK RENTAL, INC.

3

6

RANDY HOWE
SUNOCO, INC.
(NO IMPACTS TO THIS PARCEL)

STATE OF VERMONT
PROJ. I NO. 91-2(2)

US ROUTE 5

MATCH TO SHEET
MATCHLINE STA 21+75.00

MATCH TO SHEET
MATCHLINE STA 16+50.00

7

EVANS GROUP, INC.

5

KBT ENTERPRISES, LLC, LESSOR
SUMMIT DISTRIBUTING, LLC, LESSEE

0 20 40
SCALE IN FEET

PROJECT NAME: HARTFORD	
PROJECT NUMBER: 0113(59)S	
FILE NAME: zc334bdr_ecl.dgn	PLOT DATE: 8/12/2019
PROJECT LEADER: S. IRELAND	DRAWN BY: M. LOVETT
DESIGNED BY: B. COLBURN	CHECKED BY: S. IRELAND
EPSC EXISTING CONDITIONS PLAN 04	SHEET 52 OF 94

INTERSTATE 1-91
NORTHBOUND

N

MAGNETIC

WHITE, MARILYN I., LESSOR
EXECUSUITE, LLC, LESSEE

STORMWATER
FLOW PATH (TYP.)

STATE OF VERMONT
PROJ. I NO. 91-2(2)

US ROUTE 5

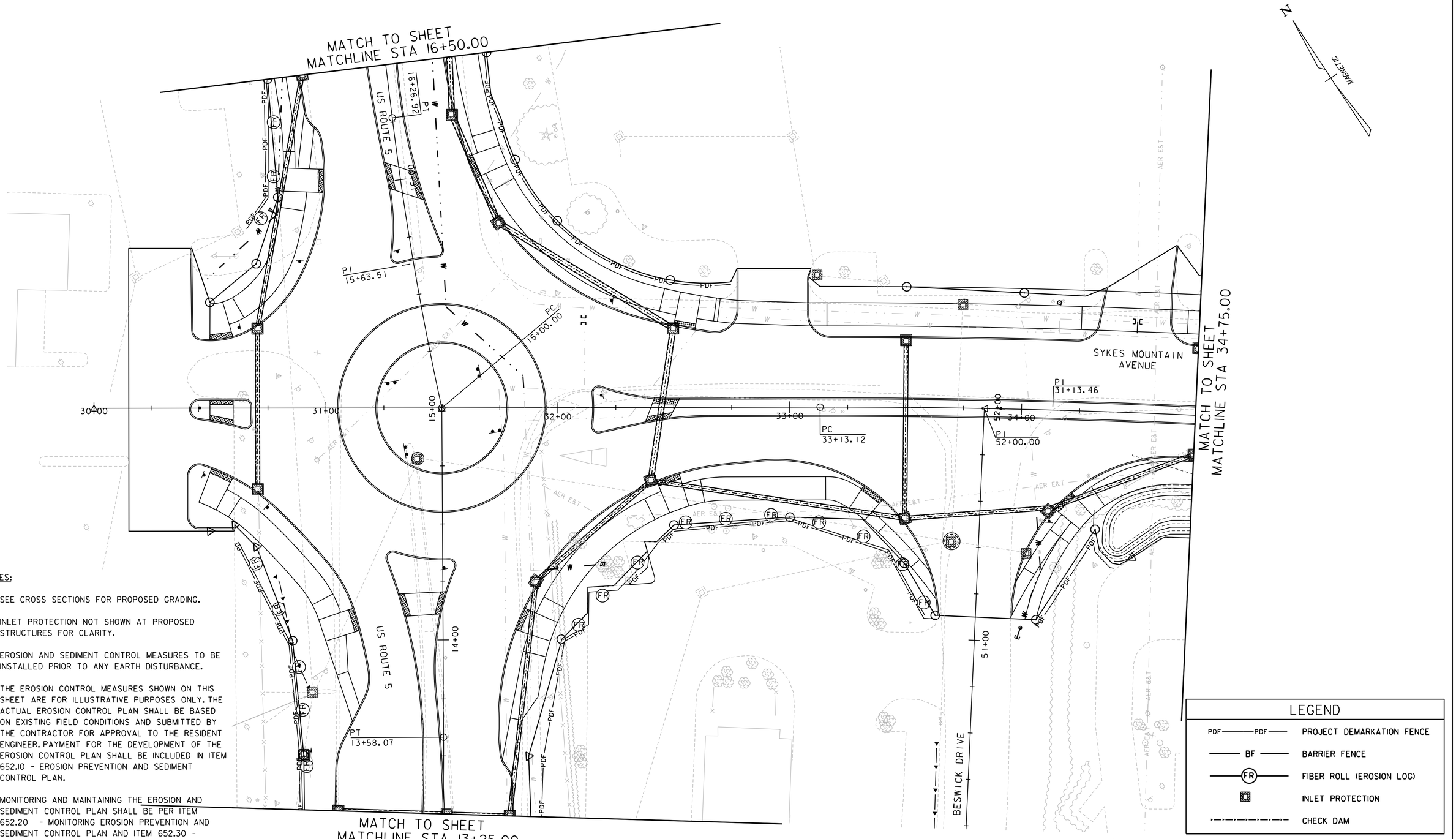
EXISTING INLET
(TYP.)

MATCH TO SHEET
MATCHLINE STA 21+75.00

22+00
23+00
24+00
25+00
26+00
27+00

0 20 40
SCALE IN FEET

PROJECT NAME: HARTFORD	
PROJECT NUMBER: 0113(59)S	
FILE NAME: zc334bdr_ecl.dgn	PLOT DATE: 8/12/2019
PROJECT LEADER: S. IRELAND	DRAWN BY: M. LOVETT
DESIGNED BY: B. COLBURN	CHECKED BY: S. IRELAND
EPSC EXISTING CONDITIONS PLAN 05	SHEET 53 OF 94



NOTES:

1. SEE CROSS SECTIONS FOR PROPOSED GRADING.
2. INLET PROTECTION NOT SHOWN AT PROPOSED STRUCTURES FOR CLARITY.
3. EROSION AND SEDIMENT CONTROL MEASURES TO BE INSTALLED PRIOR TO ANY EARTH DISTURBANCE.
4. THE EROSION CONTROL MEASURES SHOWN ON THIS SHEET ARE FOR ILLUSTRATIVE PURPOSES ONLY. THE ACTUAL EROSION CONTROL PLAN SHALL BE BASED ON EXISTING FIELD CONDITIONS AND SUBMITTED BY THE CONTRACTOR FOR APPROVAL TO THE RESIDENT ENGINEER. PAYMENT FOR THE DEVELOPMENT OF THE EROSION CONTROL PLAN SHALL BE INCLUDED IN ITEM 652.10 - EROSION PREVENTION AND SEDIMENT CONTROL PLAN.
5. MONITORING AND MAINTAINING THE EROSION AND SEDIMENT CONTROL PLAN SHALL BE PER ITEM 652.20 - MONITORING EROSION PREVENTION AND SEDIMENT CONTROL PLAN AND ITEM 652.30 - MAINTENANCE OF EROSION PREVENTION AND SEDIMENT CONTROL PLAN.
6. PROJECT DEMARCATION FENCING SHALL BE PLACED AS SHOWN ON THIS PLAN. ANY CHANGES TO THE PROPOSED LAYOUT SHALL BE SUBMITTED FOR APPROVAL BY THE RESIDENT ENGINEER.
7. FOR CLARITY, AREAS TO BE SEEDED AND MULCHED HAVE NOT BEEN INDICATED. ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED AS APPLICABLE.
8. THE LOCATION OF ANY WASTE OR BORROW AREAS AND HAUL ROADS SHALL BE SUBMITTED BY THE CONTRACTOR FOR APPROVAL TO THE RESIDENT ENGINEER AND VTRANS ENVIRONMENTAL SECTION. THE LOCATION OF ANY CONSTRUCTION ENTRANCES SHALL ALSO BE SHOWN ON THE SUBMITTAL.
9. SEE LAYOUT PLANS FOR FINAL CONDITIONS PLAN.

LEGEND

- PDF —— PDF — PROJECT DEMARKATION FENCE
- BF — BARRIER FENCE
- FR — FIBER ROLL (EROSION LOG)
- INLET PROTECTION
- CHECK DAM

0 20 40
SCALE IN FEET

PROJECT NAME: HARTFORD
PROJECT NUMBER: STP 0113(59)S

FILE NAME: zc334bdr_ec2.dgn
PROJECT LEADER: S. IRELAND
DESIGNED BY: B. COLBURN
EPSC CONSTRUCTION LAYOUT PLAN 01

PLOT DATE: 8/12/2019
DRAWN BY: M. LOVETT
CHECKED BY: S. IRELAND
SHEET 54 OF 94

MATCH TO SHEET
MATCHLINE STA 34+75.00

PT
35+13.74

35+00

36+00

37+00

PC
37+88.04

38+00

PT
38+46.39

SYKES MOUNTAIN
AVENUE

39+00

40+00

63+00

62+00

61+00

RALPH LEHMAN
DRIVE

AER E&T

PDF

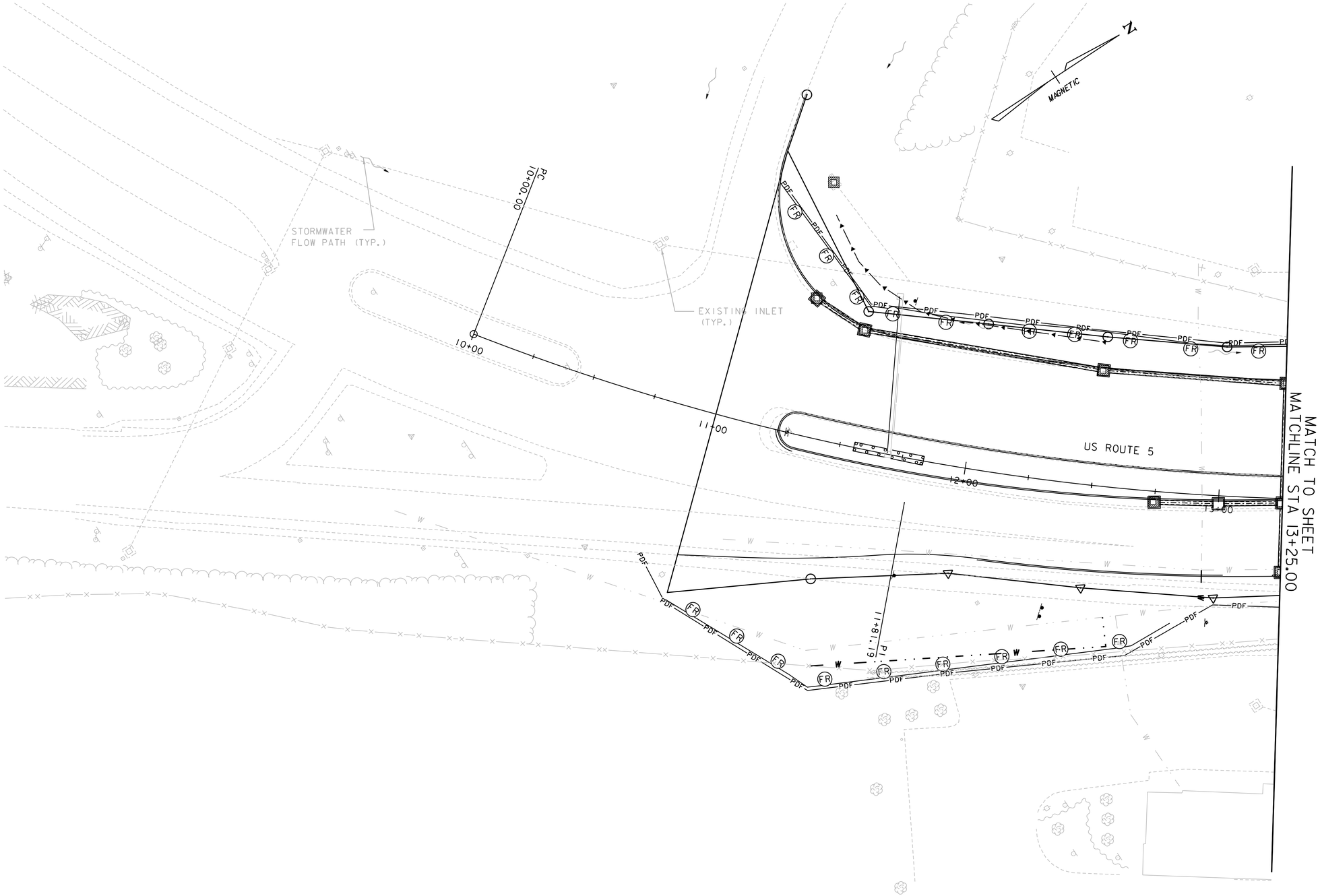
FR

N

MAGNETIC

0 20 40
SCALE IN FEET

PROJECT NAME: HARTFORD	
PROJECT NUMBER: STP 0113(59)S	
FILE NAME: zc334bdr_ec2.dgn	PLOT DATE: 8/12/2019
PROJECT LEADER: S. IRELAND	DRAWN BY: M. LOVETT
DESIGNED BY: B. COLBURN	CHECKED BY: S. IRELAND
EPSC CONSTRUCTION LAYOUT PLAN 02	SHEET 55 OF 94



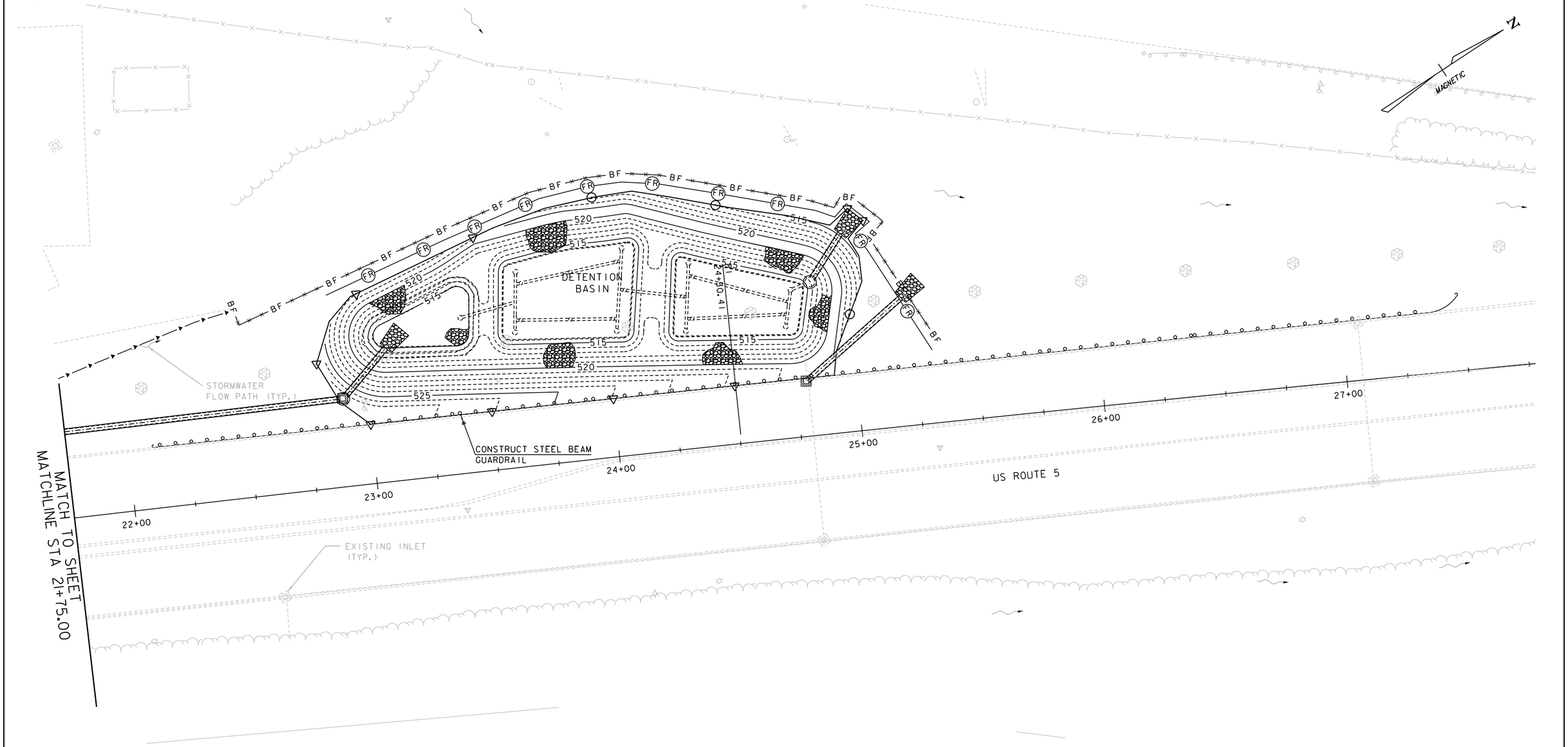
0 20 40
SCALE IN FEET

PROJECT NAME:	HARTFORD
PROJECT NUMBER:	STP 0113(59)S

FILE NAME: zc334bdr_ec2.dgn	PLOT DATE: 8/12/2019
PROJECT LEADER: S. IRELAND	DRAWN BY: M. LOVETT
DESIGNED BY: B. COLBURN	CHECKED BY: S. IRELAND
EPSC CONSTRUCTION LAYOUT PLAN 03	SHEET 56 OF 94

0 20 40
SCALE IN FEET

PROJECT NAME:	HARTFORD
PROJECT NUMBER:	STP 0113(59)S
FILE NAME: zc334bdr_ec2.dgn	PLOT DATE: 8/12/2019
PROJECT LEADER: S. IRELAND	DRAWN BY: M. LOVETT
DESIGNED BY: B. COLBURN	CHECKED BY: S. IRELAND
EPSC CONSTRUCTION LAYOUT PLAN 04	SHEET 57 OF 94



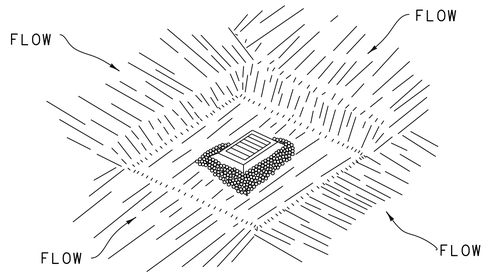
0 20 40
SCALE IN FEET

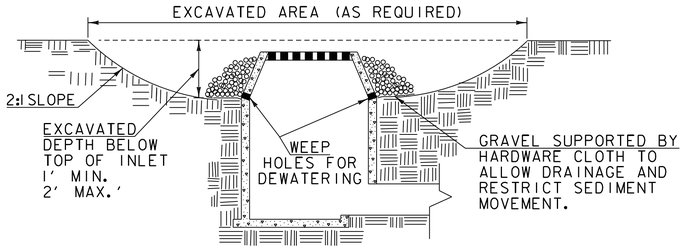
PROJECT NAME:	HARTFORD
PROJECT NUMBER:	0113(59)S

FILE NAME: zc334bdr_ecl2.dgn	PLOT DATE: 8/12/2019
PROJECT LEADER: S. IRELAND	DRAWN BY: M. LOVETT
DESIGNED BY: B. COLBURN	CHECKED BY: S. IRELAND
EPSC CONSTRUCTION LAYOUT PLAN 05	SHEET 58 OF 94

SYMBOL

NOT TO SCALE





CONSTRUCTION SPECIFICATIONS

1. CLEAR THE AREA OF ALL DEBRIS THAT WILL HINDER EXCAVATION.
2. GRADE APPROACH TO THE INLET UNIFORMLY AROUND THE BASIN.
3. WEEP HOLES SHALL BE PROTECTED BY GRAVEL.
4. UPON STABILIZATION OF CONTRIBUTING DRAINAGE AREA, SEAL WEEP HOLES, FILL BASIN WITH STABLE SOIL TO FINAL GRADE, COMPACT IT PROPERLY AND STABILIZE WITH PERMANENT SEEDING.
5. MAXIMUM DRAINAGE AREA 1 ACRE

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

EXCAVATED DROP INLET PROTECTION

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

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR INLET PROTECTION DEVICE, TYPE I (PAY ITEM 653.40).

REVISIONS	
MARCH 6, 2008	WHF
JANUARY 13, 2009	WHF

VAOT URBAN LAWN MIX						
	LBS/AC					
WEIGHT	BROADCAST	HYDROSEED	NAME	LATIN NAME	GERM	PURITY
42.5%	34	68	CREEPING RED FESCUE	FESTUCA RUBRA X RUBRA	85%	98%
20.0%	16	32	PERENNIAL RYE GRASS	LOLIUM PERENNE	90%	95%
32.5%	26	52	KENTUCKY BLUE GRASS	POA PRATENSIS	85%	85%
5.0%	4	8	ANNUAL RYE GRASS	LOLIUM MULTIFLORUM	85%	95%
100%	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: THE URBAN AREA MIX SHALL NOT BE USED IN WETLANDS OR ANY WATERS OF THE STATE OF VERMONT.
2. SEED MIX: USE ONLY AS INDICATED IN THE PLANS.
3. SEED MIX: SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY WEIGHT AND SHALL BE FREE OF ALL NOXIOUS SEED.
4. FERTILIZER AND LIMESTONE: SHALL FOLLOW RATES SHOWN ON PLAN OR AS DIRECTED BY THE ENGINEER
5. HAY MULCH: TO BE PLACED ON EARTH SLOPES AT THE RATE OF 2 TONS/ACRE, ACHIEVE 90% GROUND COVER OR AS DIRECTED BY THE ENGINEER.
6. HYDROSEEDING: ALTHOUGH GUIDANCE IS GIVEN ABOVE THE SITE CONDITIONS AND THE TYPE OF HYDROSEED WILL ULTIMATELY DICTATE THE AMOUNTS AND TYPES OF SOIL AMENDMENTS TO BE APPLIED
7. TURF ESTABLISHMENT: PLACING SEED, FERTILIZER, LIME AND MULCH PRIOR TO SEPTEMBER 15 AND AFTER APRIL 15 CAN BETTER ENSURE A VIGOROUS GROWTH OF GRASS.

ADAPTED FROM VTRANS TECHNICAL LANDSCAPE MANUAL FOR ROADWAYS AND TRANSPORTATION FACILITIES

TURF ESTABLISHMENT

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 651 FOR SEED (PAY ITEM 651.15)

REVISIONS	
JANUARY 22, 2015	WHF

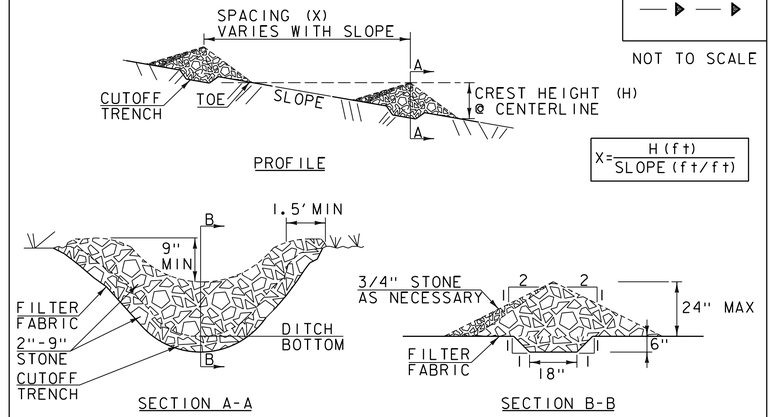
PROJECT NAME: HARTFORD
PROJECT NUMBER: STP 0113(59)S

FILE NAME: zc334esdl.dgn
PROJECT LEADER: S. IRELAND
DESIGNED BY: B. COLBURN
EPSC DETAIL SHEET 1

PLOT DATE: 8/12/2019
DRAWN BY: M. LOVETT
CHECKED BY: S. IRELAND
SHEET 59 OF 94

SYMBOL

NOT TO SCALE



CONSTRUCTION SPECIFICATIONS

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

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

CHECK DAM

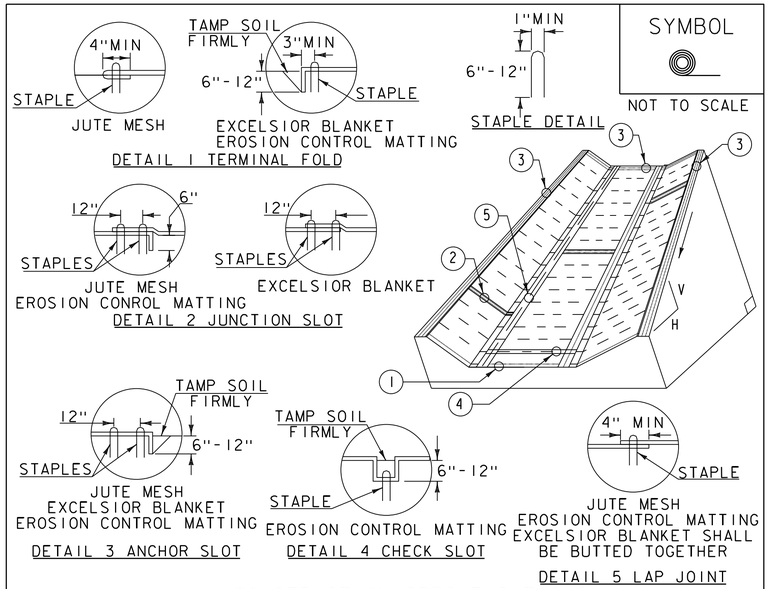
NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- "FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

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

REVISIONS	
MARCH 21, 2008	WHF
JANUARY 8, 2009	WHF

SYMBOL

NOT TO SCALE



CONSTRUCTION SPECIFICATIONS

1. EROSION MATTING, CHECK SLOTS, SHALL BE SPACED IN DITCH CHANNEL SO THAT ONE OCCURS WITHIN EACH 50' ON SLOPES OF MORE THAN 4% AND LESS THAN 6%. ON SLOPES OF 6% OR MORE, THEY SHALL BE SPACED SO THAT ONE OCCURS WITHIN EACH 25'.
2. APPLY FERTILIZER, LIME SEED PRIOR TO PLACING MATTING.
3. STAPLES ARE TO BE PLACED ALTERNATELY, IN COLUMNS APPROXIMATELY 2' APART AND IN ROWS APPROXIMATELY 3' APART. APPROXIMATELY 175 STAPLES ARE REQUIRED PER 4'X225' ROLL OF MATERIAL AND 125 STAPLES ARE REQUIRED PER 4'X150' ROLL OF MATERIAL.
4. DISTURBED AREAS SHALL BE SMOOTHLY GRADED. EROSION CONTROL MATERIAL SHALL BE PLACED LOOSELY OVER GROUND SURFACE. DO NOT STRETCH.
5. ALL TERMINAL ENDS AND TRANSVERSE LAPS SHALL BE STAPLED AT APPROXIMATELY 12" INTERVALS.

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

ROLLED EROSION CONTROL PRODUCT (RECP) DITCH

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

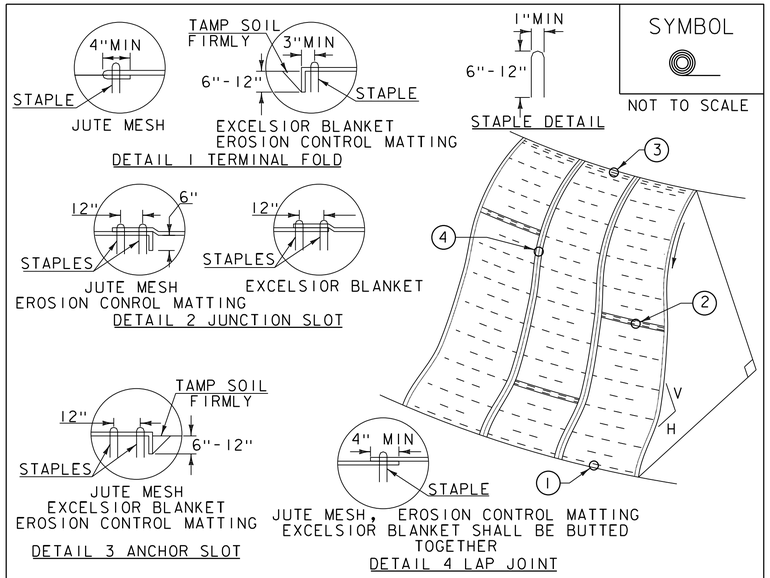
THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 AND AS SHOWN IN THE PLANS FOR TEMPORARY EROSION MATTING (PAY ITEM 653.20)

REVISIONS	
MARCH 8, 2007	JMF
APRIL 16, 2007	WHF
JANUARY 13, 2009	WHF

PROJECT NAME: HARTFORD
PROJECT NUMBER: STP 0113(59)S

FILE NAME: zc334esd2.dgn
PROJECT LEADER: S. IRELAND
DESIGNED BY: B. COLBURN
EPSC DETAIL SHEET 2

PLOT DATE: 8/12/2019
DRAWN BY: M. LOVETT
CHECKED BY: S. IRELAND
SHEET 60 OF 94



SYMBOL

NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

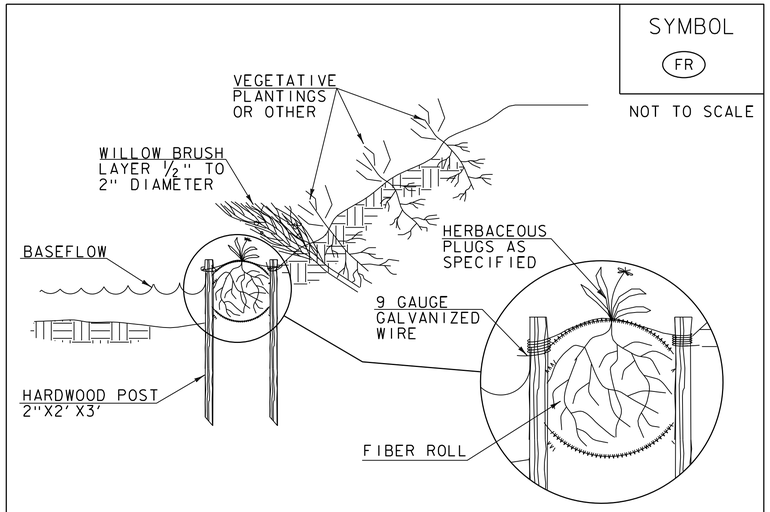
1. APPLY TO SLOPES GREATER THAN 3H:1V OR WHERE NECESSARY TO AID IN ESTABLISHING VEGETATION.
2. APPLY FERTILIZER, LIME SEED PRIOR TO PLACING MATTING.
3. STAPLES ARE TO BE PLACED ALTERNATELY, IN COLUMNS APPROXIMATELY 2' APART AND IN ROWS APPROXIMATELY 3' APART. APPROXIMATELY 175 STAPLES ARE REQUIRED PER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

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

ROLLED EROSION CONTROL PRODUCT (RECP) SIDE SLOPE

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

REVISIONS	
APRIL 16, 2007	JMF
JANUARY 13, 2009	WHF



SYMBOL

FR

NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

1. EXCAVATE A SHALLOW TRENCH SLIGHTLY BELOW BASEFLOW OR A 4" TRENCH ON SLOPE CONTOURS
2. PLACE THE ROLL IN THE TRENCH AND ANCHOR WITH 2"X2" POSTS PLACED ON BOTH SIDES FO THE ROLL AND SPACED LATERALLY ON 2' TO 4' CENTERS. TRIM THE TOP OF THE POSTS EVEN WITH THE EDGE OF THE ROLL, IF NECESSARY.
3. NOTCH THE POSTS AND TIE TOGETHER, ACROSS THE ROLL, WITH 9 GAUGE GALVANIZED WIRE OR ⅛" DIAMETER BRAIDED NYLON ROPE.
4. PLACE SOIL EXCAVATED FROM THE TRENCH BEHIND THE ROLL AND HAND TAMP. PLANTWITH SUITABLE HERBACEOUS OR WOODY VEGETATION AS SPECIFIED ELSEWHERE IN THE CONTRACT DOCUMENTS. VEGETATION SHALL BE PLACED IMMEDIATELY ADJACENT TO THE ROLL TO PROMOTE ROOT GROWTH INTO THE FIBER. HERBACEOUS VEGETATION, IF SPECIFIED, SHALL BE PLANTED INTO THE FIBER ROLL.

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

FIBER ROLL (EROSION LOG)

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

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR EROSION LOG (PAY ITEM 653.60)

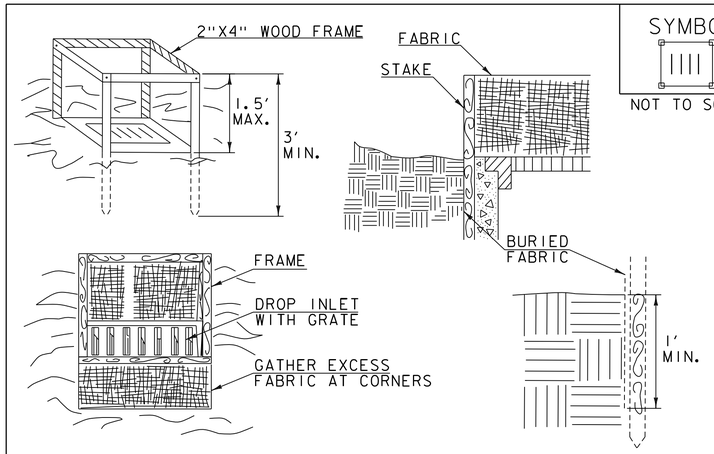
REVISIONS	
MARCH 21, 2008	WHF
JANUARY 13, 2009	WHF

NOTE: THIS DETAIL IS ONE EXAMPLE OF HOW FIBER ROLLS CAN BE INSTALLED. THE CONTRACTOR SHALL INSTALL ALL FIBER ROLLS PER THE MANUFACTURERS INSTALLATION GUIDELINES.

PROJECT NAME: HARTFORD
PROJECT NUMBER: STP 0113(59)S

FILE NAME: zc334esd3.dgn
PROJECT LEADER: S. IRELAND
DESIGNED BY: B. COLBURN
EPSC DETAIL SHEET 3

PLOT DATE: 8/12/2019
DRAWN BY: M. LOVETT
CHECKED BY: S. IRELAND
SHEET 61 OF 94



SYMBOL

NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

1. FILTER FABRIC SHALL HAVE AN APPARENT OPENING SIZE OF 40-85. BURLAP MAY BE USED FOR SHORT TERM APPLICATIONS.
2. CUT FABRIC FROM A CONTINUOUS ROLL TO ELIMINATE JOINTS. IF JOINTS ARE NEEDED THEY WILL BE OVERLAPPED TO THE NEXT STAKE.
3. STAKE MATERIALS WILL BE STANDARD 2"x 4" WOOD OR EQUIVALENT METAL WITH A MINIMUM LENGTH OF 3'.
4. SPACE STAKES EVENLY AROUND INLET 3' APART AND DRIVE A MINIMUM 18" DEEP. SPANS GREATER THAN 3' MAY BE BRIDGED WITH THE USE OF WIRE MESH BEHIND THE FILTER FABRIC FOR SUPPORT.
5. FABRIC SHALL BE EMBEDDED 1' MINIMUM BELOW GROUND AND BACKFILLED. IT SHALL BE SECURELY FASTENED TO THE STAKES AND FRAME.
6. A 2" x 4" WOOD FRAME SHALL BE COMPLETED AROUND THE CREST OF THE FABRIC FOR OVER FLOW STABILITY.
7. MAXIMUM DRAINAGE AREA 1 ACRE

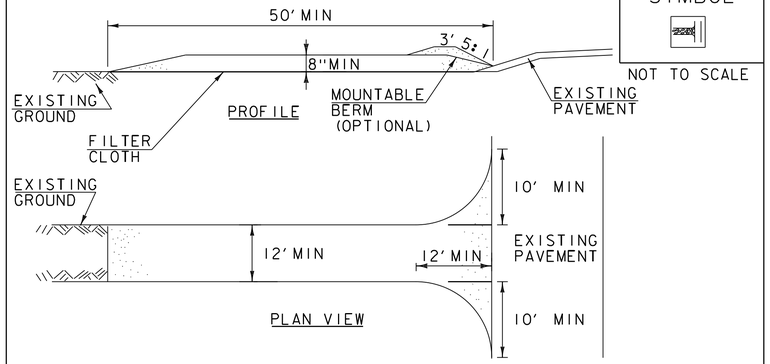
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

FILTER FABRIC DROP INLET PROTECTION

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

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR INLET PROTECTION DEVICE, TYPE I(PAY ITEM 653.40).

REVISIONS	
MARCH 7, 2008	WHF
JANUARY 13, 2009	WHF



SYMBOL

NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

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

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

STABILIZED CONSTRUCTION ENTRANCE

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

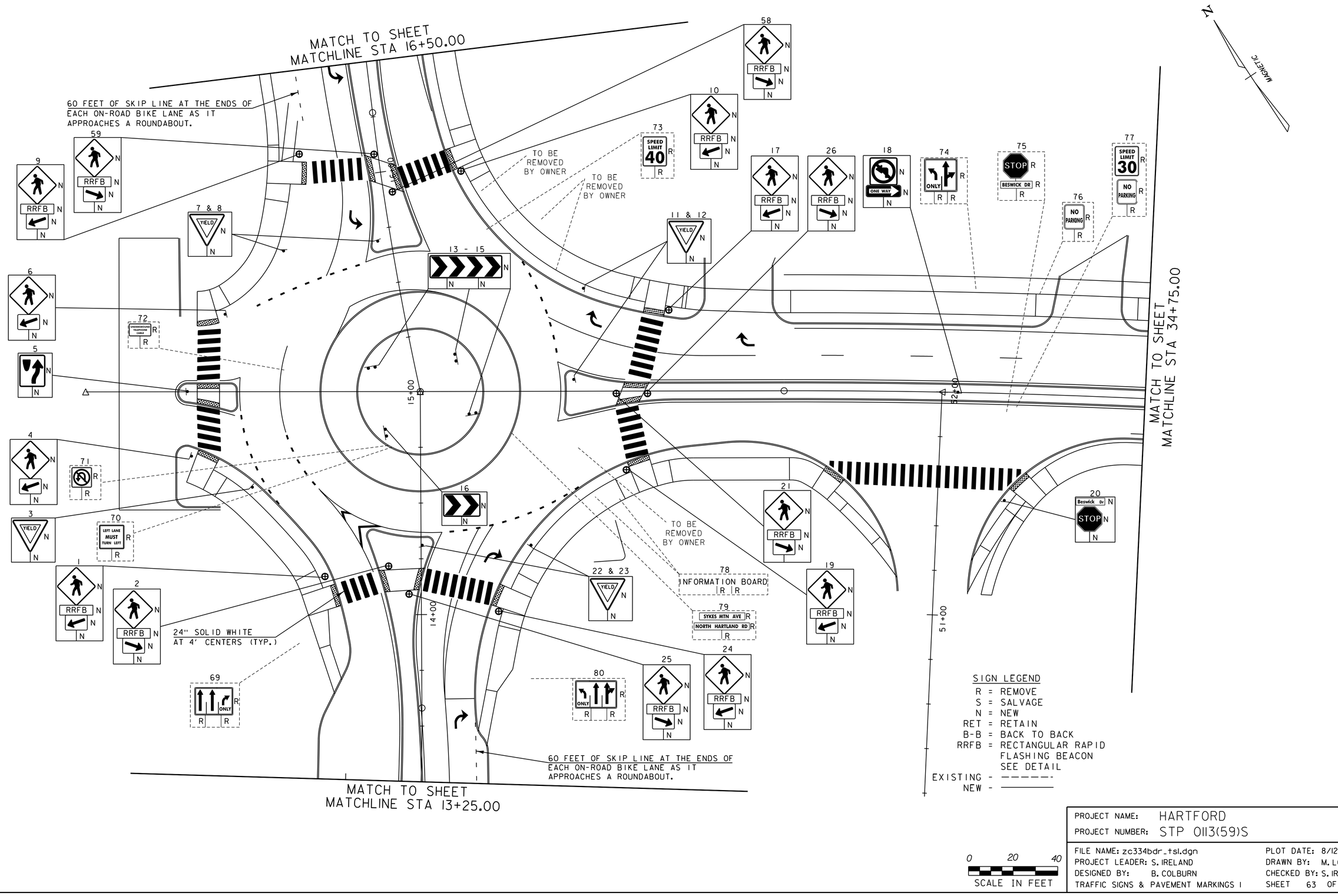
THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR VEHICLE TRACKING PAD (PAY ITEM 653.35) OR AS SPECIFIED IN THE CONTRACT.

REVISIONS	
MARCH 24, 2008	WHF
JANUARY 13, 2009	WHF

PROJECT NAME: HARTFORD
PROJECT NUMBER: STP 0113(59)S

FILE NAME: zc334esd4.dgn
PROJECT LEADER: S. IRELAND
DESIGNED BY: B. COLBURN
EPSC DETAL SHEET 4

PLOT DATE: 8/12/2019
DRAWN BY: M. LOVETT
CHECKED BY: S. IRELAND
SHEET 62 OF 94



PROJECT NAME:	HARTFORD
PROJECT NUMBER:	STP 0113(59)S
FILE NAME: zc334bdr_tsi.dgn	PLOT DATE: 8/12/2019
PROJECT LEADER: S. IRELAND	DRAWN BY: M. LOVETT
DESIGNED BY: B. COLBURN	CHECKED BY: S. IRELAND
TRAFFIC SIGNS & PAVEMENT MARKINGS I	SHEET 63 OF 94

DURABLE LETTER OR SYMBOL

SYKES AVENUE STA 32+31.37 LT LEFT TURN ARROW
SYKES AVENUE STA 32+99.93 LT LEFT TURN ARROW
VT ROUTE 5 STA 12+74.25 RT RIGHT TURN ARROW
VT ROUTE 5 STA 13+48.87 RT RIGHT TURN ARROW
VT ROUTE 5 STA 14+23.33 RT RIGHT TURN ARROW
VT ROUTE 5 STA 15+85.11 LT LEFT TURN ARROW
VT ROUTE 5 STA 16+49.80 LT LEFT TURN ARROW
VT ROUTE 5 STA 17+27.41 LT LEFT TURN ARROW
VT ROUTE 5 STA 18+75.01 RT "ONLY"
VT ROUTE 5 STA 12+85.26 RT LEFT TURN ARROW
VT ROUTE 5 STA 19+04.18 RT "ONLY"
VT ROUTE 5 STA 19+14.43 RT LEFT TURN ARROW

DURABLE 12" WHITE LINE (DOTTED)

SYKES AVENUE STA. 30+76.8 38.4' LT TO STA. 31+22.9 56.9' LT
SYKES AVENUE STA. 31+63.0 62.9' RT TO STA. 32+23.4 41.2' RT
VT ROUTE 5 STA. 14+49.8 63.6' LT TO STA. 14+89.1 80.4' LT
VT ROUTE 5 STA. 14+55.9 45.0' LT TO STA. 14+80.8 60.0' LT
VT ROUTE 5 STA. 15+04.1 63.5' RT TO STA. 15+51.5 55.4' RT

DURABLE 4" WHITE LINE (DASHED)

SYKES AVENUE STA. 33+00.3 15.9' LT TO STA. 34+29.69 15.9' LT
VT ROUTE 5 STA. 11+35.9 17.8' RT TO STA. 12+53.9 16.1' RT
VT ROUTE 5 STA. 11+25.1 21.0' LT TO STA. 13+27.9 21.9' LT
VT ROUTE 5 STA. 17+69.7 22.3' RT TO STA. 20+09.6 25.6' RT
VT ROUTE 5 STA. 17+33.6 18.4' LT TO STA. 20+09.9 17.0' LT

DURABLE 4" YELLOW LINE (DOUBLE SOLID)

SYKES AVENUE STA. 37+90.00 TO STA. 40+00.00 LT & RT (CENTERLINE)
VT ROUTE 5 STA. 10+00.00 TO STA. 11+24.24 LT & RT (CENTERLINE)
VT ROUTE 5 STA. 19+23.00 TO STA. 29+00.00 LT & RT (CENTERLINE)
BESWICK AVENUE STA. 49+25.00 TO STA. 51+52.59 LT & RT (CENTERLINE)
RALPH LEHMAN DRIVE STA. 60+00.00 TO STA. 60+46.44 LT & RT (CENTERLINE)

DURABLE 4" WHITE LINE (SOLID)

SYKES AVENUE STA. 31+05.1 44.3' RT TO STA. 31+59.6 63.1' RT
SYKES AVENUE STA. 31+25.6 58.1' LT TO STA. 31+54.5 62.8' LT
VT ROUTE 5 STA. 15+08.3 80.5' LT TO STA. 15+22.3 77.7' LT
SYKES AVENUE STA. 32+11.5 13.4' RT TO STA 32+11.6 13.2' LT
SYKES AVENUE STA. 32+07.4 33.3' LT TO STA 32+45.6 19.3' LT
SYKES AVENUE STA. 32+56.3 17.4' LT TO STA 33+00.0 15.9' LT
SYKES AVENUE STA. 33+17.7 28.0' LT TO STA 35+60.5 22.4' LT
SYKES AVENUE STA. 34+69.2 16.0' RT TO STA 35+22.8 16.0' RT
VT ROUTE 5 STA. 13+62.1 10.4' RT TO STA. 14+06.6 16.3' RT
VT ROUTE 5 STA. 14+17.6 20.3' RT TO STA. 14+40.1 32.5' RT
VT ROUTE 5 STA. 12+53.9 16.1' RT TO STA. 14+07.2 13.6' RT
VT ROUTE 5 STA. 14+18.5 16.9' RT TO STA. 14+38.7 26.0' RT
VT ROUTE 5 STA. 14+82.0 60.4' LT TO STA. 15+31.5 54.2' LT
VT ROUTE 5 STA. 15+58.3 31.3' LT TO STA. 15+98.1 17.9' LT
VT ROUTE 5 STA. 16+08.9 18.3' LT TO STA. 17+33.6 18.4' LT

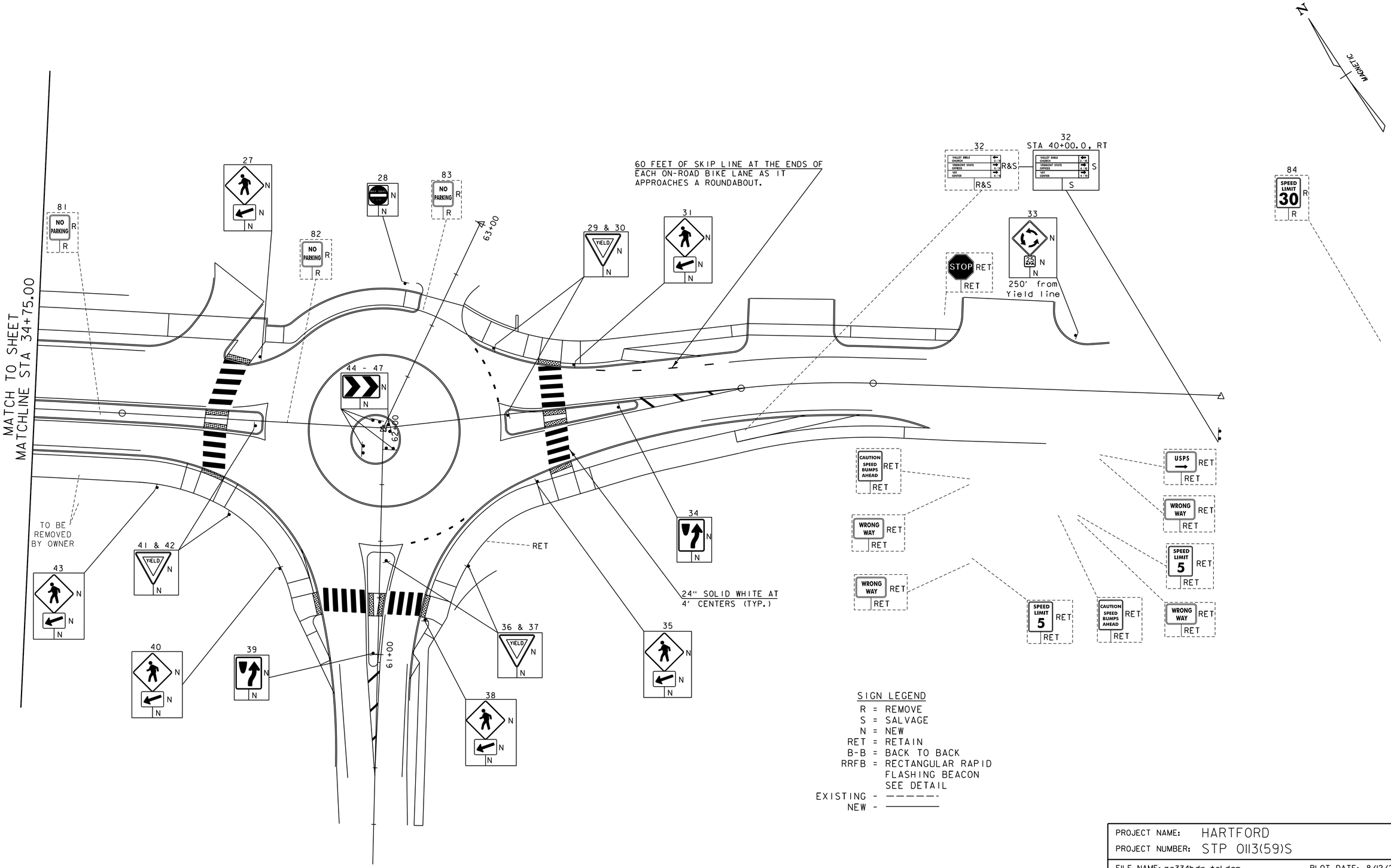
DURABLE 18" STOP BAR

BESWICK DRIVE STA. 51+52.59 RT

PROJECT NAME: HARTFORD
PROJECT NUMBER: STP 0113(59)S

FILE NAME: zc334bdr_tsl.dgn
PROJECT LEADER: S. IRELAND
DESIGNED BY: B. COLBURN
TRAFFIC SIGNS & PAVEMENT MARKINGS I

PLOT DATE: 8/12/2019
DRAWN BY: M. FUGERE
CHECKED BY: S. IRELAND
SHEET 56 OF 89

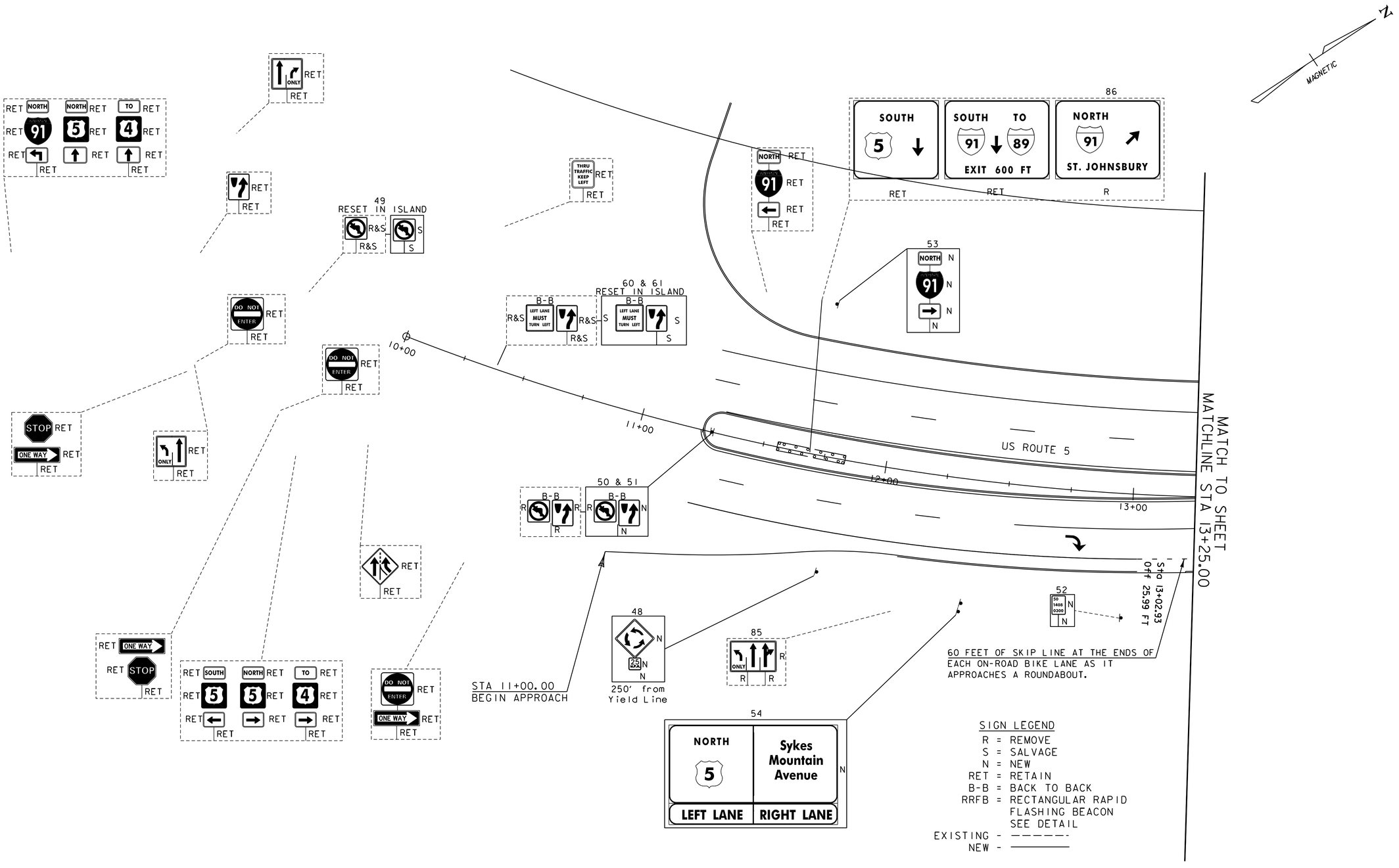


SIGN LEGEND

R = REMOVE
S = SALVAGE
N = NEW
RET = RETAIN
B-B = BACK TO BACK
RRFB = RECTANGULAR RAPID FLASHING BEACON SEE DETAIL
EXISTING - ------
NEW - ——————

0 20 40
SCALE IN FEET

PROJECT NAME: HARTFORD	
PROJECT NUMBER: STP 0113(59)S	
FILE NAME: zc334bdr_tsl.dgn	PLOT DATE: 8/12/2019
PROJECT LEADER: S. IRELAND	DRAWN BY: M. LOVETT
DESIGNED BY: B. COLBURN	CHECKED BY: S. IRELAND
TRAFFIC SIGNS & PAVEMENT MARKINGS 2	SHEET 65 OF 94



SIGN LEGEND

R	= REMOVE
S	= SALVAGE
N	= NEW
RET	= RETAIN
B-B	= BACK TO BACK
RRFB	= RECTANGULAR RAPID FLASHING BEACON SEE DETAIL
EXISTING	- ------
NEW	- ------

0 20 40
SCALE IN FEET

PROJECT NAME:	HARTFORD
PROJECT NUMBER:	STP 0113(59)S
FILE NAME: zc334bdr_tsl.dgn	PLOT DATE: 8/12/2019
PROJECT LEADER: S. IRELAND	DRAWN BY: M. LOVETT
DESIGNED BY: B. COLBURN	CHECKED BY: S. IRELAND
TRAFFIC SIGNS & PAVEMENT MARKINGS 3	SHEET 66 OF 94

60 FEET OF SKIP LINE AT THE ENDS OF EACH ON-ROAD BIKE LANE AS IT APPROACHES A ROUNDABOUT.

MATCH TO SHEET
MATCHLINE STA 16+50.00

US ROUTE 5

16+00
17+00
18+00
19+00
20+00
21+00

MATCH TO SHEET
MATCHLINE STA 21+75.00

87
ONLY R
R R

55
N
25 mph
N
N
250' from Yield Line

88
ONLY R
R

89
JCT R
91 R
R

57
Sykes Mountain Avenue
5 SOUTH
TO 91
N
LEFT LANE | RIGHT LANE

90
SYKES MTN AVE R
R R

56
RESET IN ISLAND
R&S R&S
S N

RET NORTH TO RET
RET 5 4 RET
RET
RET
RET

ONLY RET
RET RET

LEGAL LOAD AS FOR STATE HIGHWAY RET
RET

AIRPORT RD RET
STOP
RET
RET

RET
RET

WHITE RIVER JCT RET
RET

SIGN LEGEND

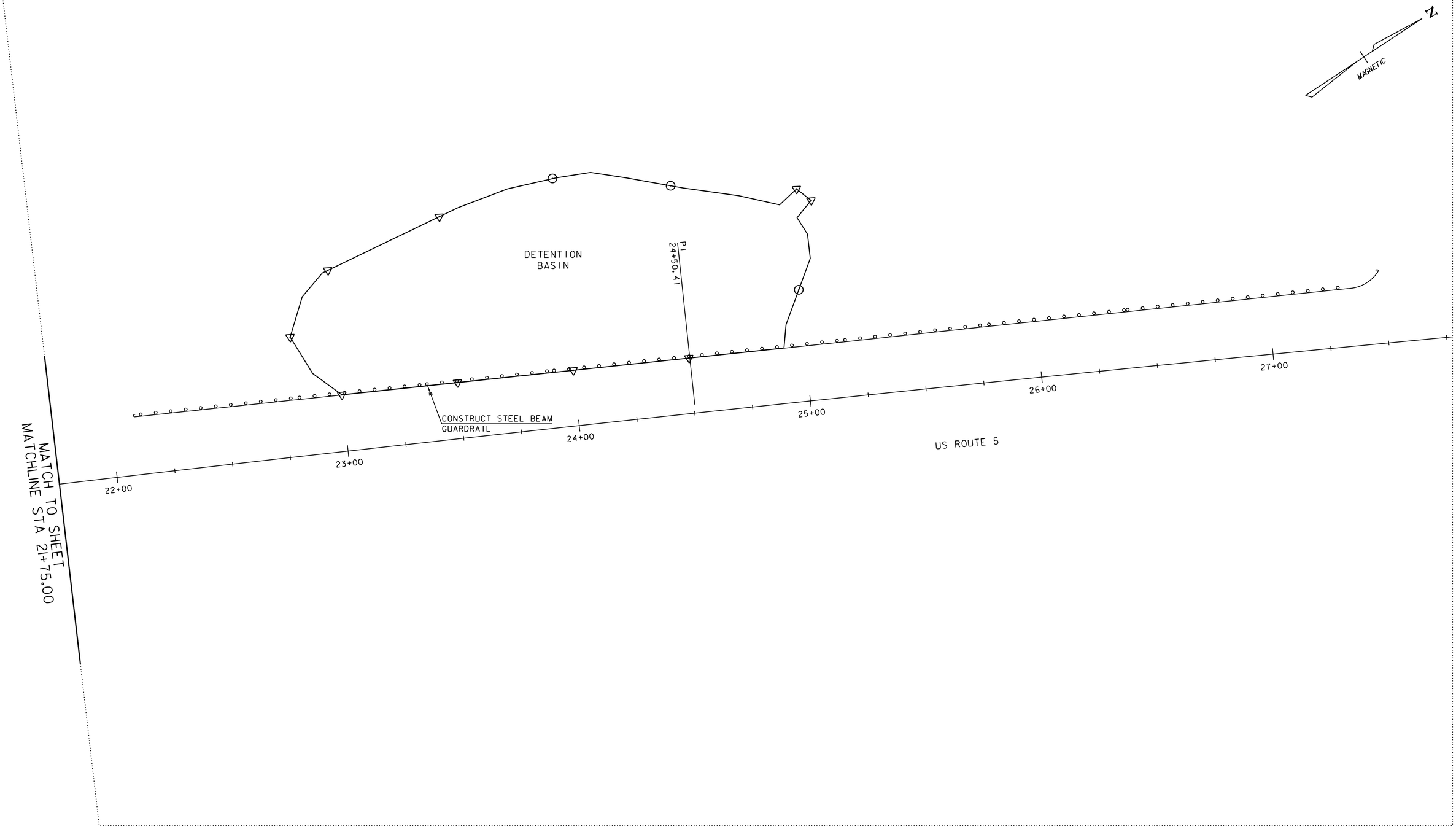
R = REMOVE
S = SALVAGE
N = NEW
RET = RETAIN
B-B = BACK TO BACK
RRFB = RECTANGULAR RAPID FLASHING BEACON SEE DETAIL
EXISTING - ——————
NEW - ——————

0 20 40
SCALE IN FEET

PROJECT NAME: HARTFORD
PROJECT NUMBER: STP 0113(59)S

FILE NAME: zc334bdr_tsl.dgn
PROJECT LEADER: S. IRELAND
DESIGNED BY: B. COLBURN
TRAFFIC SIGNS & PAVEMENT MARKINGS 4

PLOT DATE: 8/12/2019
DRAWN BY: M. LOVETT
CHECKED BY: S. IRELAND
SHEET 67 OF 94



PROJECT NAME:	HARTFORD
PROJECT NUMBER:	STP 0113(59)S

FILE NAME: zc334bdr_tsl.dgn		PLOT DATE:	8/12/2019
PROJECT LEADER:	S. IRELAND	DRAWN BY:	M. LOVETT
DESIGNED BY:	B. COLBURN	CHECKED BY:	S. IRELAND
TRAFFIC SIGNS & PAVEMENT MARKINGS 5		SHEET	68 OF 94

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET

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	NEW SIGN POSTS NO. OF POSTS	FLANGED CHANNEL lb/ft 1.12	2.0	3.0	SQUARE STEEL (in) lb/ft 1.75	2.0	2.5	ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (in) lb/ft 3.0	4.0	4.0 MOD	FOUNDATION	TUBULAR STEEL Ø (in) lb/ft 3.0	3.5	4.0	5.0	W-SHAPE STEEL FTG. SIZE 24"	30"	WEIGHT	POST SIZE	SIGN FRAME REQUIRED	REMARKS	SHS TYP.	SIGN DETAIL DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
												OPTION ITEMS																										
1		1	30	30	6.25						1					15																		WII-2 FLUORESCENT YELLOW-GREEN	X		
		1	30	18	3.75																												W16-7pL FLUORESCENT YELLOW-GREEN	X		
2		1	30	30	6.25						1					15																		WII-2 FLUORESCENT YELLOW-GREEN	X		
		1	30	18	3.75																												W16-7pR FLUORESCENT YELLOW-GREEN	X		
3		1	36	36	9.00						1					15																		RI-2	X		
4		1	30	30	6.25						1					15																		WII-2 FLUORESCENT YELLOW-GREEN	X		
		1	30	18	3.75																												W16-7pL FLUORESCENT YELLOW-GREEN	X		
5		1	24	30	5.00						1					15																		R4-7	X		
6		1	30	30	6.25						1					15																		WII-2 FLUORESCENT YELLOW-GREEN	X		
		1	30	18	3.75																												W16-7pL FLUORESCENT YELLOW-GREEN	X		
7		1	36	36	9.00											15																		RI-2	X		
8		1	36	36	9.00						1					15																		RI-2	X		
9		1	30	30	6.25											15																		WII-2 FLUORESCENT YELLOW-GREEN	X		
		1	30	18	3.75																												W16-7pL FLUORESCENT YELLOW-GREEN	X		
10		1	30	30	6.25						1					15																		WII-2 FLUORESCENT YELLOW-GREEN	X		
		1	30	18	3.75																												W16-7pL FLUORESCENT YELLOW-GREEN	X		
11		1	36	36	9.00						1					15																		RI-2	X		
12		1	36	36	9.00						1					15																		RI-2	X		
13		1	60	24	10.00						2					30																		R6-4b 4 FOOT MOUNTING HEIGHT	X		
14		1	60	24	10.00						2					30																		R6-4b 4 FOOT MOUNTING HEIGHT			
												FT	FT	FT	FT	FT 240.0	FT		EA	LB	LB	LB		LB	LB	LB	LB									
TOTALS					SF 125.0	SF	EA.	SF				FT			FT 240.0					LB			EA.	LB				EA.	EA.	LB							

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: HARTFORD
PROJECT NUMBER: STP 0113(59)S

FILE NAME: zc334sgnsum.dgn
PROJECT LEADER: S. IRELAND
DESIGNED BY: B. COLBURN
TRAFFIC SIGN SUMMARY SHEET 1

PLOT DATE: 8/12/2019
DRAWN BY: M. LOVETT
CHECKED BY: S. IRELAND
SHEET 69 OF 94

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS			NEW & SALVAGED SIGNS				EXIST POST		NEW SIGN POSTS																		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			FOUNDATION	TUBULAR STEEL Ø (in) lb/ft				W-SHAPE STEEL FTG. SIZE		WEIGHT	POST SIZE	SIGN FRAME REQUIRED	REMARKS	SHS TYP.	DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
												OPTION ITEMS																									
												1.12	2.0	3.0	1.75	2.0	2.5			3.0	4.0	4.0 MOD		3.0	3.5	4.0	5.0	24"	30"							
															1.88	2.16	3.35			1.3	1.7	1.7		7.6	9.0	10.8	14.6									
15		1	60	24	10.00						2					30																	R6-4b 4 FOOT MOUNTING HEIGHT			
16		1	30	24	5.00						1					15																	R6-4 4 FOOT MOUNTING HEIGHT			
17		1	30	30	6.25					1						15																	W11-2 FLUORESCENT YELLOW-GREEN	X		
		1	30	18	3.75																												W16-7pL FLUORESCENT YELLOW-GREEN	X		
18		1	30	30	6.25						1					15																	R3-2	X		
	ONE WAY	1	36	12	3.00																												R6-1R	X		
19		1	30	30	6.25						1					15																	W11-2 FLUORESCENT YELLOW-GREEN	X		
		1	30	18	3.75																												W16-7pL FLUORESCENT YELLOW-GREEN	X		
20	Beswick Dr	1	36	12	3.00																												D3-1			
	STOP	1	30	30	6.25						1					15																	R1-1	X		
21		1	30	30	6.25						1					15																	W11-2 FLUORESCENT YELLOW-GREEN	X		
		1	30	18	3.75																												W16-7pR FLUORESCENT YELLOW-GREEN	X		
22	YIELD	1	36	36	9.00						1					15																	R1-2	X		
23	YIELD	1	36	36	9.00						1					15																	R1-2	X		
24		1	30	30	6.25						1					15																	W11-2 FLUORESCENT YELLOW-GREEN	X		
		1	30	18	3.75																												W16-7pL FLUORESCENT YELLOW-GREEN	X		
25		1	30	30	6.25						1					15																	W11-2 FLUORESCENT YELLOW-GREEN	X		
		1	30	18	3.75																												W16-7pR FLUORESCENT YELLOW-GREEN	X		
26		1	30	30	6.25						1					15																	W11-2 FLUORESCENT YELLOW-GREEN	X		
		1	30	18	3.75																												W16-7pR FLUORESCENT YELLOW-GREEN	X		
												FT	FT	FT	FT	FT 195.0	FT		EA	LB	LB	LB		LB	LB	LB	LB							
TOTALS					SF 102.75	SF	EA.	SF				FT			FT 195.0					LB			EA.	LB				EA.	EA.	LB						

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: HARTFORD
PROJECT NUMBER: STP 0113(59)S

FILE NAME: zc334sgnsum.dgn
PROJECT LEADER: S. IRELAND
DESIGNED BY: B. COLBURN
TRAFFIC SIGN SUMMARY SHEET 2

PLOT DATE: 8/12/2019
DRAWN BY: M. LOVETT
CHECKED BY: S. IRELAND
SHEET 70 OF 94

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS			NEW & SALVAGED SIGNS				EXIST POST		NEW SIGN POSTS																		REMARKS	SHS TYP.	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 ON SHEET NUMBER	STD. SHEET NUMBER
												1.12	2.0	3.0	1.75	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	1.88	2.16	3.35			1.3	1.7	1.7		7.6	9.0	10.8	14.6								
											OPTION ITEMS																									
27		1	30	30	6.25						1					15																		W11-2 FLUORESCENT YELLOW-GREEN	X		
		1	30	18	3.75																												W16-7pL FLUORESCENT YELLOW-GREEN	X		
28	DO NOT ENTER	1	30	30	6.25						1					15																		R5-1	X		
29	YIELD	1	36	36	9.00						1					15																		R1-2	X		
30	YIELD	1	36	36	9.00						1					15																		R1-2	X		
31		1	30	30	6.25						1					15																		W11-2 FLUORESCENT YELLOW-GREEN	X		
		1	30	18	3.75																												W16-7pL FLUORESCENT YELLOW-GREEN	X		
32	VALLEY BIBLE CHURCH 3/16 ← / VERMONT STATE OFFICES 4/16 → / VET CENTER 4/16 →	3	36	12			X			2																							RELOCATE TO STA 40+00.00, RT	X		
33		1	36	36	9.00						2					30																		W2-6	X		
	25 M.P.H.	1	24	24	4.00																													W13-1P	X		
34		1	24	30	5.00						1					15																		R4-7	X		
35		1	30	30	6.25						1					15																		W11-2 FLUORESCENT YELLOW-GREEN	X		
		1	30	18	3.75																												W16-7pL FLUORESCENT YELLOW-GREEN	X		
36	YIELD	1	36	36	9.00						1					15																		R1-2	X		
37	YIELD	1	36	36	9.00						1					15																		R1-2	X		
38		1	30	30	6.25						1					15																		W11-2 FLUORESCENT YELLOW-GREEN	X		
		1	30	18	3.75																												W16-7pL FLUORESCENT YELLOW-GREEN	X		
39		1	24	30	5.00						1					15																		R4-7	X		
40		1	30	30	6.25						1					15																		W11-2 FLUORESCENT YELLOW-GREEN	X		
		1	30	18	3.75																												W16-7pL FLUORESCENT YELLOW-GREEN	X		
												FT	FT	FT	FT	FT 210.0	FT		EA	LB	LB	LB		LB	LB	LB	LB							
TOTALS					SF 110.25	SF	EA.	SF				FT			FT 210.0					LB			EA.	LB				EA.	EA.	LB					

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."

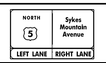
PROJECT NAME: HARTFORD
PROJECT NUMBER: STP 0113(59)S

FILE NAME: zc334sgnsum.dgn
PROJECT LEADER: S. IRELAND
DESIGNED BY: B. COLBURN
TRAFFIC SIGN SUMMARY SHEET 3

PLOT DATE: 8/12/2019
DRAWN BY: M. LOVETT
CHECKED BY: S. IRELAND
SHEET 71 OF 94

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET

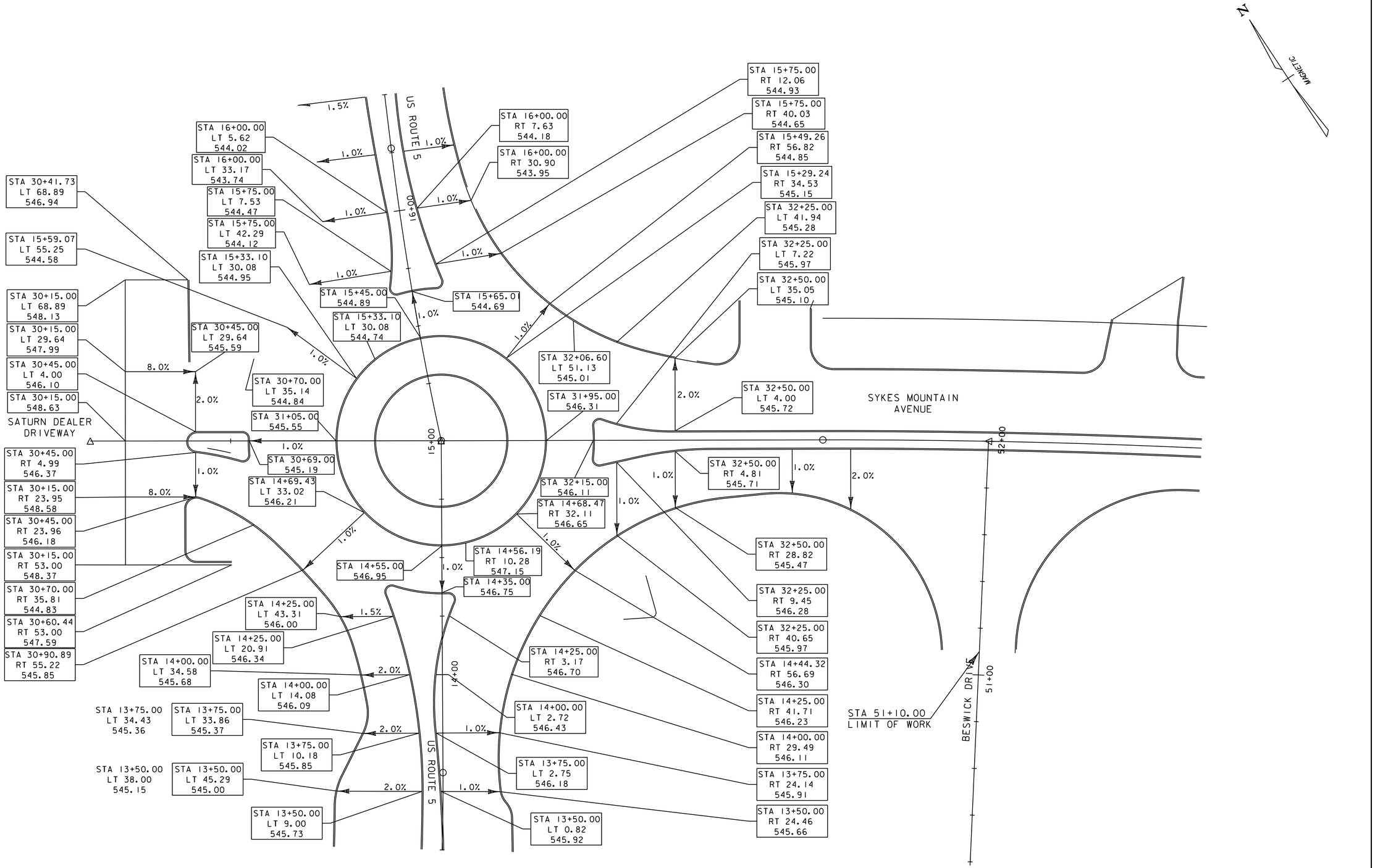
MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS EA	WIDTH (in)	HEIGHT (in)	NEW & SALVAGED SIGNS "A"	"B"	SALV SIGN	SALV TIS	EXIST POST RETAIN	EXIST POST SALVAGE	NO. OF POSTS	NEW SIGN POSTS: FLANGED CHANNEL lb/ft 1.12	2.0	3.0	SQUARE STEEL (in) lb/ft 1.75 (1.88)	2.0 (2.16)	2.5 (3.35)	ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (in) lb/ft 3.0 (1.3)	4.0 (1.7)	4.0 MOD (1.7)	TUBULAR STEEL Ø (in) FOUNDATION	lb/ft 3.0 (7.6)	3.5 (9.0)	4.0 (10.8)	5.0 (14.6)	W-SHAPE STEEL FTG. SIZE 24"	30"	WEIGHT	POST SIZE	SIGN FRAME REQUIRED	REMARKS	SHS TYP.	SIGN DETAIL: DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
												OPTION ITEMS																											
41		1	36	36	9.00						1					15																		RI-2	X		
42		1	36	36	9.00						1					15																		RI-2	X		
43		1	30	30	6.25						1					15																		WII-2 FLUORESCENT YELLOW-GREEN	X		
		1	30	18	3.75																													WI6-7pL FLUORESCENT YELLOW-GREEN	X		
44		1	30	24	5.00						1					15																		R6-4 4 FOOT MOUNTING HEIGHT	X		
45		1	30	24	5.00						1					15																		R6-4 4 FOOT MOUNTING HEIGHT	X		
46		1	30	24	5.00						1					15																		R6-4 4 FOOT MOUNTING HEIGHT	X		
47		1	30	24	5.00						1					15																		R6-4 4 FOOT MOUNTING HEIGHT	X		
48		1	36	36	9.00						2					30																		W2-6	X		
		1	24	24	4.00																													WI3-IP	X		
49		1	24	24			X			X																								RESET IN ISLAND R3-2	X		
50		1	24	24																														REMOVE SIGN			
51		1	24	30	5.00						1					15																		R4-7	X		
52		1	6	8	0.33						1					15																		VD-700			T-44
53		1	24	12	2.00						1					15																		M3-1(INTERSTATE)	X		
		1	24	24	4.00																													MI-1	X		
		1	15	21	2.19																													M6-1(INTERSTATE)	X		
54		1	90	42		26.25					2																			XX??	XX??	XX??	XX??				
55		1	36	36	9.00						2					30																		W2-6	X		
		1	24	24	4.00																													WI3-IP	X		
	TOTALS				SF 54.33	SF	EA.	SF				FT	FT	FT	FT	FT 210.0	FT	EA	LB	LB	LB	EA.	LB	LB	LB	LB	EA.	EA.	LB						

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."

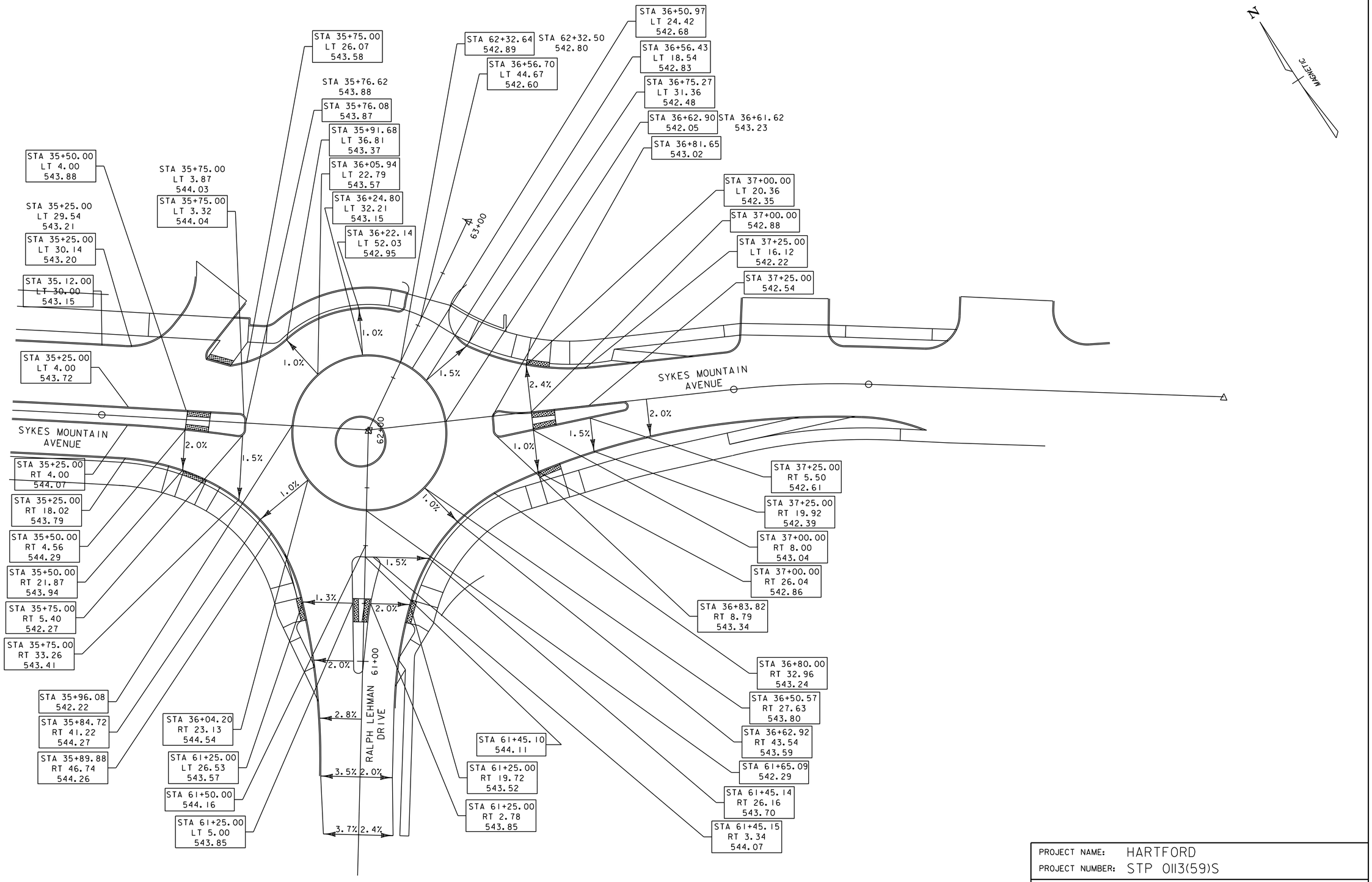
PROJECT NAME: HARTFORD
PROJECT NUMBER: STP 0113(59)S

FILE NAME: zc334sgnsum.dgn
PROJECT LEADER: S. IRELAND
DESIGNED BY: B. COLBURN
TRAFFIC SIGN SUMMARY SHEET 4

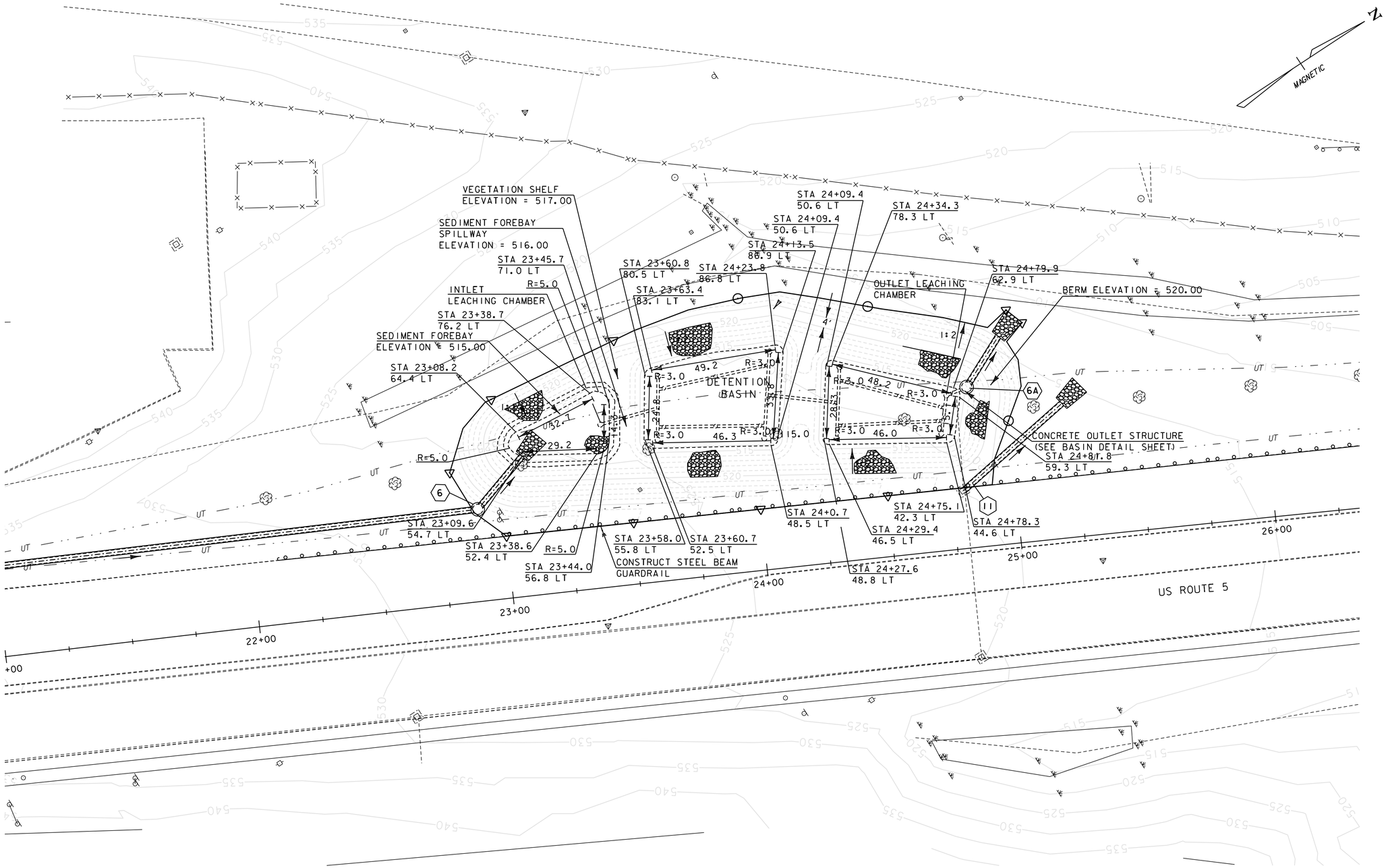
PLOT DATE: 8/12/2019
DRAWN BY: M. LOVETT
CHECKED BY: S. IRELAND
SHEET 72 OF 94



PROJECT NAME:	HARTFORD
PROJECT NUMBER:	STP 0113(59)S
FILE NAME: zc334grdl.dgn	PLOT DATE: 8/12/2019
PROJECT LEADER: S. IRELAND	DRAWN BY: M. LOVETT
DESIGNED BY: B. COLBURN	CHECKED BY: S. IRELAND
GRADING PLAN - US ROUTE 5 ROUNDABOUT	SHEET 73 OF 94



PROJECT NAME:	HARTFORD
PROJECT NUMBER:	STP 0113(59)S
FILE NAME: zc334grd2.dgn	PLOT DATE: 8/12/2019
PROJECT LEADER: S. IRELAND	DRAWN BY: M. LOVETT
DESIGNED BY: B. COLBURN	CHECKED BY: S. IRELAND
GRADING PLAN - SYKES MOUNTAIN AVENUE	SHEET 74 OF 94



0 20 40
SCALE IN FEET

PROJECT NAME:	HARTFORD
PROJECT NUMBER:	STP 0113(59)S

FILE NAME: zc334grd3.dgn	PLOT DATE: 8/12/2019
PROJECT LEADER: S. IRELAND	DRAWN BY: M. LOVETT
DESIGNED BY: B. COLBURN	CHECKED BY: S. IRELAND
GRAVEL WETLAND GRADING PLAN	SHEET 75 OF 94

PLANT KEY			
SYMBOL	COMMON NAME	SYMBOL	COMMON NAME
CRM	MUSKINGUM DOGWOOD	JS	SEA GREEN PFITZER JUNIPER
DL	COPPER DWARF BUSH HONEYSUCKLE	MD	RUSSIAN CYPRESS
FO	NORTHERN GOLD FORSYTHIA	MH	HARFOZUM CRAB
FP	PATMORE GREEN ASH	MR	ROBINSON CRAB
GL	HARDY DWARF BROOM	PM	WHITE MOCK ORANGE
HA	ANNABELLE HYDRANGEA	QR	RED OAK
HE	STELLA D' ORO DAYLILLY	RP	PURPLE PAVEMENT ROSE
HFL	LEMON LILLY	SA	JAPANESE WHITE SPIREA
HFU	TAWNY DAYLILLY	SP	MAGIC CARPET SPIREA
IG	COMPACT INKBERRY	SV	COMMON LILAC
IJ	JIM DANDY WINTERBERRY	TO	DARK GREEN AMERICAN ARBORVITE
IV	AFTERGLOW WINTERBERRY	UA	PRINCETON ELM
JP	DWARF GARDEN JUNIPER		

MATCH TO SHEET
MATCHLINE STA 16+50.00

MATCH TO SHEET
MATCHLINE STA 13+25.00

MATCH TO SHEET
MATCHLINE STA 34+75.00

US ROUTE 5

SYKES MOUNTAIN AVENUE

BESWICK DRIVE

PROTECTION AREA

22 JS
30 GL
5 PLANTS PER GROUP

34 HA
45 JP
100 HFU
400 HE
50 HFU
2 QR
6 FO
5 TO
1 MH
7 CRM
7 IV
1 UA

PC
33+13.12

30+00 31+00 32+00 33+00 34+00 42+00 51+00
15+00 14+00

N
MAGNETIC

0 20 40
SCALE IN FEET

PROJECT NAME:	HARTFORD
PROJECT NUMBER:	STP 0113(59)S
FILE NAME: zc334bdr_lds.dgn	PLOT DATE: 8/12/2019
PROJECT LEADER: S. IRELAND	DRAWN BY: M. LOVETT
DESIGNED BY: B. COLBURN	CHECKED BY: S. IRELAND
LANDSCAPE PLAN I	SHEET 76 OF 94

PLANT KEY			
SYMBOL	COMMON NAME	SYMBOL	COMMON NAME
CRM	MUSKINGUM DOGWOOD	JS	SEA GREEN PFITZER JUNIPER
DL	COPPER DWARF BUSH HONESUCKLE	MD	RUSSIAN CYPRESS
FO	NORTHERN GOLD FORSYTHIA	MH	HARFOZUM CRAB
FP	PATMORE GREEN ASH	MR	ROBINSON CRAB
GL	HARDY DWARF BROOM	PM	WHITE MOCK ORANGE
HA	ANNABELLE HYDRANGEA	QR	RED OAK
HE	STELLA D'ORO DAYLILLY	RP	PURPLE PAVEMENT ROSE
HFL	LEMON LILLY	SA	JAPANESE WHITE SPIREA
HFU	TAWNY DAYLILLY	SP	MAGIC CARPET SPIREA
IG	COMPACT INKBERRY	SV	COMMON LILAC
IJ	JIM DANDY WINTERBERRY	TO	DARK GREEN AMERICAN ARBORVITE
IV	AFTERGLOW WINTERBERRY	UA	PRINCETON ELM
JP	DWARF GARDEN JUNIPER		

N

MAGNETIC

MATCH TO SHEET
MATCHLINE STA 34+75.00

10 DL

28 PM

PROTECTION AREA

3 MH

63+00

9 JP

PROTECTION AREA

12 JP

PT 35+13.74

24 RP

23 MD

35+00

36+00

37+00

PT 37+88.04

38+00

PT 38+46.39

SYKES MOUNTAIN AVENUE

39+00

40+00

18 CRM

3 MH

10 SV

PROTECTION AREA

2 UA

20 IV
1 IJ

PROTECTION AREA

61+00

2 FP

RALPH LEHMAN DRIVE

PROTECTION AREA

8 IG

PROTECTION AREA

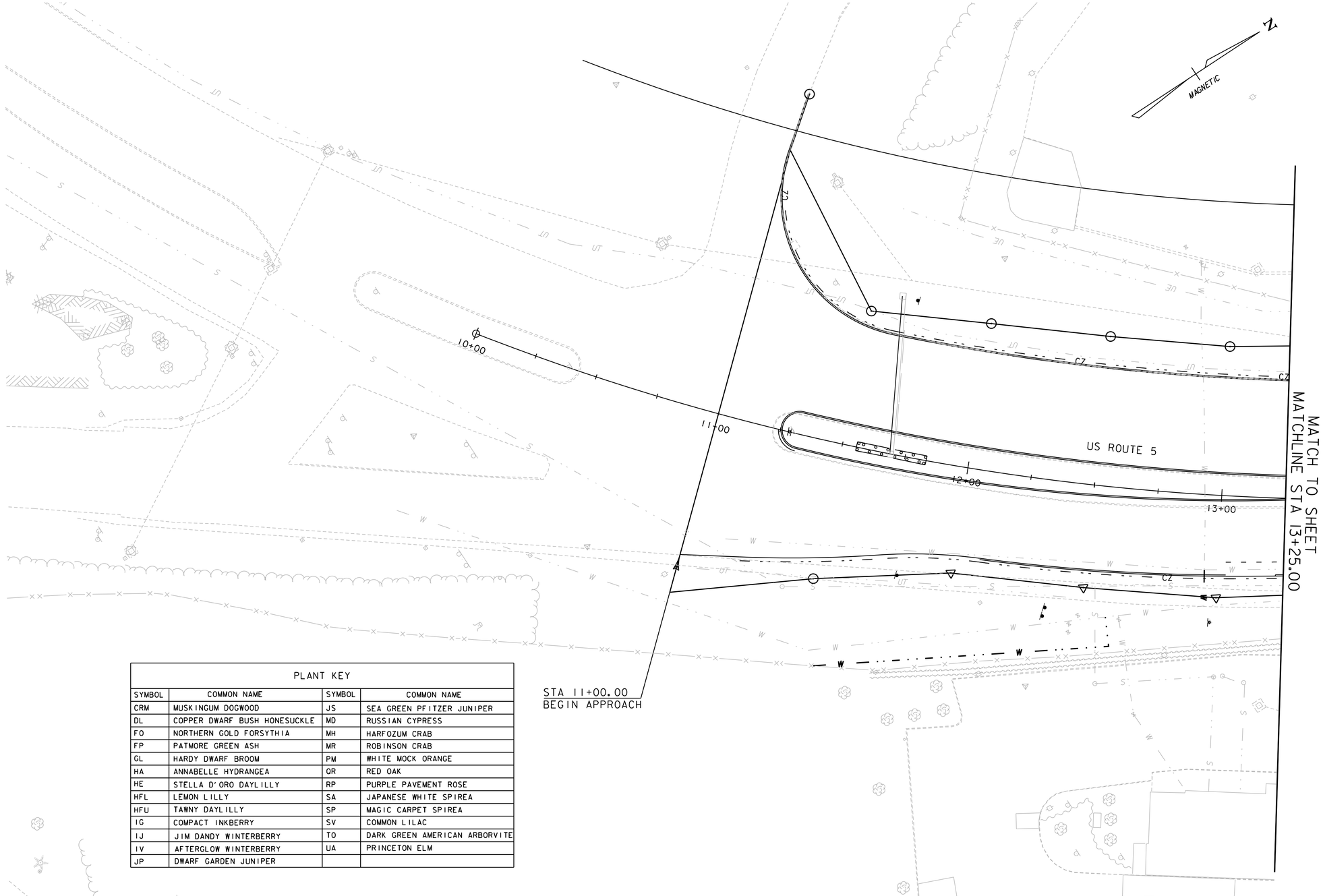
0 20 40

SCALE IN FEET

PROJECT NAME: HARTFORD
PROJECT NUMBER: STP 0113(59)S

FILE NAME: zc334bdr_lds.dgn
PROJECT LEADER: S. IRELAND
DESIGNED BY: B. COLBURN
LANDSCAPE PLAN 2

PLOT DATE: 8/12/2019
DRAWN BY: M. LOVETT
CHECKED BY: S. IRELAND
SHEET 77 OF 94



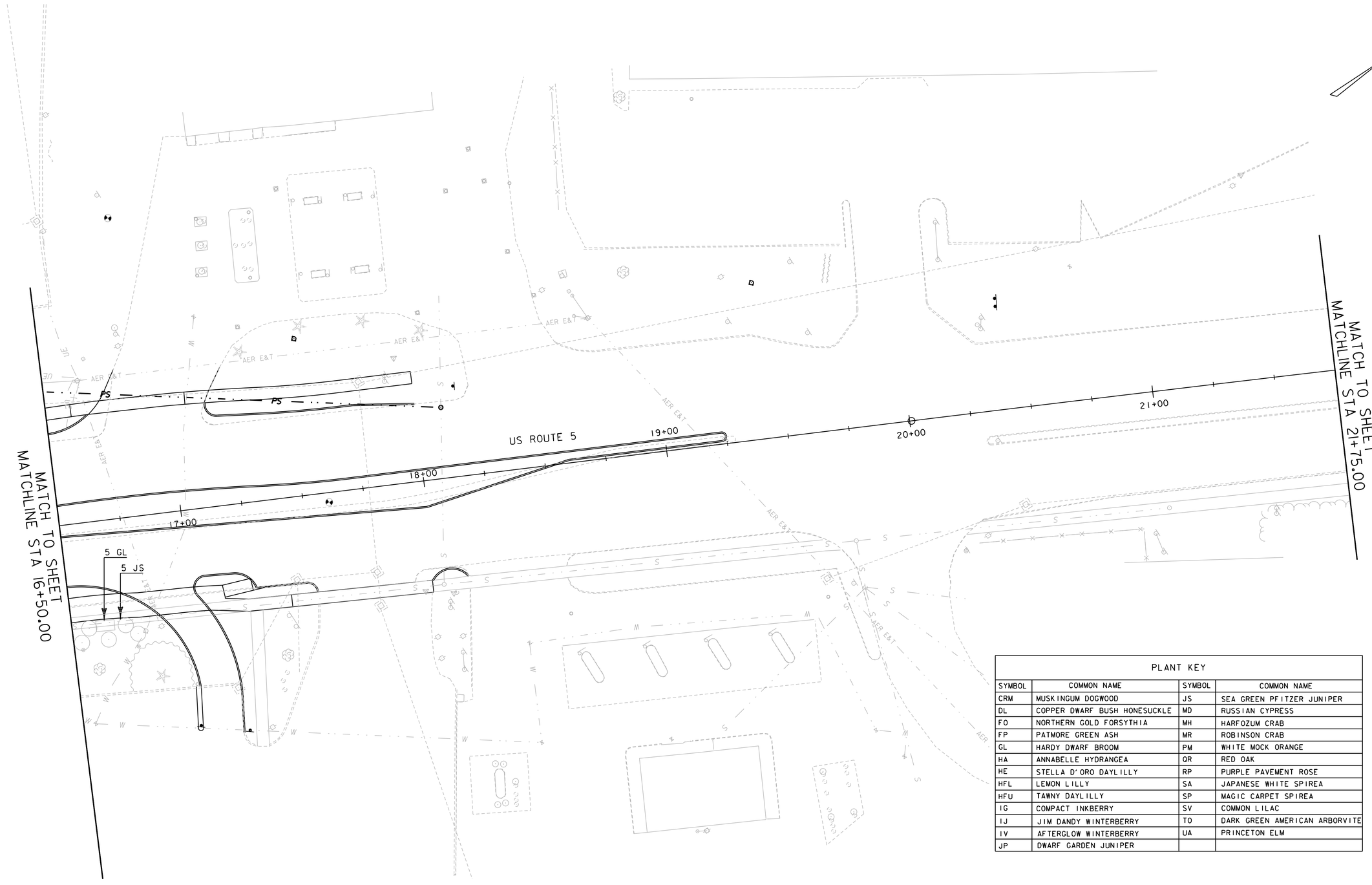
PLANT KEY			
SYMBOL	COMMON NAME	SYMBOL	COMMON NAME
CRM	MUSKINGUM DOGWOOD	JS	SEA GREEN PFITZER JUNIPER
DL	COPPER DWARF BUSH HONESUCKLE	MD	RUSSIAN CYPRESS
FO	NORTHERN GOLD FORSYTHIA	MH	HARFOZUM CRAB
FP	PATMORE GREEN ASH	MR	ROBINSON CRAB
GL	HARDY DWARF BROOM	PM	WHITE MOCK ORANGE
HA	ANNABELLE HYDRANGEA	OR	RED OAK
HE	STELLA D' ORO DAYLILLY	RP	PURPLE PAVEMENT ROSE
HFL	LEMON LILLY	SA	JAPANESE WHITE SPIREA
HFU	TAWNY DAYLILLY	SP	MAGIC CARPET SPIREA
IG	COMPACT INKBERRY	SV	COMMON LILAC
IJ	JIM DANDY WINTERBERRY	TO	DARK GREEN AMERICAN ARBORVITE
IV	AFTERGLOW WINTERBERRY	UA	PRINCETON ELM
JP	DWARF GARDEN JUNIPER		

0 20 40
SCALE IN FEET

PROJECT NAME: HARTFORD
PROJECT NUMBER: STP 0113(59)S

FILE NAME: zc334bdr_lds.dgn
PROJECT LEADER: S. IRELAND
DESIGNED BY: B. COLBURN
LANDSCAPE PLAN 3

PLOT DATE: 8/12/2019
DRAWN BY: M. LOVETT
CHECKED BY: S. IRELAND
SHEET 78 OF 94



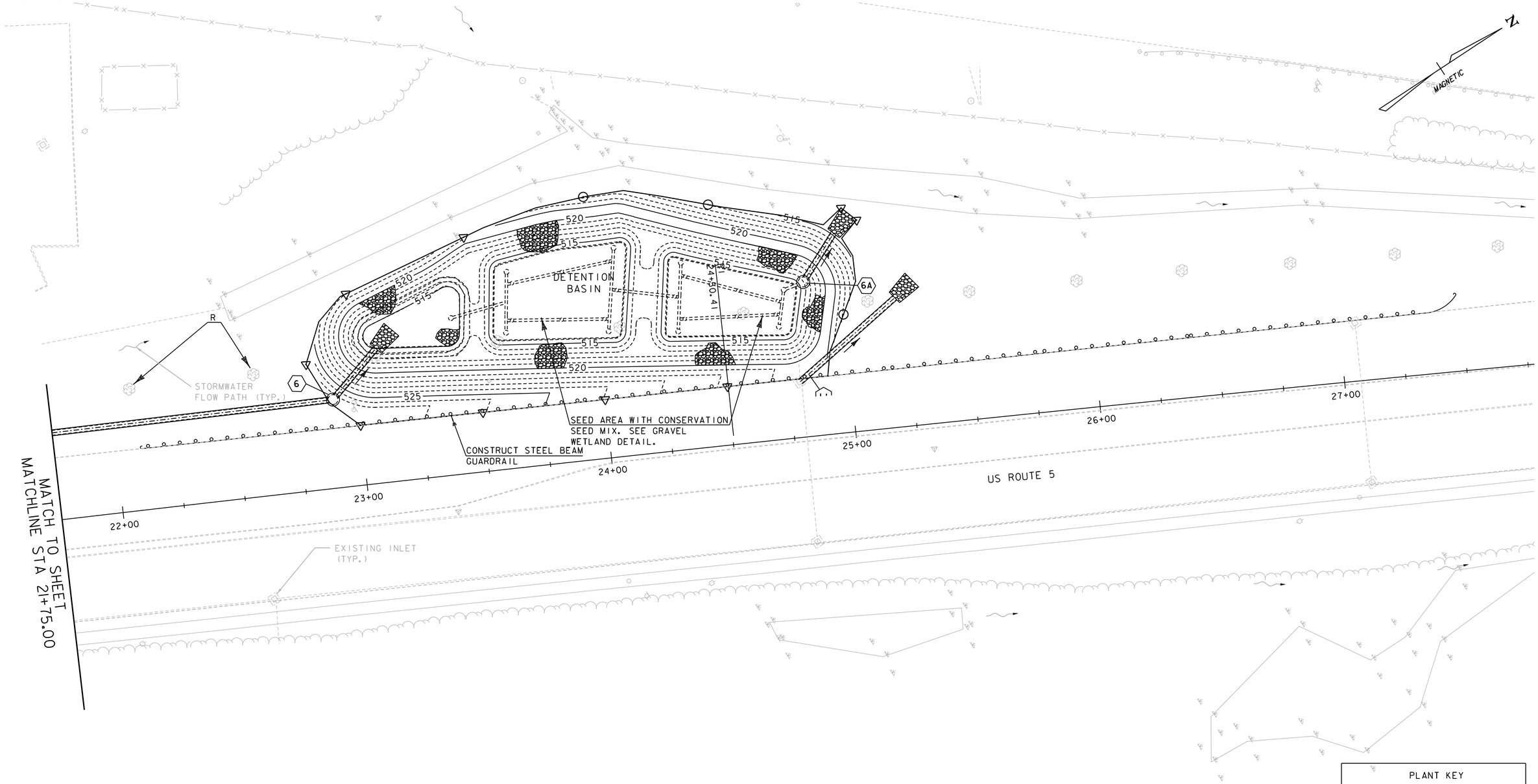
PLANT KEY			
SYMBOL	COMMON NAME	SYMBOL	COMMON NAME
CRM	MUSKINGUM DOGWOOD	JS	SEA GREEN PFITZER JUNIPER
DL	COPPER DWARF BUSH HONESUCKLE	MD	RUSSIAN CYPRESS
FO	NORTHERN GOLD FORSYTHIA	MH	HARFOZUM CRAB
FP	PATMORE GREEN ASH	MR	ROBINSON CRAB
GL	HARDY DWARF BROOM	PM	WHITE MOCK ORANGE
HA	ANNABELLE HYDRANGEA	OR	RED OAK
HE	STELLA D'ORO DAYLILLY	RP	PURPLE PAVEMENT ROSE
HFL	LEMON LILLY	SA	JAPANESE WHITE SPIREA
HFU	TAWNY DAYLILLY	SP	MAGIC CARPET SPIREA
IG	COMPACT INKBERRY	SV	COMMON LILAC
IJ	JIM DANDY WINTERBERRY	TO	DARK GREEN AMERICAN ARBORVITE
IV	AFTERGLOW WINTERBERRY	UA	PRINCETON ELM
JP	DWARF GARDEN JUNIPER		

0 20 40
SCALE IN FEET

PROJECT NAME: HARTFORD
PROJECT NUMBER: STP 0113(59)S

FILE NAME: zc334bdr_lds.dgn
PROJECT LEADER: S. IRELAND
DESIGNED BY: B. COLBURN
LANDSCAPE PLAN 4

PLOT DATE: 8/12/2019
DRAWN BY: M. LOVETT
CHECKED BY: S. IRELAND
SHEET 79 OF 94



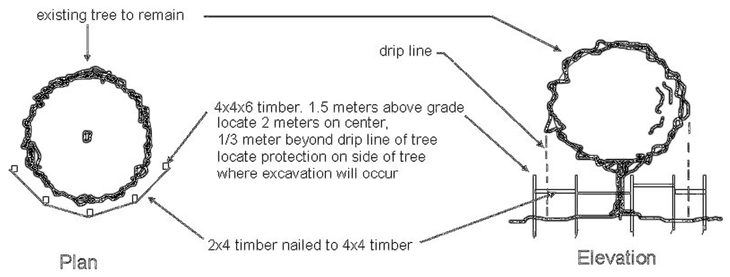
PLANT KEY	
SYMBOL	COMMON NAME
CA	'BUDS YELLOW' DOGWOOD
CS	CARDINAL DOGWOOD
IJ	JIM DANDY WINTERBERRY
IV	AFTERGLOW WINTERBERRY
PN	AUSTRIAN PINE
VJ	JUDD VIBURNUM

0 20 40
SCALE IN FEET

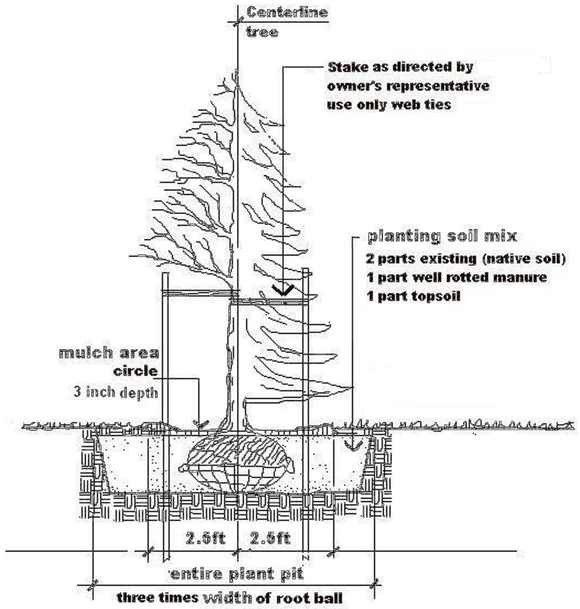
PROJECT NAME: HARTFORD
PROJECT NUMBER: STP 0113(59)S

FILE NAME: zc334bdr_lds.dgn
PROJECT LEADER: S. IRELAND
DESIGNED BY: B. COLBURN
LANDSCAPE PLAN 5

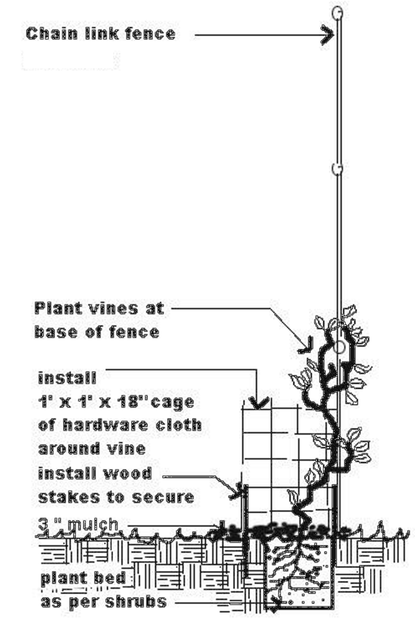
PLOT DATE: 8/12/2019
DRAWN BY: M. LOVETT
CHECKED BY: S. IRELAND
SHEET 80 OF 94



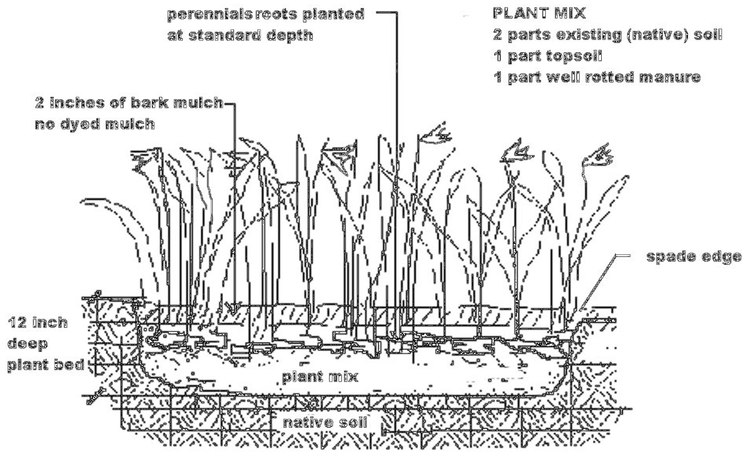
Protection for Existing Trees

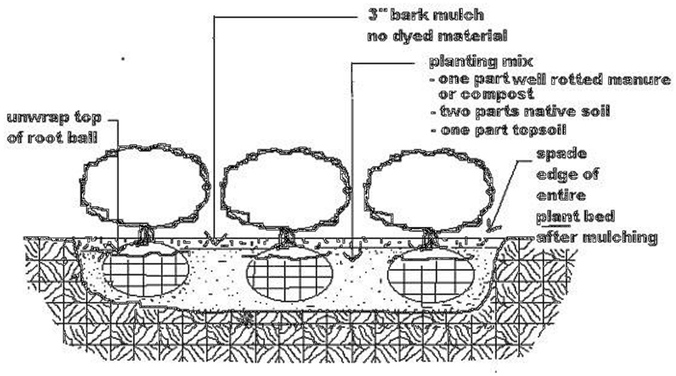


Tree Installation



Vine Installation





Shrub Planting Bed

PROJECT NAME:	HARTFORD
PROJECT NUMBER:	STP 0113(59)S
FILE NAME: zc334dt16.dgn	PLOT DATE: 8/12/2019
PROJECT LEADER: S. IRELAND	DRAWN BY: M. LOVETT
DESIGNED BY: B. COLBURN	CHECKED BY: S. IRELAND
LANDSCAPING DETAILS	SHEET 81 OF 94

PLANTING SCHEDULE

US ROUTE 5/SYKES MOUNTAIN AVENUE PLANTINGS

	KEY	TOTALS	BOTANICAL NAME	COMMON NAME	SIZE	SPEC	SPACING
LARGE STREET TREES							
	UA	3	Ulmus Americana "Princeton"	Princeton Elm	2-1/2"-3" cal. Clear Stem to 7 FT	B&B	
	OR	6	Quercus Rubra	Red Oak	2-1/2"-3" cal. Clear Stem to 7 FT	B&B	
	FP	3	Fraxinus Pennsylvanica "Patmore"	Patmore Green Ash	2"-2-1/2" cal.	B&B	8'
SMALL STREET TREES							
	MH	7	Malus "Harfozum"	Harfozum Crab	3'-4' HT	B&B or Cont.	8'
	MR	3	Malus "Robinson"	Robinson Crab	3'-4' HT	B&B or Cont.	8'
LARGE EVERGREEN TREES							
	TO	5	Thuja occidentalis	Dark green American Arborvitea	5'-6' HT	B&B	
EVERGREEN/SEMI-EVERGREEN SHRUBS							
	IG	8	Ilex glabra	Inkberry	3'-4' HT	B&B or Cont.	
DECIDUOUS SHRUBS							
	HA	34	Hydrangea arborescens "Annabelle"	Annabelle Hydrangea	3'-4' HT	B&B or Cont.	
	FO	6	Forsynthia ovata "Northern Gold"	Northern Gold Forsythia	4'-5' HT	B&B or Cont.	
	SV	10	Syringa vulgaris	Common Lilac	4'-5' HT	B&B or Cont.	
	CRM	25	Cornus Racemosa "Muszam"	Muskingum Dogwood	3'-4' HT	3 Gallon Container	8'
	DL	10	Diervilla lonicera "Copper"	Copper Dwarf Bush Honeysuckle	3'-4' HT	3 Gallon Container	8'
	GL	35	Genista "Lydia"	Hardy Dwarf Broom		1Gallon Container	
	IJ	1	Ilex Verticillata "Jim Dandy"	"Jim Dandy" Winterberry Holly	3'-4' HT	3 Gallon Container	8'
	IV	27	Ilex Verticillata "Afterglow"	"Afterglow" Winterberry Holly	3'-4' HT	3 Gallon Container	8'
	PM	28	Philadelphus "Mock Orange"	White Mock Orange		3 Gallon Container	8'
	SA	6	Spiraea Albiflora	Japanese White Spirea		1Gallon Container	
	SP	6	Spiraea Japonica "Magic Carpet"	Magic Carpet Spirea		1Gallon Container	
GROUND COVER, PERENNIALS, & VINES							
	HFU	150	Hemerocallis fulva 300, 400	Tawny Daylily	3 Fans min.	Cont.	
	HFL	80	Hemerocallis flava 100, 200	Lemon Daylily	3 Fans min.	Cont.	
	HE	400	Hemerocallis "Stella D'Oro"	Stella D'Oro Daylily	3 Fans min.	Cont.	
	PT	5	Parthenocissis tricuspidata "Veitchii"	Boston Ivy	4' HT	Cont.	
	JP	66	Juniperus Procumbens "Nana"	Dwarf Garden Juniper		1Gallon Container	
	JS	27	Juniperus x Pfitzeriana "Sea Green"	Sea Green Pfitzer Juniper		1Gallon Container	
	MD	27	Microbiota Decussate	Russian Cyprus		3 Gallon Container	
	RP	40	Rosa Rugosa "Purple Pavement"	Purple Pavement Rose		3 Gallon Container	

NOTE: ALL TREES SPECIFIED AS CLEAR STEM TO 7 FT SHALL HAVE A MINIMUM LIVE CROWN RATIO OF 50%.

BASIN PLANTINGS

	KEY	TOTALS	BOTANICAL NAME	COMMON NAME	SIZE	SPEC	SPACING
LARGE EVERGREEN TREES							
	PN	16	Pinus Nigra	Austrian Pine	5-6 FT HT	B&B	
DECIDUOUS SHRUBS							
	CS	18	Cornus sericea	Redosier Dogwood	18-24" SPRD	B&B OR CONT.	
	IJ	1	Ilex Verticillata "Jim Dandy"	"Jim Dandy" Winterberry Holly	3'-4' HT	3 Gallon Container	8'
	IV	20	Ilex Verticillata "Afterglow"	"Afterglow" Winterberry Holly	3'-4' HT	3 Gallon Container	8'
	CA	28	Cornus Alba "Buds Yellow"	"Buds Yellow" Dogwood	1'-2' HT	3 Gallon Container	8'
	VJ	17	Viburnum x Juddii	Judd Viburnum	3'-4' HT	B&B OR CONT.	8'

SEEDING ITEM 651.15
GRAVEL WETLAND FLOOR SEED MIX

SEED AREA WITH CONSERVATION SEED MIX.
SEE GRAVEL WETLAND DETAILS.

GENERAL NOTES

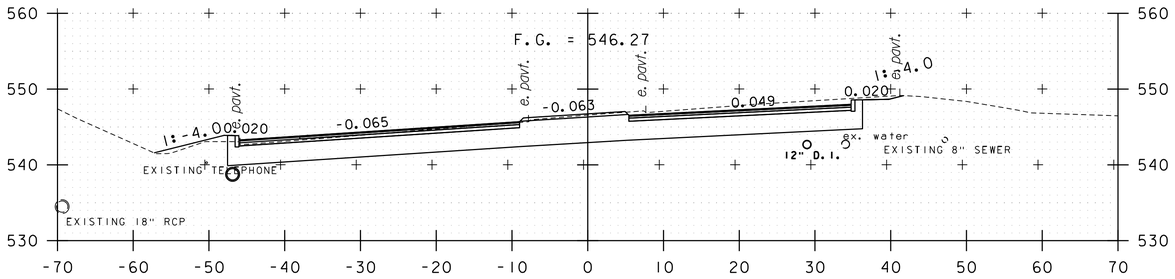
ALSO SEE LANDSCAPING SPECIFICATIONS.

SEED MIX AS AVAILABLE FROM:
ERNST CONSERVATION SEEDS
9006 MERCER PIKE
MEADVILLE, PA 16335
ERNSTSALES@ERNSTEED.COM
TELEPHONE 1-800-873-3321
FAX 814-336-5191
OR OTHER APPROVED SUPPLIER.

PROJECT NAME: HARTFORD
PROJECT NUMBER: STP 0113(59)S

FILE NAME: zc334dt12.dgn
PROJECT LEADER: S. IRELAND
DESIGNED BY: B. COLBURN
PLANTING SCHEDULE

PLOT DATE: 8/12/2019
DRAWN BY: M. LOVETT
CHECKED BY: S. IRELAND
SHEET 82 OF 94



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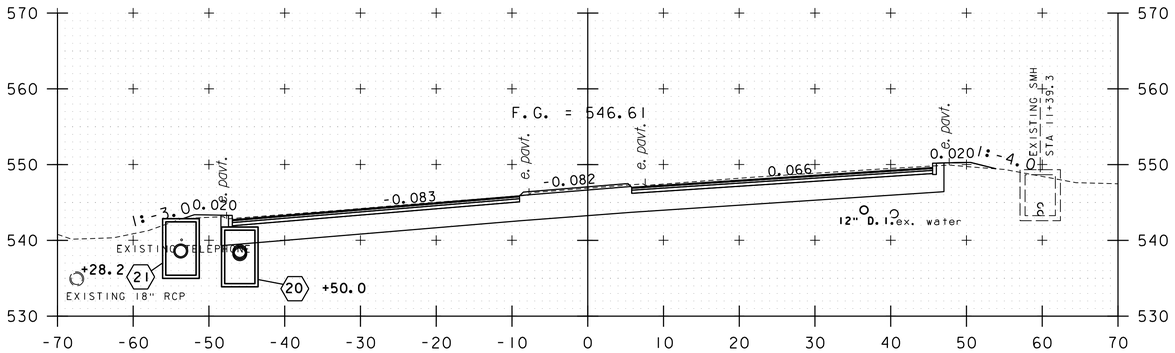

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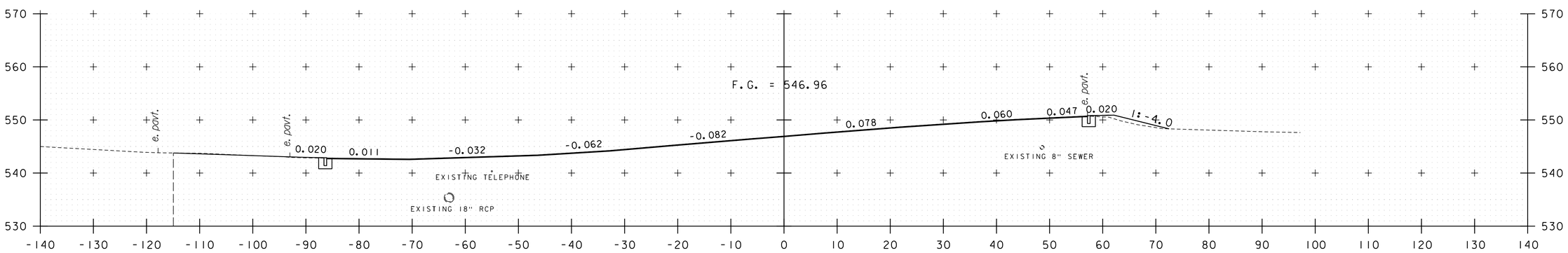

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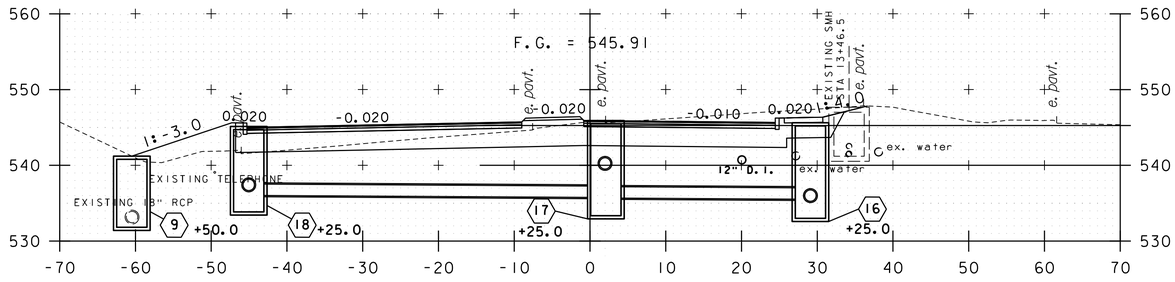
PROJECT NAME:	HARTFORD
PROJECT NUMBER:	STP 0113(59)S
FILE NAME: zc334xsl.dgn	PLOT DATE: 8/12/2019
PROJECT LEADER: S. IRELAND	DRAWN BY: M. LOVETT
DESIGNED BY: B. COLBURN	CHECKED BY: S. IRELAND
US ROUTE 5 CROSS SECTIONS	SHEET 83 OF 94



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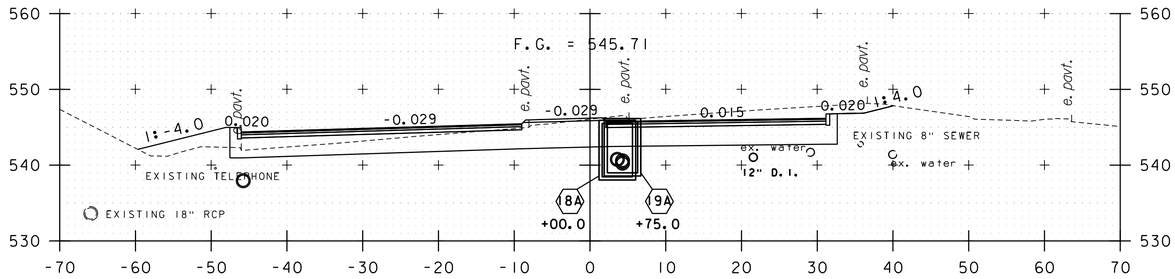

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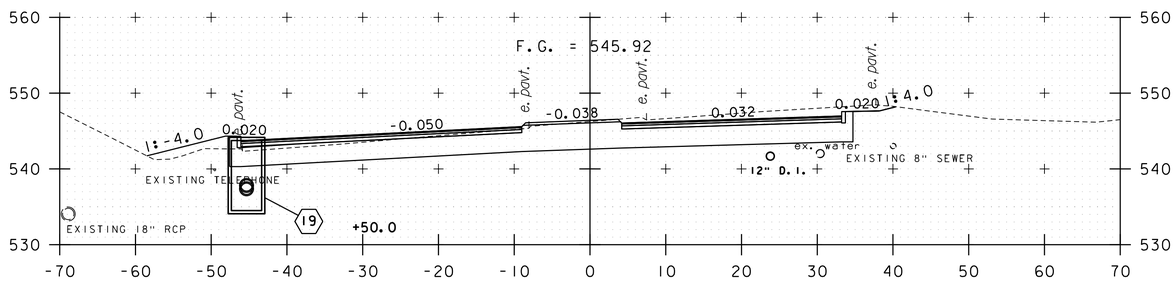

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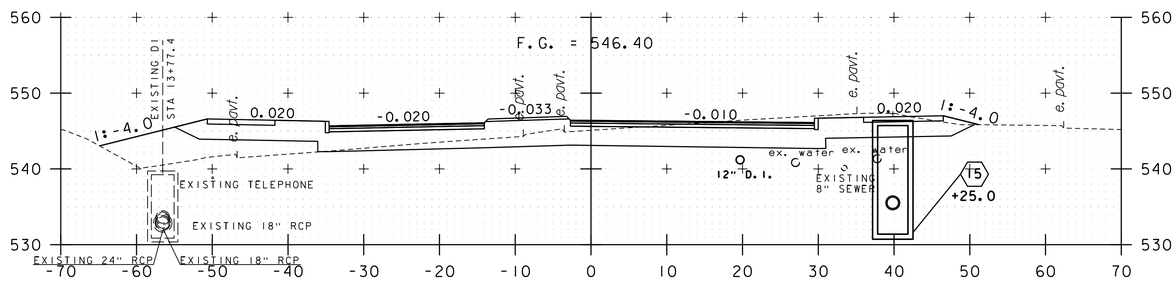

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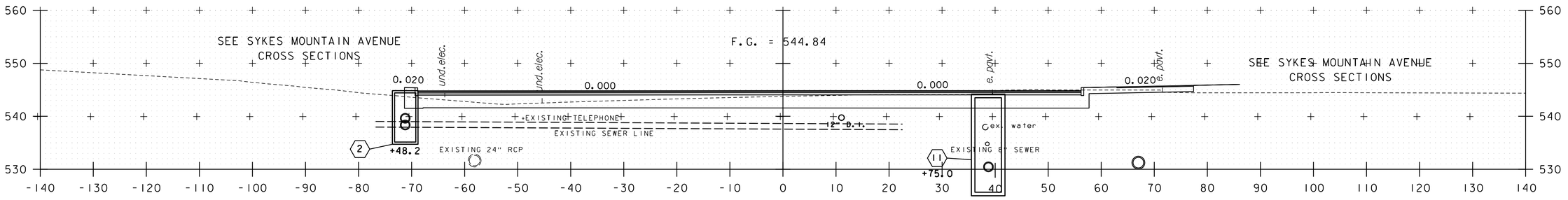
PROJECT NAME:	HARTFORD
PROJECT NUMBER:	STP 0113(59)S
FILE NAME: zc334xsl.dgn	PLOT DATE: 8/12/2019
PROJECT LEADER: S. IRELAND	DRAWN BY: M. LOVETT
DESIGNED BY: B. COLBURN	CHECKED BY: S. IRELAND
US ROUTE 5 CROSS SECTIONS	SHEET 84 OF 94



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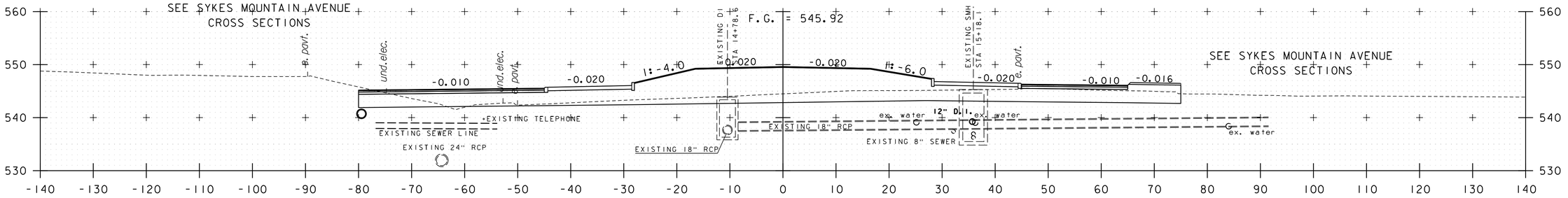

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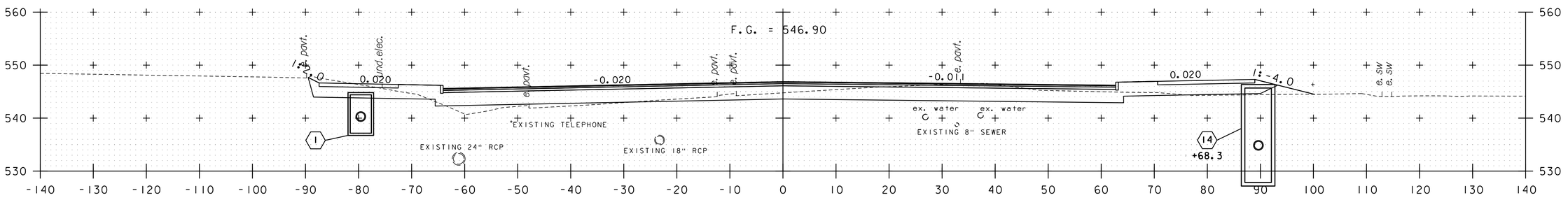

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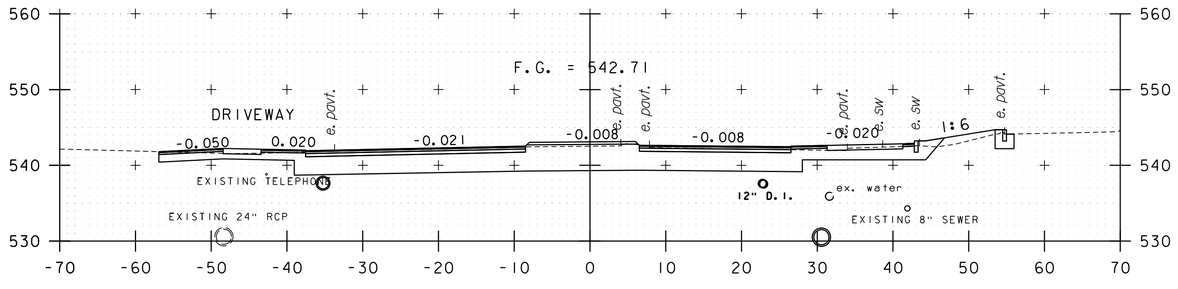
PROJECT NAME:	HARTFORD
PROJECT NUMBER:	STP 0113(59)S

FILE NAME: zc334xsl.dgn	PLOT DATE: 8/12/2019
PROJECT LEADER: S. IRELAND	DRAWN BY: M. LOVETT
DESIGNED BY: B. COLBURN	CHECKED BY: S. IRELAND
US ROUTE 5 CROSS SECTIONS	SHEET 85 OF 94



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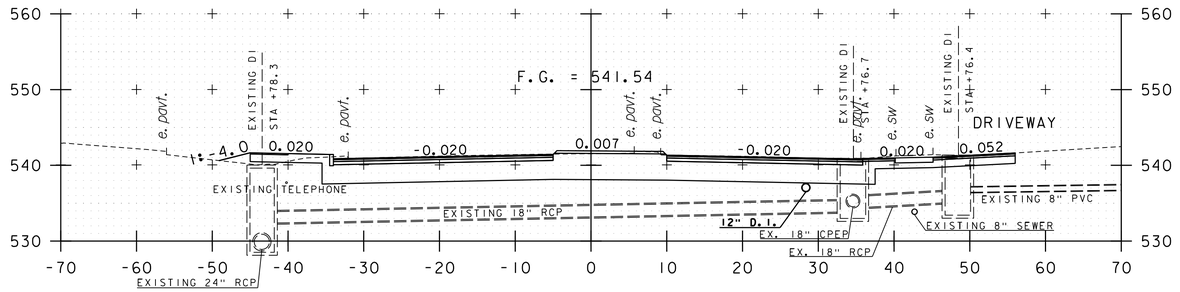

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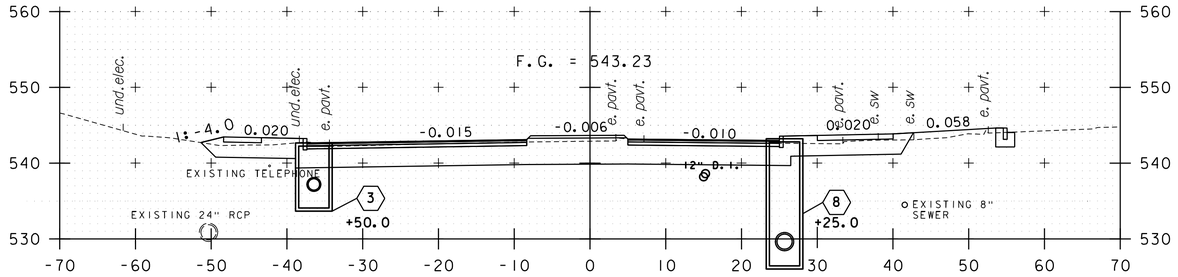

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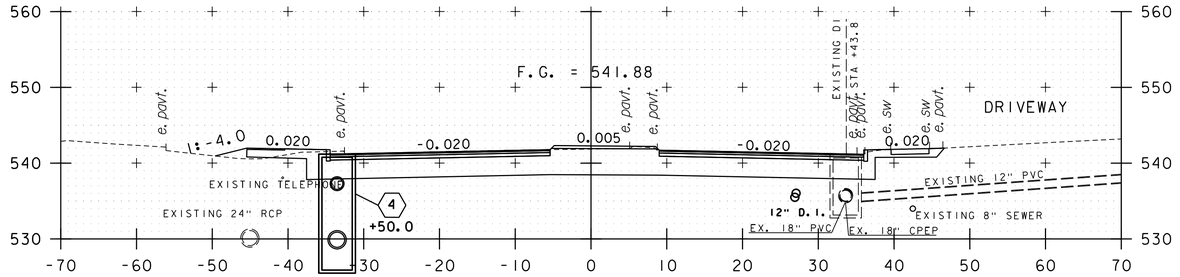

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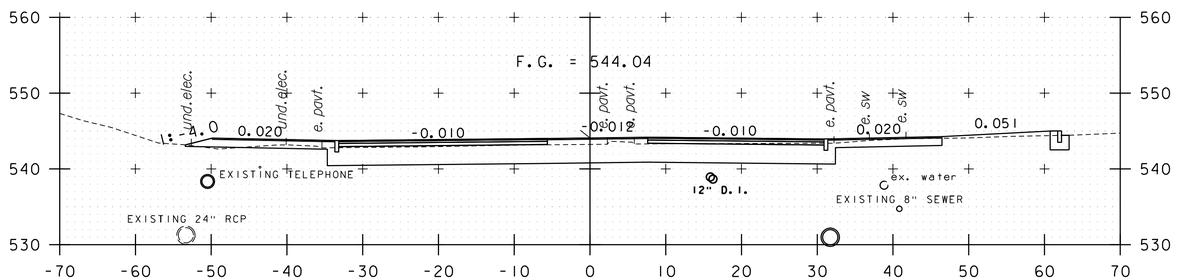

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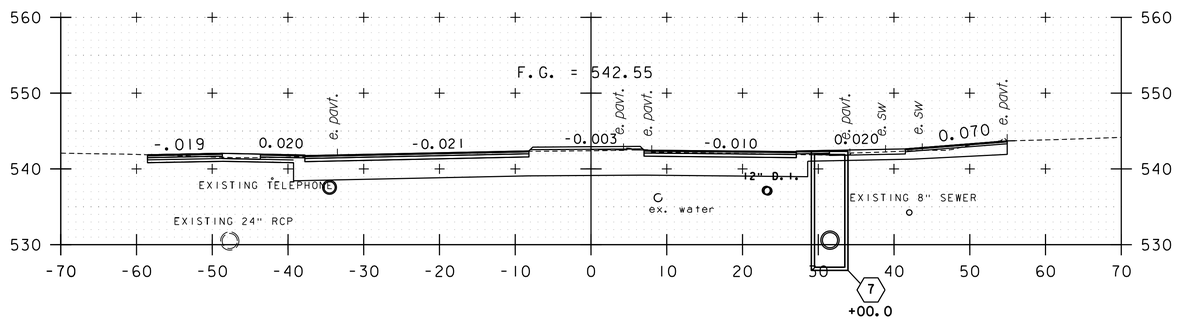

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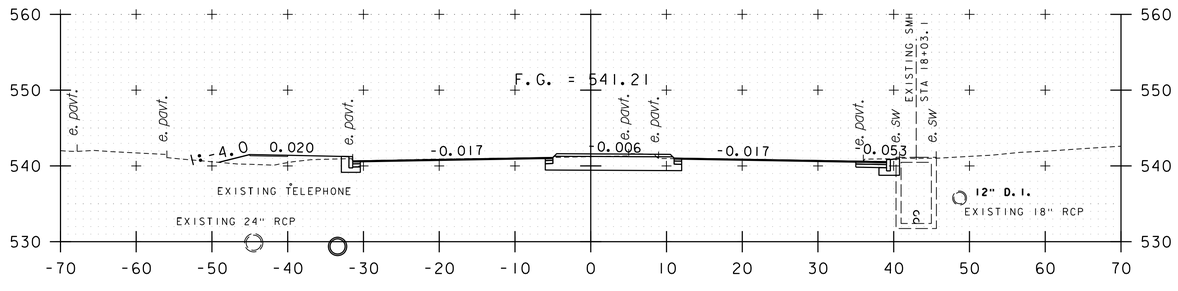
PROJECT NAME:	HARTFORD
PROJECT NUMBER:	STP 0113(59)S

FILE NAME: zc334xsl.dgn	PLOT DATE: 8/12/2019
PROJECT LEADER: S. IRELAND	DRAWN BY: M. LOVETT
DESIGNED BY: B. COLBURN	CHECKED BY: S. IRELAND
US ROUTE 5 CROSS SECTIONS	SHEET 86 OF 94



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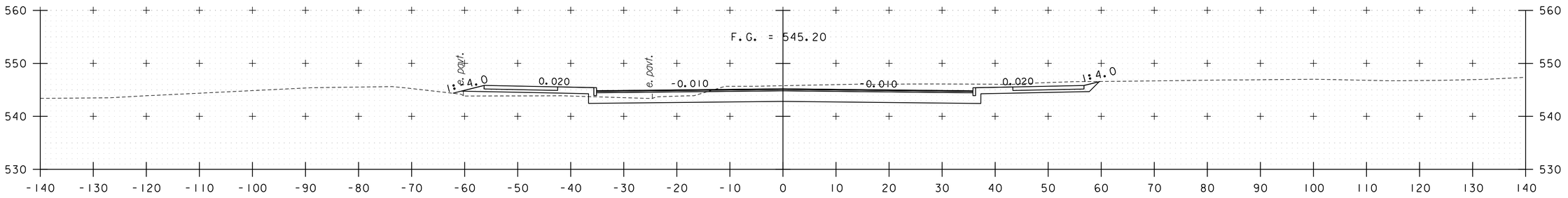
PROJECT NAME:	HARTFORD
PROJECT NUMBER:	STP 0113(59)S
FILE NAME: zc334xsl.dgn	PLOT DATE: 8/12/2019
PROJECT LEADER: S. IRELAND	DRAWN BY: M. LOVETT
DESIGNED BY: B. COLBURN	CHECKED BY: S. IRELAND
US ROUTE 5 CROSS SECTIONS	SHEET 87 OF 94



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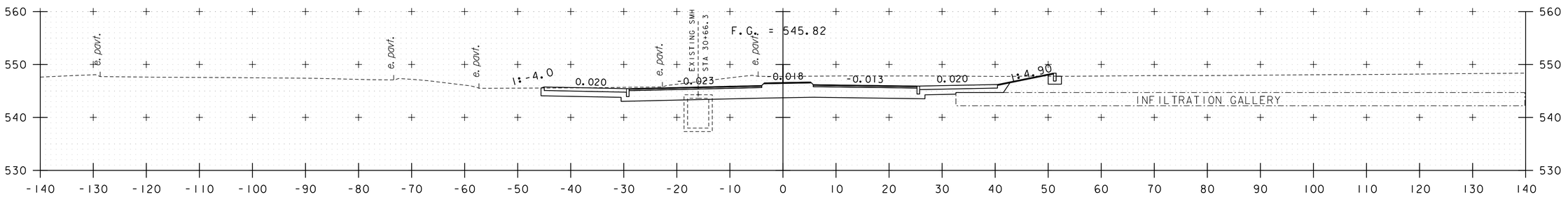

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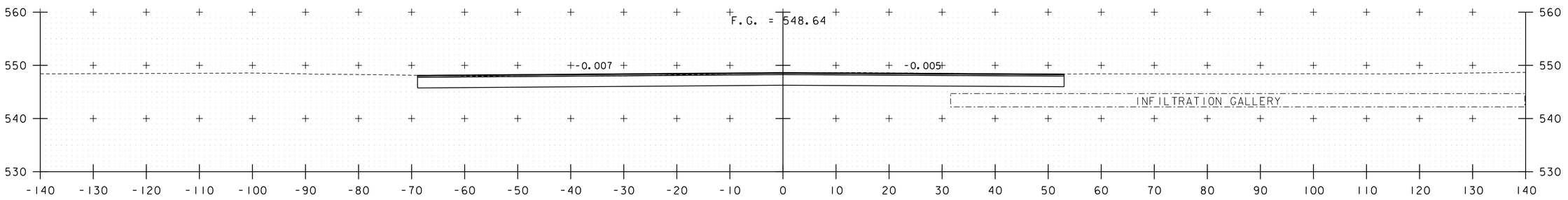

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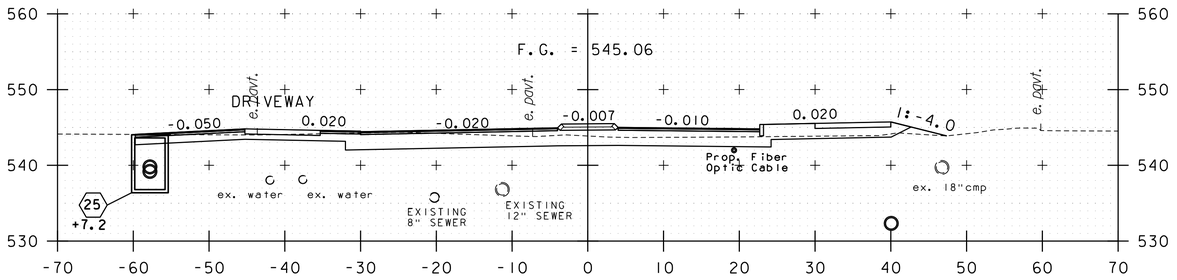
PROJECT NAME:	HARTFORD
PROJECT NUMBER:	STP 0113(59)S

FILE NAME: zc334xsl.dgn		PLOT DATE:	8/12/2019
PROJECT LEADER:	S. IRELAND	DRAWN BY:	M. LOVETT
DESIGNED BY:	B. COLBURN	CHECKED BY:	S. IRELAND
SYKES MOUNTAIN AVENUE CROSS SECTIONS		SHEET	88 OF 94



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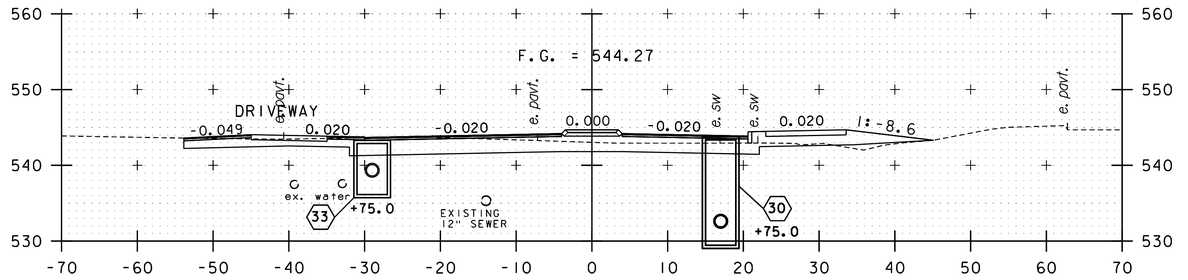

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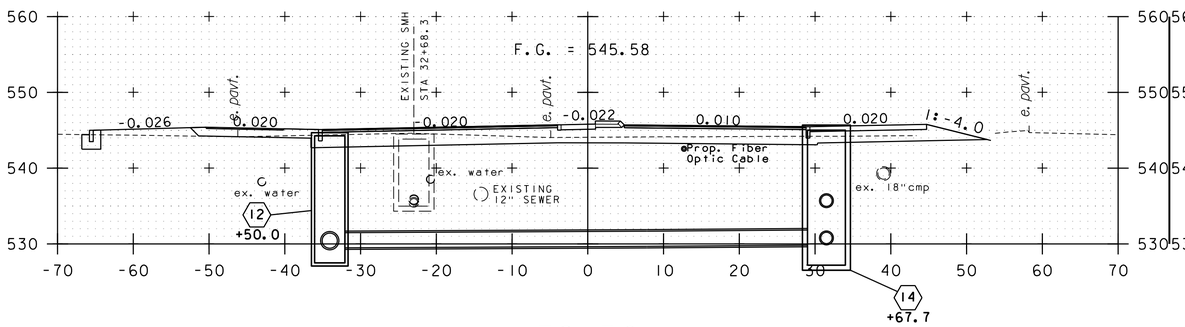

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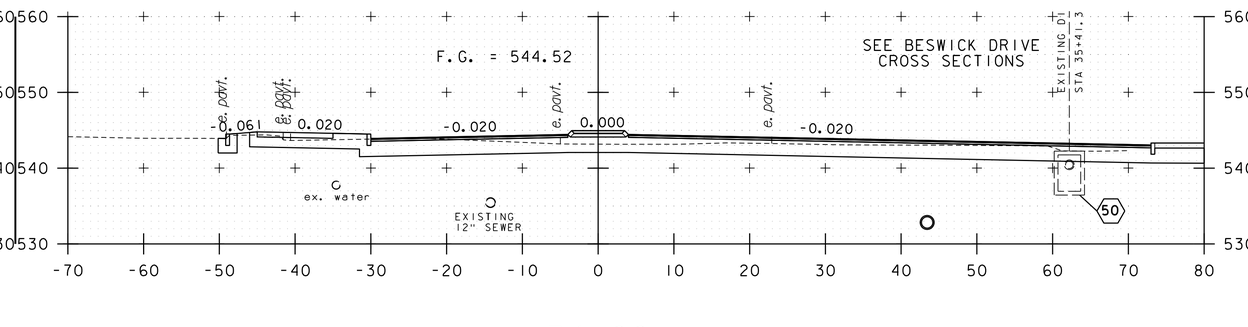

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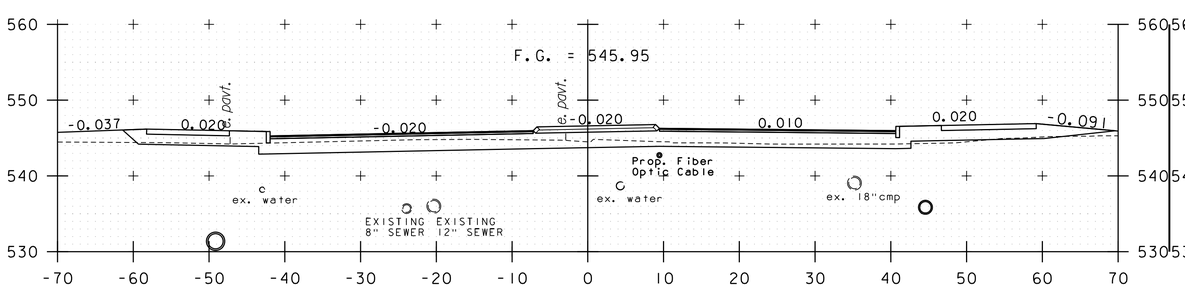

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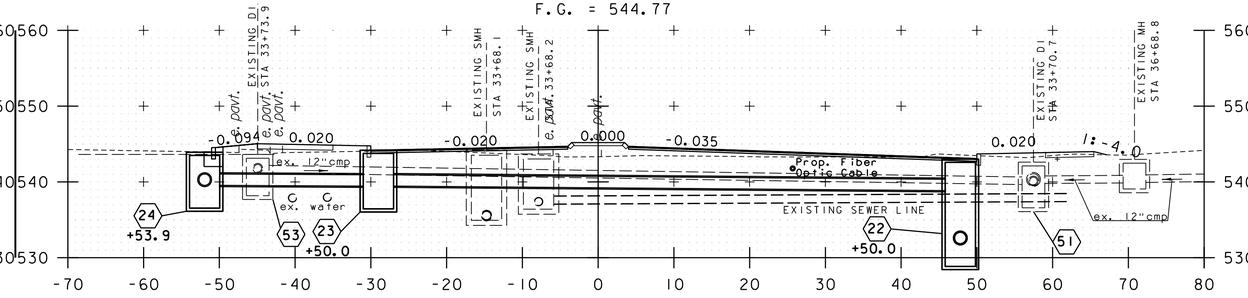

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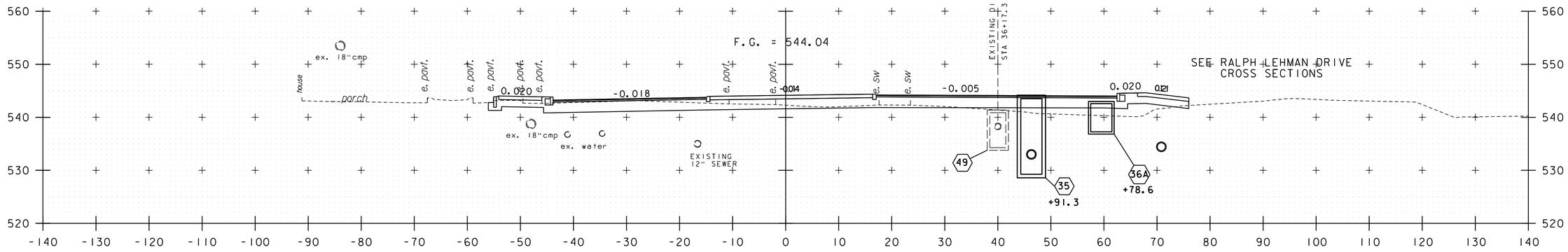
PROJECT NAME:	HARTFORD
PROJECT NUMBER:	STP 0113(59)S

FILE NAME: zc334xsl.dgn	PLOT DATE: 8/12/2019
PROJECT LEADER: S. IRELAND	DRAWN BY: M. LOVETT
DESIGNED BY: B. COLBURN	CHECKED BY: S. IRELAND
SYKES MOUNTAIN AVENUE CROSS SECTIONS	SHEET 89 OF 94



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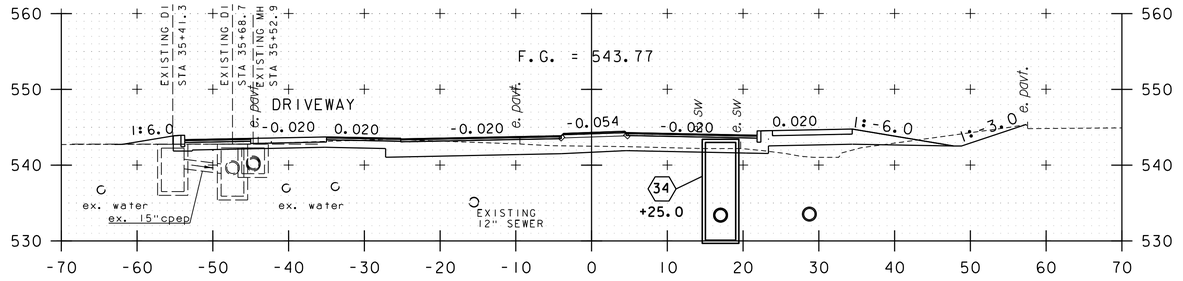

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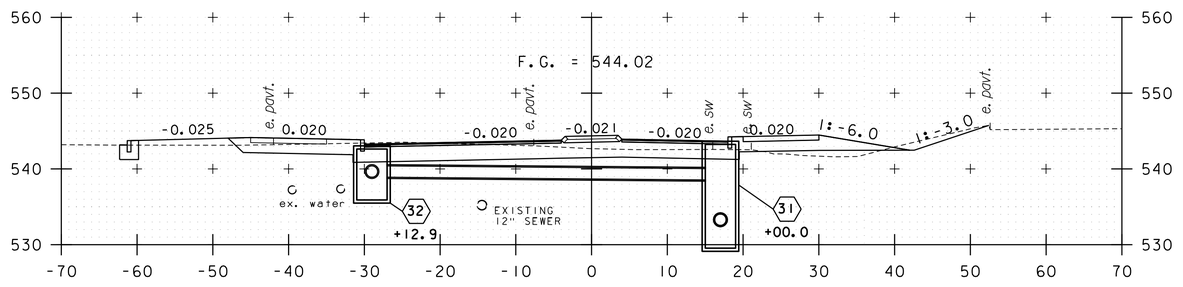

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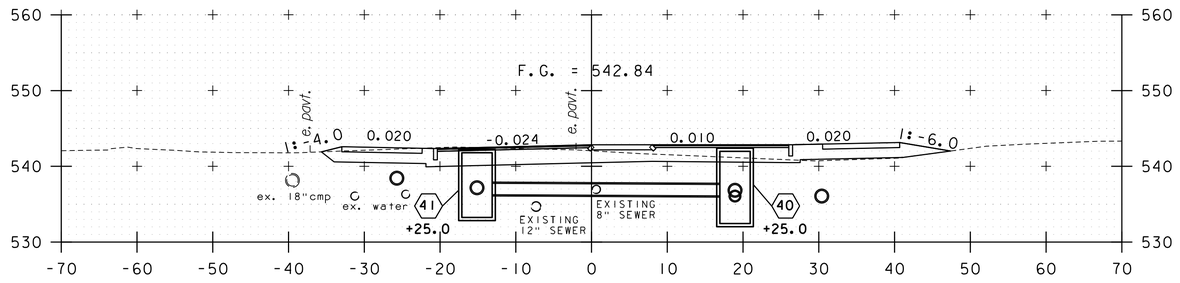
PROJECT NAME:	HARTFORD
PROJECT NUMBER:	STP 0113(59)S
FILE NAME: zc334xsl.dgn	PLOT DATE: 8/12/2019
PROJECT LEADER: S. IRELAND	DRAWN BY: M. LOVETT
DESIGNED BY: B. COLBURN	CHECKED BY: S. IRELAND
SYKES MOUNTAIN AVENUE CROSS SECTIONS	SHEET 90 OF 94



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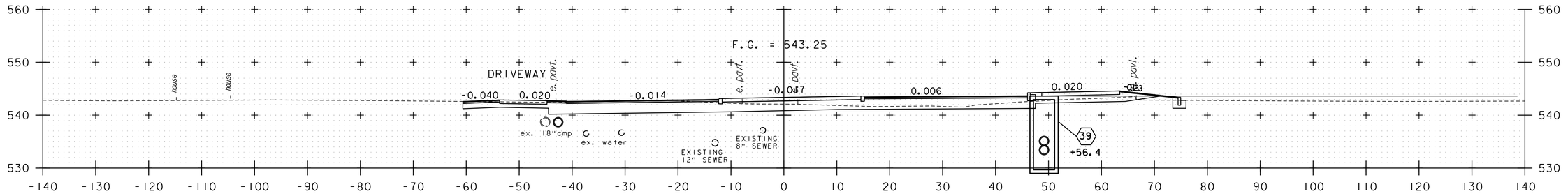

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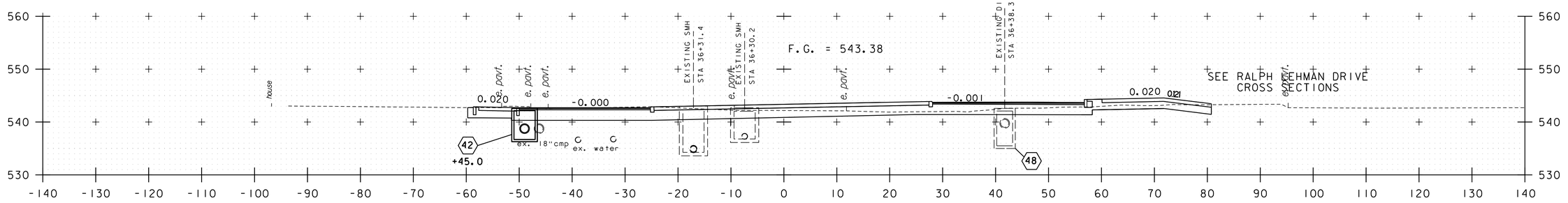

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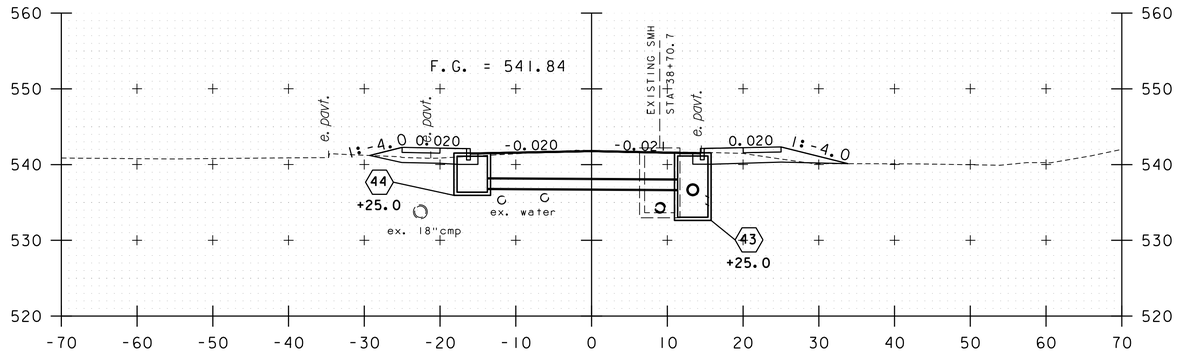
PROJECT NAME:	HARTFORD
PROJECT NUMBER:	STP 0113(59)S
FILE NAME: zc334xsl.dgn	PLOT DATE: 8/12/2019
PROJECT LEADER: S. IRELAND	DRAWN BY: M. LOVETT
DESIGNED BY: B. COLBURN	CHECKED BY: S. IRELAND
SYKES MOUNTAIN AVENUE CROSS SECTIONS	SHEET 91 OF 94



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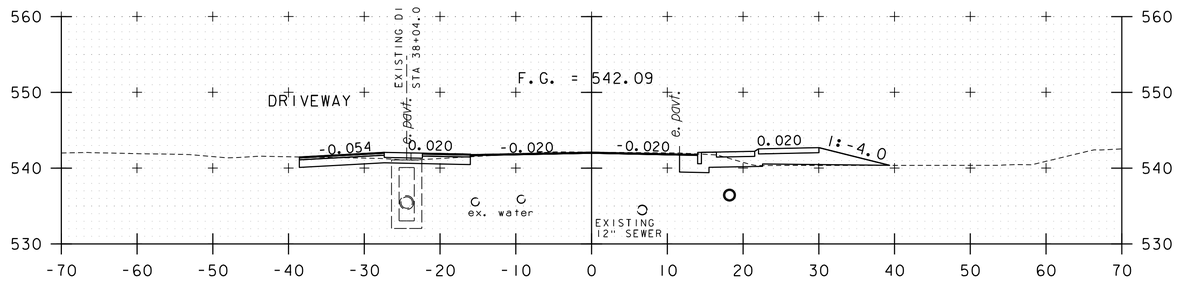

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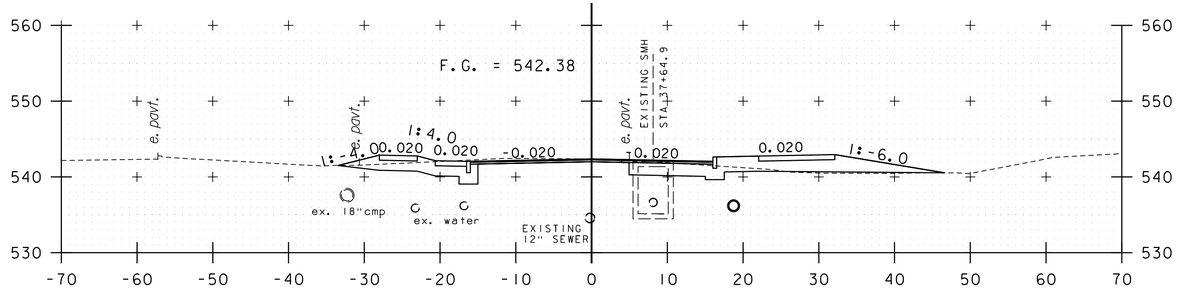

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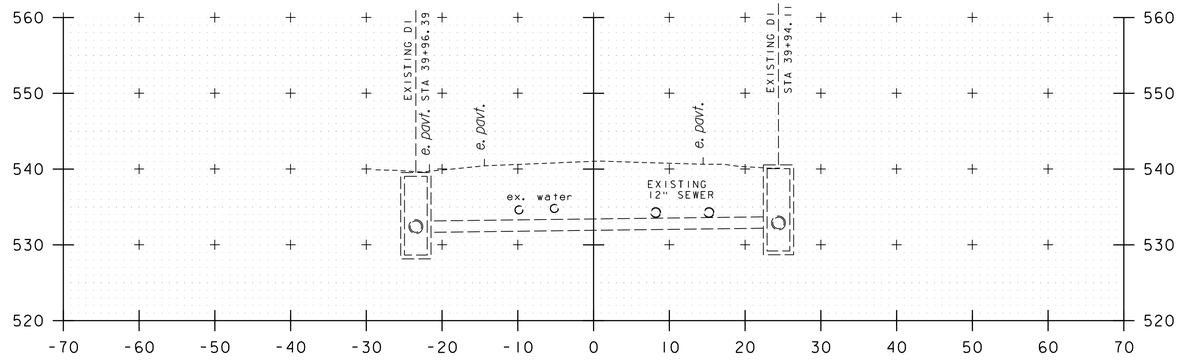

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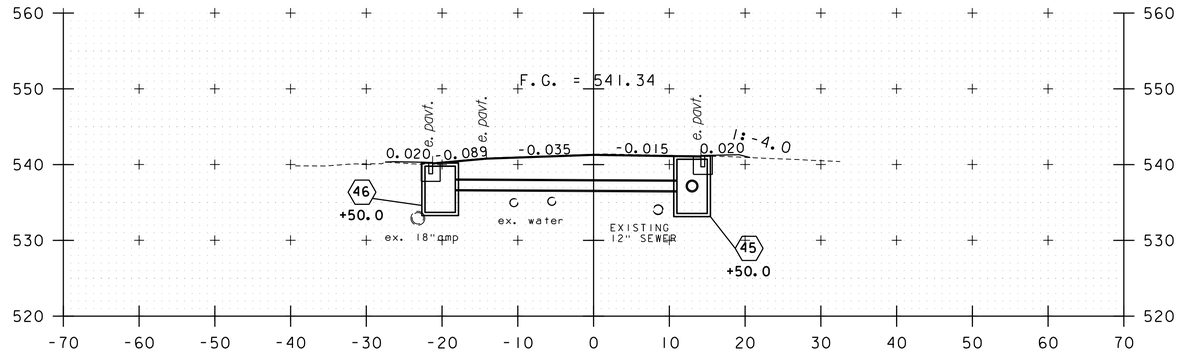

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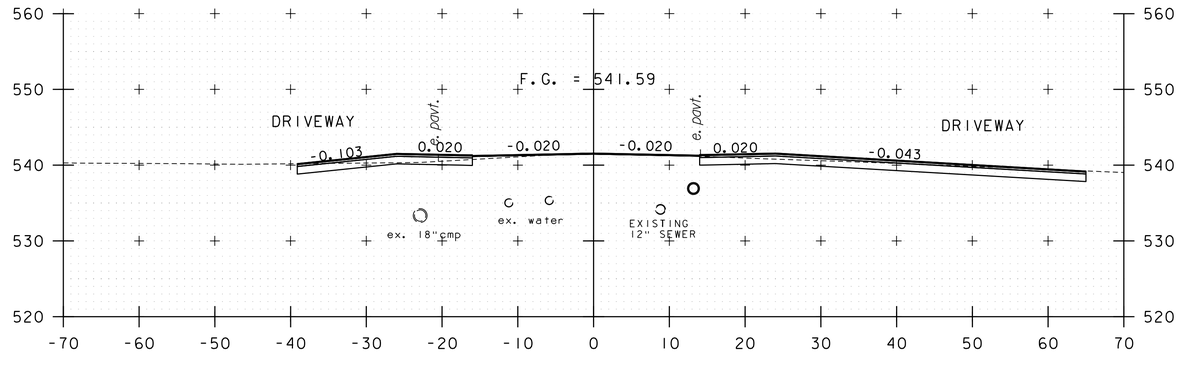

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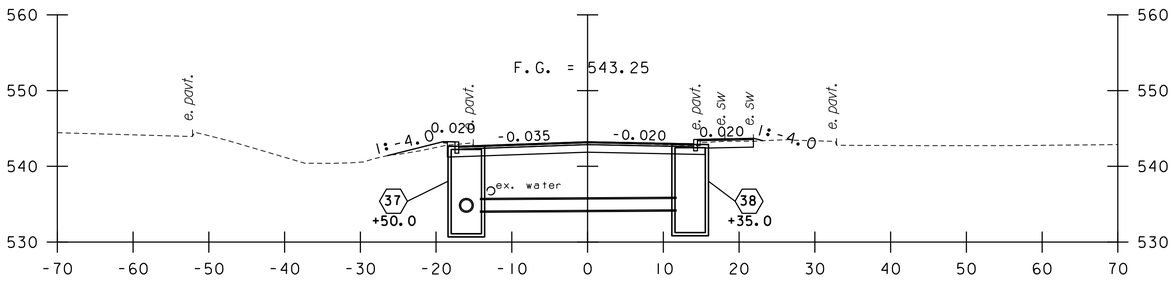
PROJECT NAME:	HARTFORD
PROJECT NUMBER:	STP 0113(59)S

FILE NAME: zc334xsl.dgn	PLOT DATE: 8/12/2019
PROJECT LEADER: S. IRELAND	DRAWN BY: M. LOVETT
DESIGNED BY: B. COLBURN	CHECKED BY: S. IRELAND
SYKES MOUNTAIN AVENUE CROSS SECTIONS	SHEET 92 OF 94



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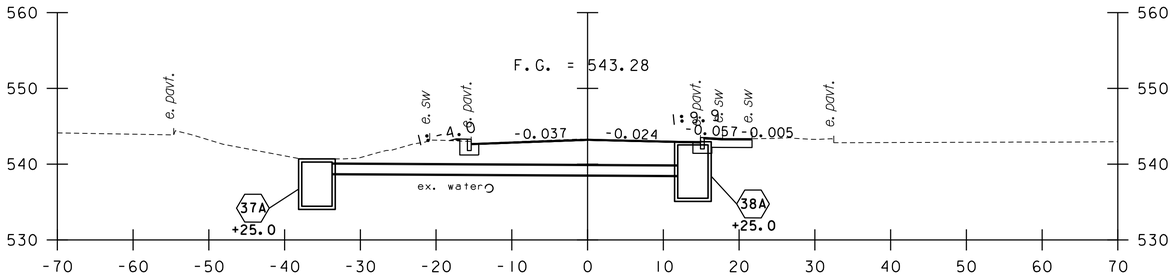
SEE SYKES MOUNTAIN AVENUE
CROSS SECTIONS



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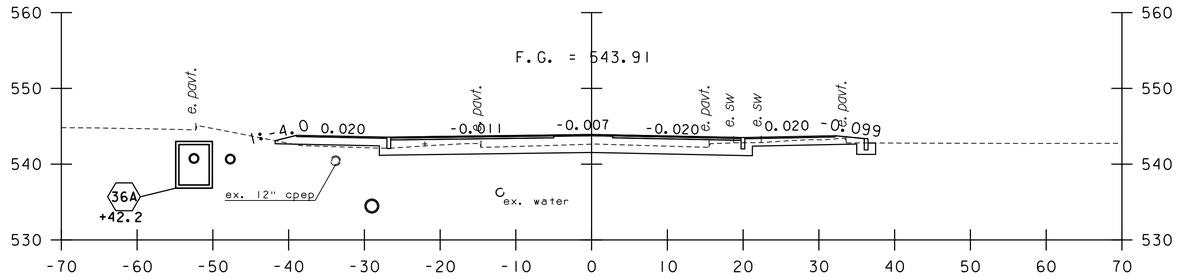

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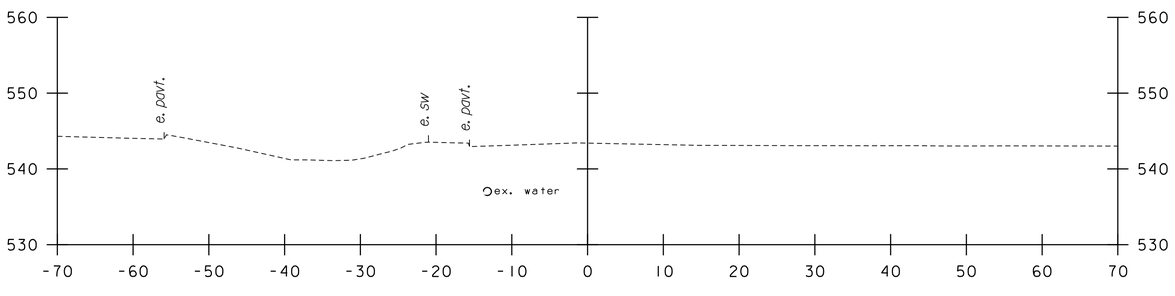

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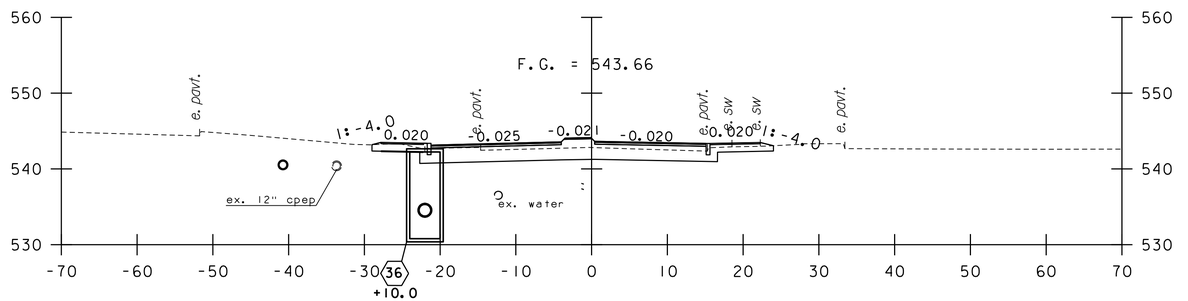

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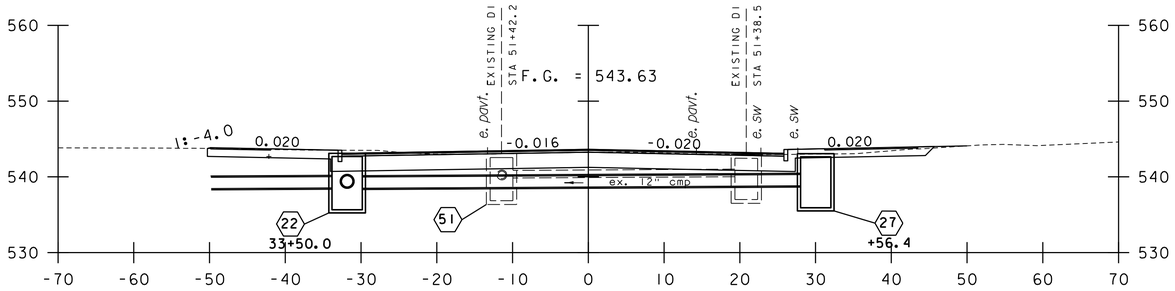
PROJECT NAME:	HARTFORD
PROJECT NUMBER:	STP 0331(59)S

FILE NAME: zc334xsl.dgn	PLOT DATE: 8/12/2019
PROJECT LEADER: S. IRELAND	DRAWN BY: M. LOVETT
DESIGNED BY: B. COLBURN	CHECKED BY: S. IRELAND
RALPH LEHMAN CROSS SECTIONS	SHEET 93 OF 94

SEE SYKES MOUNTAIN AVENUE
CROSS SECTIONS



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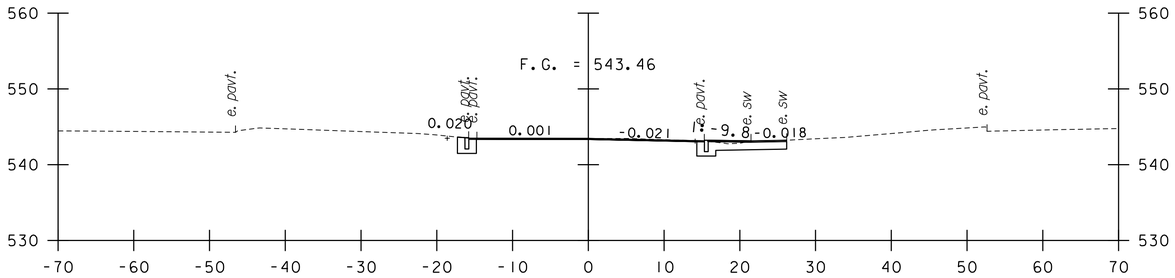

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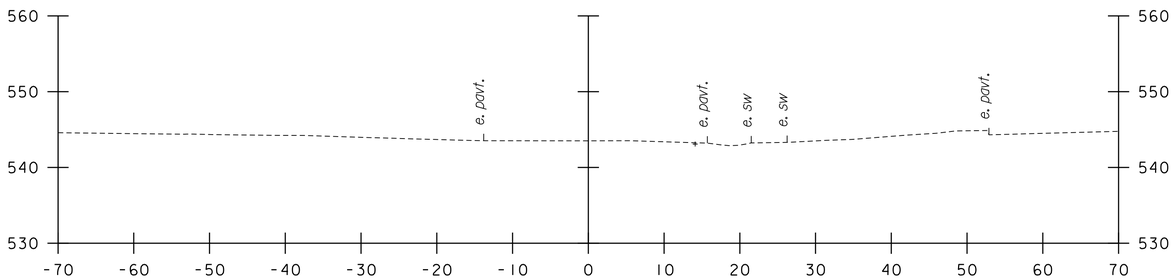

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PROJECT NAME:	HARTFORD
PROJECT NUMBER:	STP 0113(59)S
FILE NAME: zc334xsl.dgn	PLOT DATE: 8/12/2019
PROJECT LEADER: S. IRELAND	DRAWN BY: M. LOVETT
DESIGNED BY: B. COLBURN	CHECKED BY: S. IRELAND
BESWICK DRIVE CROSS SECTIONS	SHEET 94 OF 94

Traffic Management Plan Checklist

This form is to be used in conjunction with the Work Zone Safety & Mobility Guidance Document, dated August 2007 and the Work Zone Safety & Mobility Guidance Document Appendix A- Temporary Traffic Control Devices, dated May 2011.

Project Manager Steven Ireland

Project Name and Number STP 0113(59)S

■ Conceptual Design Phase

C1. *Classify Project:*

- ■ Significant - Major construction, high impacts on traffic both inside and outside project limits. Projects that on their own might be moderate could be significant in combination with concurrent projects in the vicinity.
- ☐ Moderate - Most projects, most traffic impact is localized within project limits.
- ☐ Minor – Mobile and short term operations, minimal impact to the traveling public.

Explanation (Use additional sheet(s) if necessary):

This project began in the 1990's and started its final design phase in 2006 before the implementation of this TMP Checklist and Manual. This is a municipally-managed project that predates the current requirements. The project team recognizes the need for traffic management within the project and is trying to balance the desire to meet current requirements against the schedule and budgetary constraints of this legacy project.

C2. *Identify necessary Traffic Management Plan Components:*

- ■ Temporary Traffic Control Plan (TCP required for all projects.)
- ■ Transportation Operation Component (TO) - Strategies to mitigate off-site impacts, required for significant projects, may be needed for moderate projects.
- ■ Public Information Component (PI) - Communications with public and property owners before and during construction, required for significant projects, may be beneficial for any project.

Explanation (Use additional sheet(s) if necessary):

As mentioned above, this project has been under design for many years, so the TMP was not included within the scope of work. A TCP was developed but additional requirements have forced revisions to the Phasing of Construction. The TO and PI components were not required at that time. The project does include temporary traffic signals and temporary signing that will change between traffic control phases. These items are TO components. In addition, the town's website will be used to inform the public about the project and it's impacts, and meetings have been held with all the adjacent property owners. These items are PI components.

■ Preliminary Design Phase

P1. *Verify Classification of Project – monitor the project and update as necessary:*

■ Significant ☐ Moderate ☐ Minor

Explanation (Use additional sheet(s) if necessary):

As mentioned above, this project began in the 1990's and started its final design phase in 2006 before the implementation of this TMP Checklist and Manual. This is a municipally-managed project that predates the current requirements. The project team recognizes the need for traffic management within the project and is trying to balance the desire to meet current requirements against the schedule and budgetary constraints of this legacy project.

P2. *Temporary Traffic Control Plan:*

■ Identify features which will require adjustments to E- and T-standards or current MUTCD Typical Applications (curves and other geometric constraints, commercial and residential driveways, intersecting roads, adjacent/concurrent projects, and special road users)

■ Determine feasible phasing for construction with regard to where and how traffic will be maintained.

■ Identify potential ROW or Environmental permitting needs associated with maintenance of traffic. (Specific limits will be needed for ROW Plans)

■ Monitor the project and proposed classification and update as necessary.

Explanation (Use additional sheet(s) if necessary):

As mentioned above, this project has been under design for many years. However, there do not appear to be any elements that require adjustment of any E- or T-standards. Neither the geometry, access points, or intersecting roadways create any problems that have not been addressed through the Construction Phasing Plans. Large truck turning radius for deliveries within the project limits have been reviewed and trucks have alternate routes that they can take to maneuver through the area. There is one concurrent project on I-89. Environmental permitting has been completed and ROW plans have been approved. The Town of Hartford is in negotiation with abutters to acquire the necessary ROW. The project plans are being finalized for bid in 2020.

P3. *Transportation Operations Component:*

■ Identify off-project impacts and determine whether off-project improvements are required to maintain traffic mobility. (This may include signalization improvements, pedestrian upgrades, paving, and/or widening. Improvements may be needed on official detour routes and also on major expected diversion routes if project is open to traffic but cannot handle ADT.)

■ Can impacts be mitigated by adjusting timing of project? (This could include night work, avoiding school terms, opening project to traffic during known high traffic events, or full road closure to expedite work.)

■ Consider whether special accommodations need to be made for emergency service access (Ambulance, Fire, and Police).

Explanation (Use additional sheet(s) if necessary):

The project limits have been well established for decades and potential concerns about traffic impacts to the Interstate ramp have been discussed. Impacts to traffic coming from the exit ramp from I-91 should be minimal. These impacts were discussed at length and it was decided that no off-project mitigation is needed or within the scope of this project. The project limits will not be changed. The project construction schedule has been compressed to 15 months starting in the Spring of 2020 and ending the following summer of 2021 for final paving, striping, and landscaping. We have explored the potential for night work and have determined that due to the hotel and nearby residential homes, night work should only be allowed for short term drainage or utility work or the final paving course. No special accommodations are required for emergency vehicles as access will be maintained throughout the project at all times.

P4. *Public Information Component:*

- [x] Identify stakeholders (emergency responders, municipalities, businesses, schools, property owners, etc.)
- [x] Can stakeholders be kept informed by Resident Engineer and Project Manager, or will there be enough information flow required to justify a public information officer (PIO)?

Explanation (Use additional sheet(s) if necessary):

Stake holders include:
Property Owners -
Town of Hartford
DuBois & King
VTrans
McFarland-Johnson Inc.

All stakeholders can be kept informed by the Resident Engineer during construction. A PIO is not required as the town or its representative will monitor construction and work with the abutters.

■ Final Design Phase

F1. *Verify Classification of Project – monitor the project and update as necessary:*

- [x] Significant
- [ ] Moderate
- [ ] Minor

Explanation (Use additional sheet(s) if necessary):

As mentioned above, this project began in the 1990's and started its final design phase in 2006 before the implementation of this TMP Checklist and Manual. This is a municipally-managed project that predates the current requirements. The project team recognizes the need for traffic management within the project and is trying to balance the desire to meet current requirements against the schedule and budgetary constraints of this legacy project.

F2. *Temporary Traffic Control Plan:*

- ■ Can anticipated users safely get from one side of the project to the other in a reasonable amount of time? (Bicycles, pedestrians, cars, trucks, emergency vehicles)
- ■ Is access to side roads, commercial drives, and residences accounted for?
- ■ Are workers adequately protected from traffic?
- ■ All projects: include traffic control notes specific to project needs, and applicable T-Standards (E- Standards). (For example, paving projects usually include a list of side roads requiring Road Work Ahead signs)
- ■ Projects where T-Standards (E-Standards) or current MUTCD Typical Applications do not account for site-specific conditions: include TCP layout sheets detailing sign placement and placement of other traffic control devices.
- ■ Project requiring phased construction: provide enough detail in the TCP layout sheets to demonstrate constructibility, that sufficient space exists to maintain traffic, and to develop quantities. (As defined at the Preliminary Plan Stage) Provide Traffic Control Notes specifying time/space constraints and other project-specific requirements.
- ■ Project requiring detour: Provide detailed detour sign locations, including affected existing signs that need to be covered or removed, consider whether different detours are applicable to trucks, cars, and bicycle/pedestrians. Cars may be able to use local routes not legal for trucks; bicycle/ pedestrians cannot be sent on miles of detour or on limited access roadways. (If ROW is required, these details should be addressed at Preliminary Plans stage.)
- ■ Project requiring night work: Requires Contractor to submit site-specific lighting plan.
- ■ Include necessary pay items in quantity sheet (temporary markings, pavement marking removal/ replacement, RPMs and/or LSTs, barriers and attenuators, TMAs, arrow boards, PCMS, Flaggers, UTOs, etc.)

Explanation (Use additional sheet(s) if necessary):

1. The project will require that at least one travel lane remain open in each direction at all times, as well as providing left turn lanes at the existing traffic signal. Motor vehicles and bicycles will be able to safely travel through the project. The current limits of the project have small portions of formalized sidewalks that do not connect to any sidewalk system. Currently any pedestrians would walk on the shoulder, although there is no evidence that they are using the grassed areas adjacent to the roadway. Pedestrian accommodations have been noted in the TMP.

2. The contractor is required to maintain access to all side roads and driveways during construction.

3. Concrete barrier is proposed for separation of pedestrians and motor vehicles, additionally sufficient buffer areas are provided wherever practicable.

4. Traffic control notes specific to this project are provided, as well as references to standard drawings and traffic signs are required on the US 5, Sykes Mountain Avenue and the side roads.

5. Phased construction is indicated in the TMP.

6. No detour is required and night work is not generally required to construct the project, except in select locations; for instance during the construction of drainage or utility crossings or to avoid impacts to driveways for short time periods.

F3. *Transportation Operations Component:*

- [x] Include plan sheets detailing off-site improvements.
- [x] Document other mitigation strategies as appropriate (as traffic control plan notes, special provisions, agreements with municipalities, etc.)

Explanation (Use additional sheet(s) if necessary):

Temporary off-site improvements are included within this project , specifically the use of Temporary signals and the temporary removal of median islands. Traffic control notes focus on the constraints that the contractor will be required to adhere to. The town, through its consultant, will be administering the project and will work with the contractor to adjust the traffic control as needed to move traffic as smoothly as possible throughout the duration of the project.

F4. *Public Information Component:*

- [x] Include PIO in Quantities if needed. (Document expectations in special provisions)

Explanation (Use additional sheet(s) if necessary):

Any public information components will be handled by the project team during construction. DuBois & King have discussed the potential of utilizing a public information officer for the project. The project team is weighing that decision and will make a final decision after the ROW negotiations are complete. The ROW negotiations will provide the team with better insight if a public information officer is necessary or if the resident engineer can fulfill this need. It is anticipated that a PIO will be useful and hired for the project prior to construction.

▣ Supporting Documentation

Provide the file location for supporting documents:

The TMP document is attached.

Traffic Management Plan

FOR

Hartford STP 0113(59)S

Roundabouts on US Route 5 and Sykes Mountain Avenue

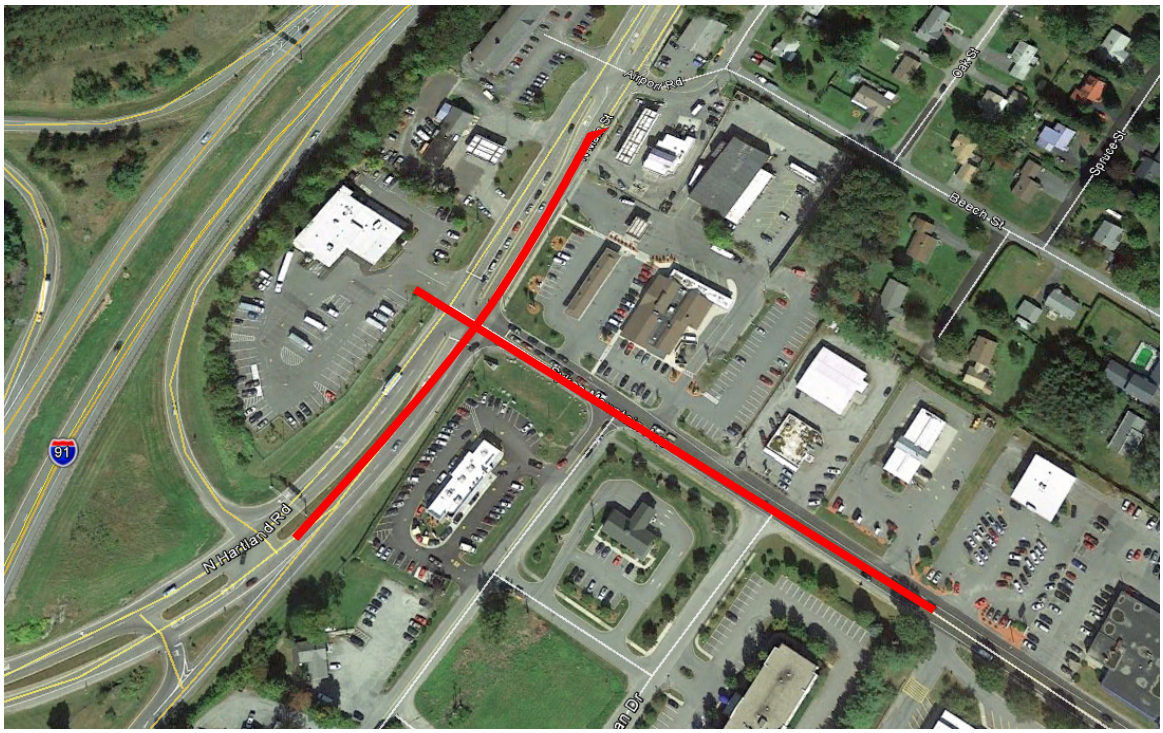
August 12, 2019

This TMP and the information contained herein is for informational purposes only and has been developed for use by the Contractor in the development of any required site-specific traffic control plan. The information as contained in the TMP should not be considered "all inclusive" of conditions or scenarios that will be encountered on site during construction operations. Rather, it should be used in conjunction with all other contract plans, specifications, permits and other requirements when preparing any site-specific traffic control plan.

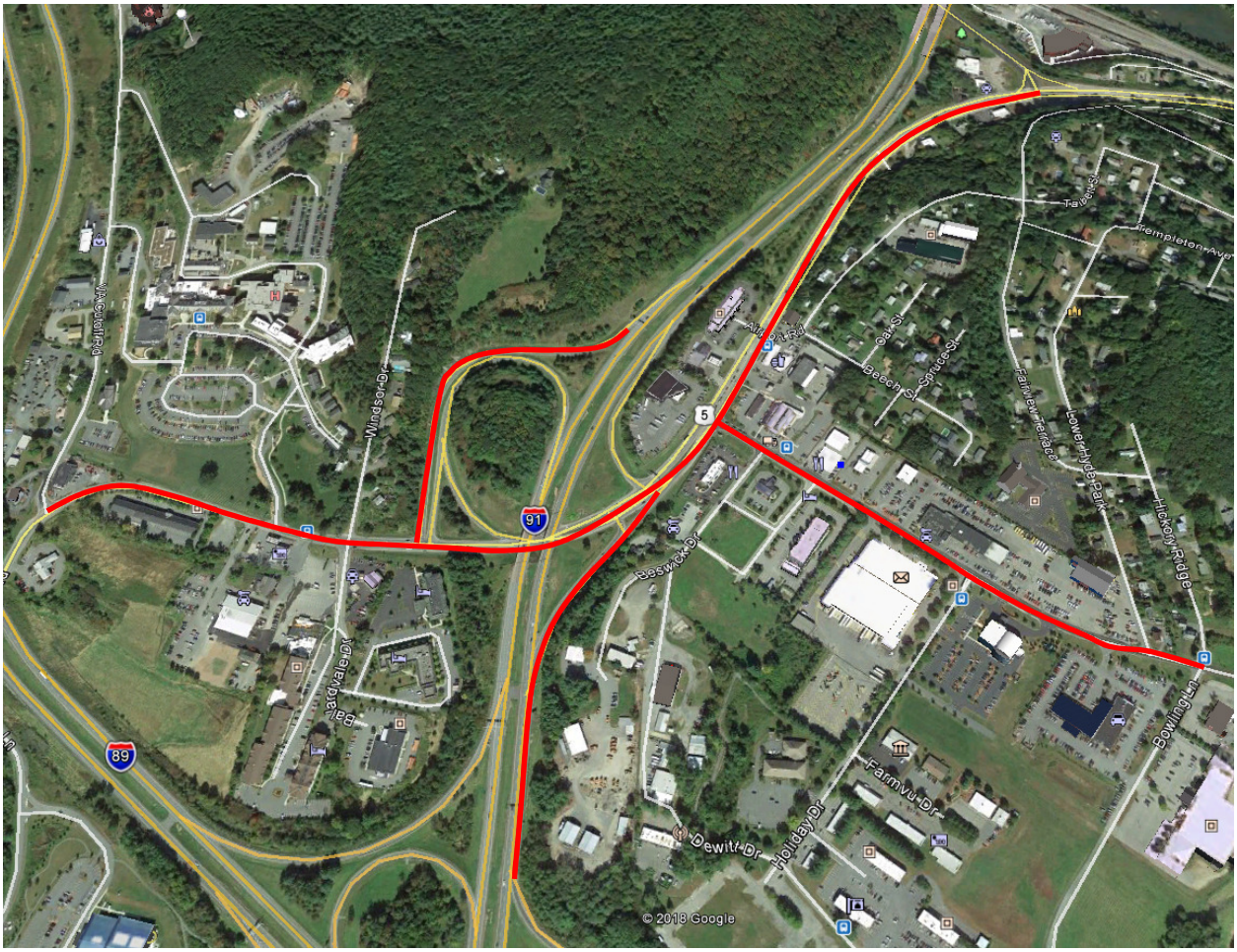
Table of Contents

1.0 Project Description

- Project location.
    - The project begins on US Route 5 approximately 400 feet south of the intersection with Sykes Mountain Avenue and continues north for about 800 feet. The project also extends from the intersection along Sykes Mountain Avenue approximately 800 feet. Roundabouts are to be constructed at the intersection of US Route 5/Sykes Mountain Avenue and the intersection of Sykes Mountain Avenue/Ralph Lehman Drive. Also included in the project is approach work on Beswick Drive and Ralph Lehman Drive, accommodations for bicycle and pedestrians, drainage, and the construction of raised median islands.



- Work zone limits



  - The work zone limits along US Route 5 begin at the intersection of the VA Cuttoff Rd and continue to the intersection of US Route 4.
  - The work zone limits for Sykes Mountain Avenue begin at the intersection of US Route 5 and continue to the intersection of Bowling Lane.
  - The work zone on I-91 includes the off ramps to US Route 5 and extend to the I-89 North off Ramp to I-91 North.
- Project background information.
  - To address concerns about the capacity of the existing US Route 5/Sykes Mountain Avenue intersection, a scoping study was initiated to evaluate alternatives for improving the capacity of the intersection. Following the completion of the scoping study, the Agency of Transportation was asked to reevaluate the project by adding roundabouts with a raised median island along Sykes Mountain Avenue. The roundabout alternative was approved, and the design was progressed.
  - Work to be performed under this project includes the construction of two (2) new roundabouts at the intersections of US Route 5 with Sykes Mountain

Avenue and Sykes Mountain Avenue with Ralph Lehman Drive, shared use path for the accommodation of pedestrians and bicycles, street lighting, drainage, median islands and new landscaping.

- Overview of roadways directly affected by the project work zones.
    - Work will extend varying lengths down each side road within the project limits, as shown on the contract plans. This work is limited to the side roads off of Sykes Mountain Avenue and include Beswick Drive and Ralph Lehman Drive. There are no side roads within the project limits on US Route 5.
- Overview of driveways directly affected by the project.
    - Work will extend varying lengths into each driveway within the project limits. Each driveway is unique, and the Contractor shall consult the plans, specifications and right-of-way agreements for specific information regarding impacts to each driveway.
    - In general, the Contractor shall maintain access to each business during all working hours unless prior approval is obtained from **BOTH** the business owner/operator and the Resident Engineer.
    - The Contractor is encouraged to make regular contact with the Public Information Officer and the Business Owners to keep them appraised of the weekly construction operations schedule and potential impacts to traffic and customers.
- Specific traffic restrictions expected on major roadways during the work.
    - Traffic restrictions expected during construction include lane shifts, lane closures, restriction of turning movements and shoulder closures.
    - In general, the Contractor shall maintain a minimum of two (2) lanes of traffic (one in each direction) on both Sykes Mountain Avenue and US Route 5 during major construction.
    - Left turn lanes at the intersection of US Route 5 and Sykes Mountain Avenue from all directions, must be maintained in addition to the thru lane in each direction on US Route 5 and a right turn lane on Sykes Mountain Avenue unless and until the traffic flow has been altered to that of a roundabout.
    - The Contractor may hold traffic for up to 10 minutes in a one-hour period during non-peak traffic hours for the purpose of wearing course paving, striping and other activities with prior approval of the Resident Engineer. Peak hours of traffic volumes are assumed to be between 7 am and 10 am and 4 pm and 7 pm. The Contractor shall inform the Public Information Officer and Resident Engineer a minimum of one (1) day in advance of these anticipated stoppages of traffic.
- Other projects that may impact this project.
    - Lebanon – Hartford I-89 Bridge replacement. This project is anticipated to detour some I-89 ramp traffic through the project limits at night in the second year of its construction (anticipated to be 2021).

- Anticipated construction schedule
    - Target construction schedule: Construction activities are anticipated to begin in the spring of 2020 with major construction taking place during the summer and fall of 2020 and spring of 2021. Minor construction activities (including final placement of final wearing course, striping and landscaping) are anticipated to be completed in the summer of 2021.

2.0 TMP Team – Contact Information

Defining the roles and responsibilities from the initial stages of the project helps to coordinate all the activities related to the TMP development, implementation, and monitoring. This section includes contact information and roles and responsibilities for major personnel involved in the project.

- **TMP Development Managers –** Agency/Municipality/Contractor personnel who have the primary responsibility for reviewing and approving the TMP.
- **TMP Implementation Task Leaders –** Agency/Municipality/Contractor personnel who manage, complete, oversee, or assist in specific transportation management tasks (examples include: temporary traffic control inspector/supervisor, resident engineer, public information officer, etc.) during the work.
- **Emergency Contacts –** Public or semi-public agencies (examples include: hospitals, schools, Hartford Public Works, etc.) that need to be kept informed about work zone activities that limit or restrict travel through the project and especially in the case of a road or business closure.
    - **Town of Hartford VT Town Manager –** Brannon Godfrey (802-295-9353, bgodfrey@hartford-vt.org)
    - **Town of Hartford Public Works Director –** Hannah Tyler (802-295-3622, htyler@hartford-vt.org)
    - **Dartmouth Hitchcock Medical Center –** (603-650-5000)
    - **US Department of Veterans Affairs Medical Center –** (802-295-9363)
    - **Hartford School District Superintendent –** Tom DeBalsi (802-295-8600, debalsit@hartfordschools.net)
    - **Hartford Fire Department Chief –** Scott Cooney (802-295-3232, fire@hartford-vt.org)
    - **Hartford Police Chief –** Philip Kasten (non-emergency 802-295-9425) pkasten@hartfrod-vt.org

Contact information and roles and responsibilities of major personnel involved in the project (These tables are to be modified as personnel change during the project).

TMP Development Managers			
Group:	Consultant		Town of Hartford
Name/Title:	Steven Ireland, P.E. / Project Manager	Name/Title:	Hannah Tyler / Director of Public Works
Other Info:	McFarland Johnson	Other Info:	Town of Hartford
Phone:	603-225-2978	Phone:	802-295-3622
Email:	sireland@mjinc.com	Email:	htyler@hartford-vt.org
Group:	Consultant		VTrans
Name/Title:	Darren Benoit, P.E. / MPM	Name/Title:	Scott Robertson, P.E. / PM
Other Info:	DuBois & King	Other Info:	VTrans
Phone:	802-728-3376	Phone:	802-793-2395
Email:	dbenoit@dubois-king.com	Email:	scott.robertson@vermont.gov

Roles and Responsibilities: Review and approval of the Traffic Management Plan prepared by the Contractor.

TMP Implementation Task Leaders			
Group:	Consultant		Agency
Name/Title:	TBD / Resident Engineer	Name/Title:	Hannah Tyler / Director of Public Works
Other Info:		Other Info:	Town of Hartford
Phone:		Phone:	802-295-3622
Email:		Email:	htyler@hartford-vt.org
Name/Title:	TBD / Public Information Officer	Name/Title:	
Other Info:		Other Info:	
Phone:		Phone:	
Email:		Email:	

Roles and Responsibilities: Overseeing traffic management tasks on-site while construction activities are being executed.

TMP Emergency Service Contacts			
Group:	Fire / EMS		Police
Name/Title:	Scott D. Cooney / Fire Chief	Name/Title:	Phillip Kasten / Chief of Police
Other Info:		Other Info:	
Phone:	911 non-emergency 802-295-3232	Phone:	911 non-emergency 802-295-9425
Email:	scooney@hartford-vt.org	Email:	pkasten@hartford-vt.org

Roles and Responsibilities: Provide emergency response services as required.

Contractor			
Group:	Contractor		Superintendent
Name/Title:	TBD	Name/Title:	TBD
Other Info:	TBD	Other Info:	TBD
Phone:	TBD	Phone:	TBD
Email:	TBD	Email:	TBD
Roles and Responsibilities: Prepare and execute the Traffic Management Plan that addresses site specific vehicular and pedestrian mobility needs. Actively engage the emergency response personnel when the project is about to be advanced in a manner that could impact their operations or ability to serve the people.			
	Contractor's Competent Person		Contractor's Safety Officer
Name/Title:	TBD	Name/Title:	TBD
Other Info:	TBD	Other Info:	TBD
Phone:	TBD	Phone:	TBD
Email:	TBD	Email:	TBD

Roles and Responsibilities: Points of contact for concerns raised after the Traffic Management Plan is implemented and the Contractor's Superintendent is not available.

3.0 Preliminary Work Zone Impact Assessment

This Preliminary assessment of the work zone has been performed to help identify issues or uncover problem areas that should be considered during project development. However, the information contained herein is for informational purposes only and has been developed for use by the Contractor in the development of any required site-specific traffic control plan. The information as contained in the TMP should not be considered "all inclusive" of conditions or scenarios that will be encountered on site during construction operations. Rather, it should be used in conjunction with all other contract plans, specifications and other requirements when preparing any site-specific traffic control plan.

- **Does the project include a long-term closure and/or extended weekend closure?**
    - No. Due to the businesses in the area a long-term closure is not possible. A night time closure/detour may be acceptable for a night or two to complete the final wearing course of pavement. The Contractor shall obtain approval from the Resident Engineer prior to implementing any such night time closure or detour. Coordination with the Lebanon – Hartford I-89 project may require additional approvals depending on the date and times of such traffic control.
- **Can traffic be detoured?**
    - No. While "Thru" traffic on US Route 5 might be able to detour around the project limits it would be impractical to sign a partial detour route for "Thru" traffic when drivers unfamiliar with the area would be reluctant to know if they are "Thru" traffic or not. Additionally, removing traffic from the project limits may adversely impact businesses further.
    - The Town of Hartford is opposed to detouring traffic without first improving the existing Town roads proposed to be included as the detour route. Any request by the Contractor to alter this requirement shall include necessary improvements to local roads.
- **Is the existing shoulder sufficient to support traffic during construction?**
    - No. The existing shoulders are narrow with severely damaged pavement that can not support traffic.
    - Once a proposed shoulder has been constructed it may be used as part of a traffic shift during various phases of construction. The contractor is cautioned to verify that shifted traffic utilizing the proposed shoulder can safely navigate turning movements into and out of businesses and side roads.
- **Are there pedestrian/bicycle facilities that must be maintained?**
    - Yes. The intent of the construction phasing plans within the TMP is to provide pedestrian access the length of the project along US Route 5 and Sykes Mountain Avenue during all phases of construction. Temporary pedestrian accommodations have been shown in Phase 1A and continued throughout the duration of the project. As the permanent pedestrian facilities are constructed they are to remain in place and open to pedestrians during construction.

- A pedestrian traffic control plan will need to be developed by the contractor.
- It is anticipated that bicycles will ride in the lane with cars and take the full width of the lane through the project limits during construction.

- **Will temporary drainage structures be required?**
  - No.
- **Will traffic control extend onto Interstate 91 or Interstate 89?**
  - Yes. Traffic control signage is anticipated to extend onto Interstate 91 and may extend onto Interstate 89 if required by the Contractor's site-specific traffic control plan.
  - No physical changes to the traffic patterns, lane widths, lane locations, speed limits or use of median crossovers are anticipated.
- **Are there any railroad crossings within the project limits?**
  - No.
- **Does it appear that maintaining traffic will require additional right-of-way?**
  - No. Additional right-of-way beyond what is shown on the plans is not anticipated and if required due to the Contractor's means and methods must be secured by the Contractor.
- **Could maintenance of traffic have impacts on existing or proposed utilities?**
  - Existing gas and water valves should be adjusted during construction in a manner to minimize traffic impacts.
  - Proposed water line and sewer work should be conducted during the appropriate phase of construction so as not to construct those utilities under live traffic conditions whenever possible.
  - The existing signal components, span wire and poles will need to be relocated or replaced for multiple phases of construction to maintain traffic and construct the proposed roadway. If the contractor elects to relocate existing signal components, span wire, or poles uniformed traffic officers shall be utilized to control the intersection while the signals are not in operation. This operation should be sufficiently detailed in the site-specific traffic control plan produced by the Contractor to ensure a smooth transition for traffic from one phase of construction to another.
  - The Contractor shall coordinate the relocation of the new utility pole at approximately Station 34+56, Right 33 ft prior to completing construction on the south side of Sykes Mountain Avenue.
  - The Contractor shall re-confirm with Consolidated Communications that the underground telephone line shown through the detention basin is in fact abandoned and can be removed as needed by the Contractor. The Contractor is advised to use extreme caution while installing the guardrail in the vicinity of the detention basin. The underground telephone line running parallel to US 5 is fiber optic and provides connectivity to thousands of customers in the area. Damage to this line would take significant time to repair and be extremely costly. Installation of this guardrail may require an extended lane shift for hand digging of guardrail posts dependent on the dig safe location of the underground telephone.

- **Can the contractor restrict the roadway throughout the duration of construction?**
    - The contractor may reduce the total travel lanes through the project limits to the following minimums:
        - US Route 5 northbound: one (1) through lane and one (1) left turn lane at the intersection of Sykes Mountain Avenue.
        - US Route 5 southbound: one (1) through lane and one (1) left turn lane at the intersection of Sykes Mountain Avenue.
        - Sykes Mountain Avenue eastbound: one (1) through lane
        - Sykes Mountain Avenue westbound: one (1) through lane and one (1) left turn lane at the intersection of US Route 5.
    - Additional restrictions must be approved by the Resident Engineer, coordinated with the Public Information Officer and may only occur during non-peak traffic hours (typically between 9am and 3pm or 8pm and 6am). Restrictions of this nature shall be detailed in the Contractor's site specific traffic control plan.
    - At no time shall the Contractor restrict traffic on I-91 or I-89.
    - The Contractor shall monitor queue lengths of traffic in key locations and adjust signal timing and operations as necessary to prevent excessive queues. Key locations have been determined based on traffic simulations. Temporary signal timings for the I-91 North off ramp and US 5 intersection are provided in this TMP as a starting point for the Contractor. Adjustments to the signal timings are the responsibility of the Contractor during construction and may be necessary to control queue lengths in the following key locations:
        - I-91 North off ramp to US 5 – Maximum queue length 600 feet from the temporary signalized intersection with US 5. This maximum queue length approximates existing operational conditions of the off-ramp under stop sign control. Increasing this queue length would increase the likelihood of traffic backing up onto I-91 Northbound resulting in a stop condition on I-91.
        - I-91 South off ramp to US 5 - Maximum queue length 700 feet from the stop-controlled intersection with US 5. Traffic simulations predict the maximum queue length to be approximately 400 feet in the PM condition. If the Contractor observes queue lengths greater than 700 feet Uniformed Traffic Officers or a temporary signal may be required to prevent queue lengths from growing to the point they reach the interstate.
        - US 5 North – Maximum queue length 800 feet from the temporary signalized intersection of US 5 and I-91 North Off Ramp. Queue lengths that block this intersection could significantly impact the queue lengths on the I-91 South off ramp.
        - US 5 South – Maximum queue length 800 feet from the intersection of Airport Rd and US 5.
        - Sykes Mountain Ave West – Maximum queue length 800 feet from the intersection of Sykes Mountain Ave and US 5 (this is approximately the intersection of Sykes Mountain Ave and Bowling Lane).

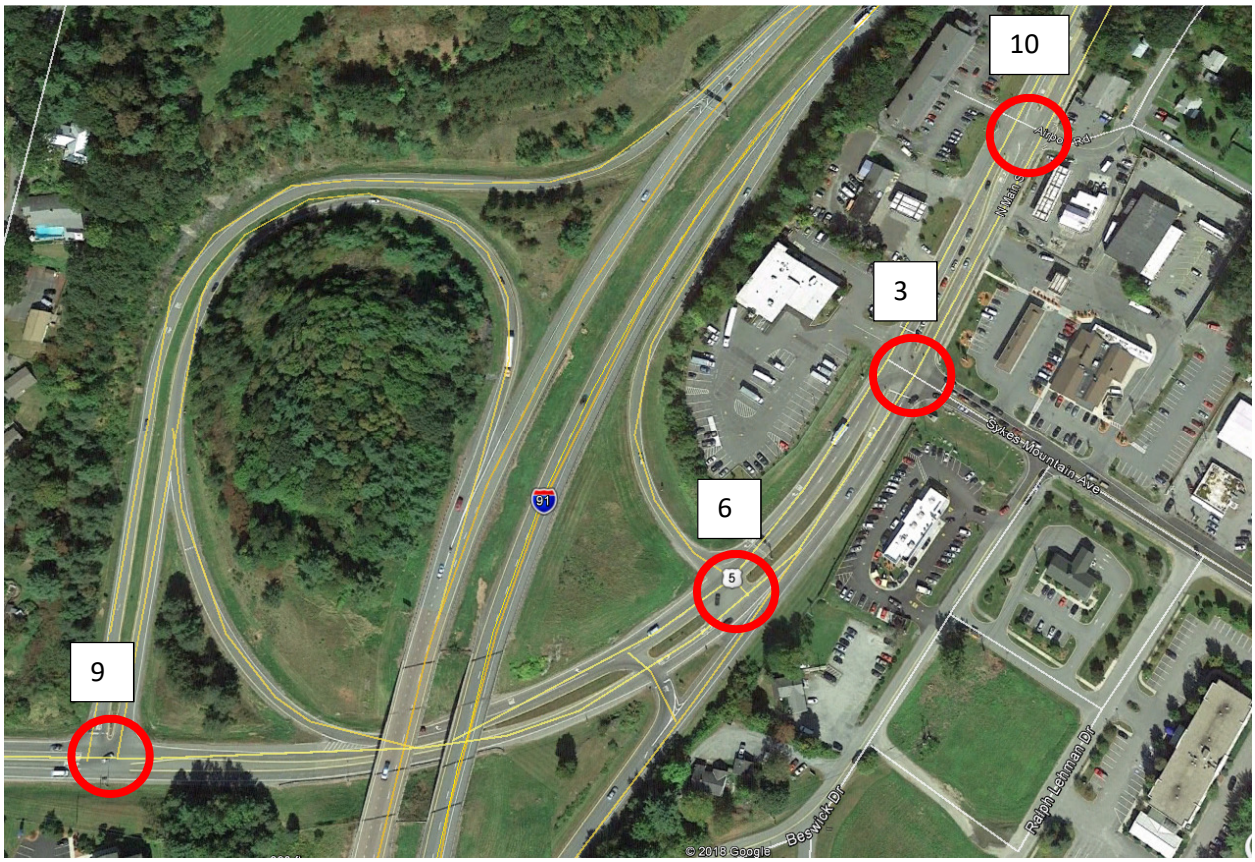
- Overnight (8pm to 6 am) the Contractor may include additional lane closures in their site-specific traffic control plan for the approval of the Resident Engineer.
- On Holidays and weekends construction activities shall not restrict the roadway beyond the total travel lane minimums listed above in this section.

- **Will the project timing be affected by special events:**
  - Due to the multi-year duration of the project, special events in the Town of Hartford will occur during construction. the Contractor shall coordinate traffic restrictions with the Public Information Officer and Resident Engineer to minimize impacts to events of this nature.
  - School bus routes are anticipated to be affected by increased delay through the project limits. Anticipated delays shall be coordinated with the school superintendent and the Public Information Officer.
  - Holidays are anticipated to have increased traffic volumes and the Contractor should anticipate not working a day prior to the holiday and a day following the holiday for the holidays listed:
    - Memorial Day
    - Independence Day
    - Labor Day
    - Thanksgiving
    - Christmas
- **Is winter construction anticipated:**
  - No, the Contractor may choose to work through the winter dependent on weather conditions providing they can meet all material placement requirements within the plans and specifications. The minimum lane requirements stated previously must be maintained on a paved surface at all times during winter construction.
- **Are there any projects to be considered in the region:**
  - The Lebanon – Hartford I-89 Bridge replacement project will significantly affect the traffic patterns in the area. The Contractor shall coordinate their site-specific traffic control plan with this project and provide contact information as requested by the Lebanon – Hartford I-89 bridge replacement project.
- **Roadwork in the immediate area that may affect traffic or the Contractor's operations:**
  - There is no specific road work or developments known that will affect the Contractor's operations. The Contractor is advised that Sykes Mountain Avenue has seen recent growth and additional commercial growth is anticipated. This growth is not specifically known at this time and may be included at a later update of the TMP.

4.0 Existing Conditions

This section provides an overview of the existing conditions within the study area. The existing conditions generally include:

- **Roadway characteristics (history, number of lanes).**
  - US 5 – maintained by VTrans, two (2) thru lanes in each direction with additional turning lanes at significant intersections.
  - Sykes Mountain Avenue – maintained by the Town of Hartford, one (1) lane in each direction with a left turning lane at the US 5 signalized intersection.
  - Beswick Drive – maintained by the Town of Hartford, one (1) lane in each direction
  - Ralph Lehman Drive – private road (owned by Hartford Land Co.), one (1) lane in each direction
- **Historical traffic data (volumes, queue lengths, peak hours).**
  - See Appendix B for peak hour volumes of key locations. The picture below indicates four key intersections from which queue lengths must be monitored by the Contractor. The intersection numbers correspond to the intersection numbers for the traffic simulations.



- Existing queue lengths have been developed by traffic simulations and confirmed by observation at key locations as shown below. See Appendix C for traffic simulation queue lengths
    - AM conditions:
        - I-91 North off ramp to US 5 – Maximum queue length 1162 feet from the stop-controlled intersection with US 5.
        - I-91 South off ramp to US 5 - Maximum queue length 177 feet from the stop-controlled intersection with US 5.
        - US 5 North – Maximum queue length 21 feet from the stop-controlled intersection with I-91 North off ramp.
        - US 5 South – Maximum queue length 56 feet from the intersection of Airport Road and US 5.
        - Sykes Mountain Avenue Westbound – Maximum queue length 157 feet from the intersection with US 5.

Table 1; AM TMP queue length (ft) comparison:

Key Location:	Key Intersection	Existing queue	Simulated TCP queue	Maximum queue allowed
I-91 North off ramp	6	1162	299	600
I-91 South off ramp	9	177	120	700
US 5 North	6	21	182	800
US 5 South	10	56	31	800
Sykes Mountain Ave	3	157	187	800

- PM conditions:
    - I-91 North off ramp to US 5 – Maximum queue length 283 feet from the stop-controlled intersection with US 5.
    - I-91 South off ramp to US 5 - Maximum queue length 263 feet from the stop-controlled intersection with US 5.
    - US 5 North – Maximum queue length 137 feet from the stop-controlled intersection with I-91 North off ramp.
    - US 5 South – Maximum queue length 241 feet from the intersection of Airport Road and US 5.
    - Sykes Mountain Avenue Westbound – Maximum queue length 416 feet from the intersection with US 5.

Table 2; PM TMP queue length (ft) comparison:

Key Location:	Key Intersection	Existing queue	Simulated TCP queue	Maximum queue allowed
I-91 North off ramp	6	283	352	600
I-91 South off ramp	9	263	390	700
US 5 North	6	77	290	800
US 5 South	10	55	52	800
Sykes Mountain Ave	3	160	232	800

- **Traffic Operations (signal timings).**
  - Signal Timing charts for Sykes Mountain Ave and US 5: See Appendix D.
  - Signal Timing charts for I-91 North off ramp and US 5: See Appendix D.
- **Crash Data.**
  - The intersection of Sykes Mountain Avenue and US 5 is a high crash location per the VTrans High Crash Location Report. Current crash data may be obtained from the VTrans web site at: http://apps.vtrans.vermont.gov/CrashPublicQueryTool/
  - The intersection of Beswick Drive and Sykes Mountain Avenue has numerous crashes related to left turning movements. Current crash data may be obtained from the VTrans web site at: http://apps.vtrans.vermont.gov/CrashPublicQueryTool/
- **Pedestrian/bicycle facilities.**
  - There are existing sidewalks on US 5 between Airport Road and Sykes Mountain Avenue and on Sykes Mountain Avenue between Beswick Drive and Ralph Lehman Drive.
  - The TMP has been created to provide pedestrian access on at least one side of US 5 and Sykes Mountain Avenue as soon as possible from the start of construction and throughout the entire construction timeline. The Contractor's site-specific traffic control plan is required to provide the same or better access as show in the TMP plans throughout the duration of construction.
  - Bicyclists are anticipated to travel through the project limits sharing the travel lane with cars and trucks.
  - The Contractor's site-specific traffic control plan shall include ADA compliant temporary pedestrian facilities if existing or previously built facilities are temporarily closed during construction due to the Contractor's means and methods.
- **Transit facilities.**
  - Green Mountain Transit (GMT) bus stops is located on Sykes Mountain Avenue at approximately Sta 34+00 Lt. The Contractor shall coordinate with GMT during construction to maintain access to the bus stop.
- **Truck routes.**
  - Truck traffic will remain on the project roadways during construction.
  - The Contractor is advised that approximately twice per week a very large truck travels through the project limits carrying a pre-fabricated home. The Contractor shall coordinate with the Public Information Officer and Dale Snyder of Dale's Homes Inc. (1-802-295-7216) to provide access.

- **Local community and business concerns /issues.**
    - Emergency service vehicles shall always be allowed access through the project limits.
    - Access to local businesses shall always be maintained unless prior approval is obtained from the business owner/operator and the Resident Engineer. The Contractor shall coordinate any such action with the Public Information Officer.
    - Local business open signs shall be placed by the Contractor to appropriately direct the traveling public through construction areas into the driveways of all open businesses. These signs shall be coordinated through the Public Information Officer and Resident Engineer.

5.0 Work Zone Impact Management Strategies

This section provides an overview of various strategies deployed to improve the safety and mobility of work zones and reduce the work zone impacts on the road users, community, and businesses.

The strategies are grouped according to the following three (3) categories:

1. Temporary Traffic Control (TTC)
2. Transportation Operations (TO)
3. Public Information and Outreach (PI&O)

5.1 Temporary Traffic Control (TTC)

A TTC plan describes temporary traffic control measures to be used for facilitating road users through a work zone or incident area. The TTC plan plays a vital role in providing continuity of reasonably safe and efficient road user flow and highway worker safety when a work zone, incident or other event temporarily disrupts normal road user flow. The TTC plan shall be consistent with the provisions of the Manual on Uniform Traffic Control Devices (MUTCD) and the AASHTO Roadside Design Guide.

Typical applications from the latest edition of the MUTCD shall be used to facilitate road users through the work zone. These typical applications can be found in Part 6 of the MUTCD, Temporary Traffic Control. Proper use of these methods shall be used to ensure a safe and efficient road user flow and highway worker safety when a work zone, incident, or other event temporarily disrupts normal road user flow. The Typical Applications provided below should not be considered “all inclusive” of conditions or scenarios that will be encountered on site during construction operations.

MUTCD Typical Applications recommended for this project include:

- Typical Application 3 – Work on the Shoulders
- Typical Application 4 – Short Duration or Mobile Operation on a Shoulder
- Typical Application 6 – Shoulder Work with Minor Encroachment
- Typical Application 10 – Lane Closure on a Two-Lane Road Using Flaggers
- Typical Application 12 – Lane Closure on a Two-Lane Road Using Traffic Control Signals
- Typical Application 15 – Work in the Center of a Road with Low Traffic Volumes
- Typical Application 21 – Lane Closure on the Near Side of an Intersection
- Typical Application 22 – Right-Hand Lane Closure on the Far Side of an Intersection
- Typical Application 26 – Closure in the Center of an Intersection
- Typical Application 27 – Closure at the Side of an Intersection
- Typical Application 28 – Sidewalk Detour or Diversion

- Typical Application 29 – Crosswalk Closures and Pedestrian Detours
- Typical Application 30 – Interior Lane Closure on a Multi-Lane Street
- Typical Application 34 – Lane Closure with a Temporary Traffic Barrier

These typical applications are not the intended to be the only traffic control applications that are available to the Contractor. The Contractor shall develop site-specific traffic control plans.

Temporary traffic control strategies recommended for use:

- Construction phasing/staging
- Lane shifts or short-term closures during off peak hours
- One-lane, two-way controlled operation
- Night work
- Weekend work
- Work hour restrictions for peak travel
- Pedestrian/bicycle access improvements
- Business access improvements

Traffic control devices recommended for use:

- Temporary signs
- Arrow Boards
- Portable changeable message signs
- Channelizing devices
- Temporary pavement markings
- Flaggers and Uniformed Traffic Officers (UTO's)
- Temporary traffic signals
- Portable concrete barrier
- Temporary impact attenuators
- Temporary/portable lighting devices

Project coordination strategies:

- Other area projects
- Utilities
- Right-of-way
- Public transit
- Local Businesses
- Public Information Officer

5.2 Transportation Operations (TO)

The TO component shall include the identification of strategies to mitigate impacts of the work zone on the operation of the transportation system within the work zone impact area. The work

zone impact area consists of the immediate work zone as well as the affects to the surrounding roadways and communities.

Additional information can be acquired from the "Workzone Safety and Mobility Guidance Document"

http://vtransengineering.vermont.gov/sites/aot_program_development/files/documents/publications/WorkZoneSafetyMobilityGuidanceDocument.pdf

and the "Workzone Safety and Mobility Guidance Document – Appendix A Temporary Traffic Control Devices"

http://vtransengineering.vermont.gov/sites/aot_program_development/files/documents/publications/WorkZoneSafetyMobility%20Appendix%20A%20%20Temp.%20Traffic%20Control%20Devices%209-12.pdf

TO management strategies recommended for use:

- Variable work hours
- Signal timing/coordination improvements
- Temporary traffic signals
- Construction safety supervisors/inspectors
- Monitoring traffic queue lengths
- Monitoring road user flow
- Media coordination
- Incident/Emergency management coordination
- Incident/Emergency response plan
- Cooperative police enforcement
- Increased penalties for work zone violations

The Contractor shall develop a contingency plan that addresses specific actions that will be taken to restore or minimize impacts on traffic when the congestion or delay exceeds original estimates due to unforeseen events. This includes work zone crashes, traffic volumes higher than predicted, delayed pick up of lane closures, etc.

The contingency/incident management plan shall include a collaborative effort with the emergency response and public safety community. Development of such a plan is crucial in the early phases to properly integrate the concerns of the first responder personnel. The Contractor shall include key components, such as the following six items, in developing the plan.

- Incident Detection and Verification
- Incident Classification and Response
- Site Management
- Site Clearance
- Motorist Information
- Evaluation

5.3 Public Information and Outreach (PI&O)

Public Information and Outreach can be important for the success of all projects. This project will create an impact on travelers, businesses, residents, and truckers. Properly informing these stakeholders of what to expect during construction will ensure proper public support and reduce problems during construction. It is important to be upfront and clear on the impacts that this project will have on the community, and as such the following measures are recommended:

- Social Media to inform the public
- The Town of Hartford, VT website
- Fact Sheets
- Business concerns/issues

Public awareness strategies recommended for use:

- Press kits
- Brochures and mailers
- Press releases/media alerts
- Project information center
- Project website – possibly supported from the Town of Hartford VT website
- Public meetings/hearings
- Coordination with media/school/business/emergency services

Motorist information strategies recommended for use:

- Radio traffic news
- Portable changeable message signs
- Email alerts

6.0 TMP Implementation/Monitoring

The TMP needs to be implemented in the field, as specified, unless any changes have been approved by the agency. To help ensure appropriate implementation, 23 CFR 630 Subpart J § 630.1012(e) requires that the Town of Hartford, VT and the Contractor each designate a trained person at the project level who has the primary responsibility and sufficient authority for implementing the TMP and other safety and mobility aspects of the project.

Monitoring the performance of the TMP during the construction phase is important to establish whether the predicted impacts closely resemble the actual conditions in the field, whether the TMP strategies are effective in managing the impacts. TMP monitoring is needed for both oversight and evaluation purposes, such as:

- Monitoring and documenting TMP changes during construction.
    - Including signal timing adjustments for improved queue length control
- Preparing an evaluation of the TMP, including lessons learned.
- Refining work zone impact analysis processes and models based on outcomes.

TMP monitoring includes details of any specific observational, logging, and/or recording activities conducted during the project for work zone performance measurement purposes. Examples of possible performance measures for TMP monitoring include:

- Traffic Volume
- Queue lengths
- Delay time
- Travel time
- Number of crashes/incidents
- Incident response and clearance times
- Type and frequency of legitimate complaints received

The Contractor shall meet with the TMP Implementation Task leaders on a regular basis to discuss and assess the safety and mobility impacts of the project work zone to date. This helps to assess how well the TMP is managing the project impacts and can help identify and address issues before they become problems. It also provides the opportunity to verify that all key stakeholders and project officials have been receiving timely notifications where required.

7.0 TMP Review Approvals

The TMP and changes to the TMP must be approved by the Town of Hartford, the Resident Engineer and the TMP Implementation Task Leaders prior to implementation.

8.0 Appendices

- Appendix A – Potential Construction Sequencing Plans
- Appendix B – Peak Hour Traffic Volumes at Key Locations
- Appendix C – Traffic Simulation Queue Length Report
- Appendix D – Temporary Signal Timings

APPENDIX A

Potential Construction Sequencing Plans

Phase 1 – Removal of Median Islands

Work hours: Normal Daytime

Description: Remove the center median islands on US Route 5 and construct minimum of 5 inches of temporary pavement in median island locations from Sta 9+50 to Sta 19+20. Shift traffic with barrels and other traffic control devices as needed in this and subsequent phases. Construct temporary signal at I-91 Northbound Off Ramp and US Route 5 intersection. Adjust existing signal timings at US Route 5 and Sykes Mountain Avenue intersection. Adjust signal head locations as needed and adjust span wire by setting pole at Sta 15+42 Rt, back 8 feet inline with existing span wire. Construct detention basin and associated drainage for project outfall. Construction of all water line work.

Impact to Existing Traffic Operations:

- Two-way traffic with left turn lanes on US Route 5 can be maintained.
- US Route 5 will be constrained to one through lane North and one through lane South.
- Temporary reconfiguration of the I-91 Northbound Off Ramp intersection.
    - Left turning traffic headed South on US Route 5 will line up across from the I-91 Northbound On Ramp entrance
    - 3 poles and 2 span wires with temporary signal heads will control the flow of traffic
- Flagger and UTO control
    - Of the intersections during signal work
    - As required to control traffic for the water line construction
    - As required for the stormwater and associated drainage construction

Risk and possible mitigation measures:

- **Risk:** Varying lane shifts through the project limits as the Contractor accesses the existing median islands and constructs the water lines.
  Mitigation Measure: Well delineated work area with Flaggers, UTO's, approach signage, barrels, cones and other associated traffic control devices. Regular driving reviews by the contractor can identify damaged or moved devices early.

- **Risk:** Trench cuts in the pavement will need to be backfilled after each working day. If these trenches are not paved in a timely manner, it will lead to additional maintenance for the Contractor and can reduce mobility through the project site via large bumps or potholes in the travel way.
  Mitigation Measure: Conditions should be included that set parameters for the contractor to pave in trench cuts with temporary pavement at the end of each work week (or other maximum length of trench) for all pipe trenches. This will affect production, but will allow for a paved surface for all public travel areas and reduce maintenance of the roadway for the Contractor.

- **Risk:** Traffic Queue lengths blocking other intersections.
  Mitigation Measure: Conditions should be monitored by the Contractor, especially during peak hours. See Section 4 of the TMP for maximum queue length allowed during AM and PM peak hours.

N

VT STATE PLANE GRID

US ROUTE 5

US ROUTE 5

SYKES MOUNTAIN AVENUE

PHASE I

LEGEND

WORK AREA UNDER TRAFFIC CONDITIONS

WORK AREA CLOSED TO TRAFFIC

0 50 100

SCALE IN FEET

PROJECT NAME: HARTFORD

PROJECT NUMBER: STP 0113(59)S

FILE NAME: zc334bdr_tsphl.dgn
PROJECT LEADER: S. IRELAND
DESIGNED BY: S. IRELAND
TRAFFIC SAFETY PLAN - PHASE I

PLOT DATE: 8/12/2019
DRAWN BY: M. LOVETT
CHECKED BY: B. COLBURN
SHEET 1 OF 8

Phase 1A – Construction of the Left side of US Route 5

Work hours: Normal Daytime with Possible Night Work in some locations

Description: Adjust signal head locations at the intersection of US Route 5 and Sykes Mountain Avenue for lane locations during Phase 1A to allow the Contractor space for full box reconstruction of the left side of US Route 5. Construct curbing, sidewalks, drainage, drive entrances and all work to binder grade within limits shown on the Traffic Safety Plan Phase 1A. Maintain access to all businesses and Town roads during construction.

Impact to Existing Traffic Operations:

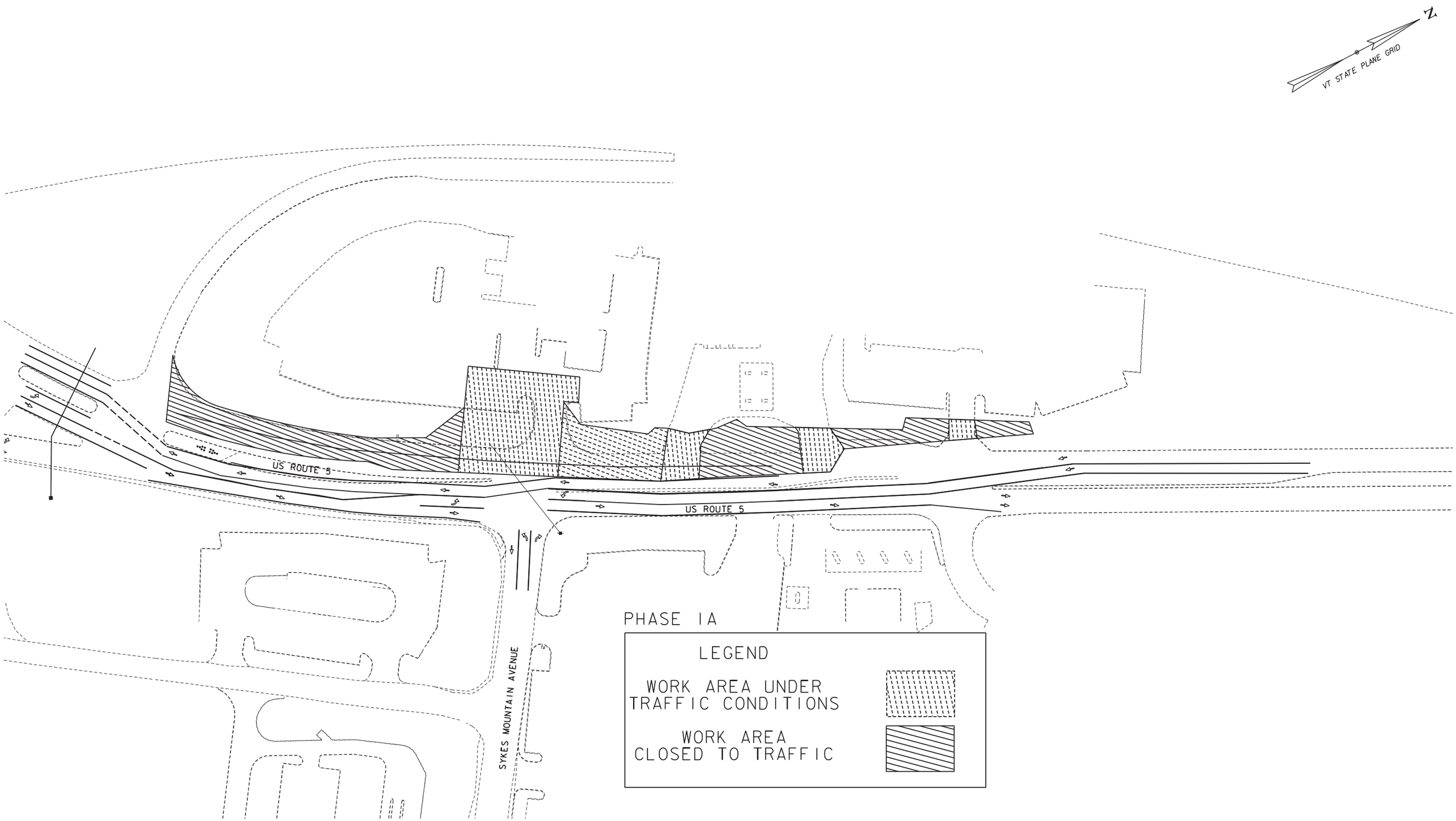
- US Route 5 will be constrained to one through lane North and one through lane South.
- Temporary reconfiguration of the I-91 Northbound Off Ramp intersection continues.
- Flagger and UTO control
    - Of the intersections during signal work
    - As required to control traffic for business access
    - As required for the stormwater and associated drainage construction

Risk and possible mitigation measures:

- **Risk:** Varying lane shifts and rerouting of vehicles through the project limits as the Contractor accesses the existing driveway entrances.
  Mitigation Measure: Well delineated work area with Flaggers, UTO's, approach signage, barrels, cones and other associated traffic control devices. Good communication with property abutters and potential night work will be required to maintain access.

- **Risk:** Trench cuts in the pavement will need to be backfilled after each working day. If these trenches are not paved in a timely manner, it will lead to additional maintenance for the Contractor and can reduce mobility through the project site via large bumps or potholes in the travel way.
  Mitigation Measure: Conditions should be included that set parameters for the contractor to pave in trench cuts with temporary pavement at the end of each work week (or other maximum length of trench) for all pipe trenches. This will affect production, but will allow for a paved surface for all public travel areas and reduce maintenance of the roadway for the Contractor.

- **Risk:** Traffic Queue lengths blocking other intersections.
  Mitigation Measure: Conditions should be monitored by the Contractor, especially during peak hours. See Section 4 of the TMP for maximum queue length allowed during AM and PM peak hours.



PHASE IA

LEGEND

WORK AREA UNDER TRAFFIC CONDITIONS

WORK AREA CLOSED TO TRAFFIC

0 50 100

SCALE IN FEET

PROJECT NAME: HARTFORD	
PROJECT NUMBER: STP 0113(59)S	
FILE NAME: zc334bdr_tsphia.dgn	PLOT DATE: 8/12/2019
PROJECT LEADER: S. IRELAND	DRAWN BY: M. LOVETT
DESIGNED BY: S. IRELAND	CHECKED BY: B. COLBURN
TRAFFIC SAFETY PLAN - PHASE IA	SHEET 2 OF 8

Phase 2 – Construction of the Southeast Corner of US Route 5 and Sykes Mountain Avenue

Work hours: Normal Daytime with possible Night Work in some locations.

Description: Adjust signal head locations at the intersection of US Route 5 and Sykes Mountain Avenue for lane locations during Phase 2 to allow the Contractor space for full box reconstruction of the Southeast corner of US Route 5 and Sykes Mountain Avenue. Construct curbing, sidewalks, drainage, drive entrances and all work to binder grade within limits shown on Traffic Safety Plan Phase 2. Maintain access to all businesses and Town roads during construction. Construct temporary pedestrian access with Temporary Traffic Barrier or other approved barrier to separate pedestrians from the work area and from traffic. Contractor to install a temporary impact attenuator to protect span wire poles and any other obstruction from being struck.

Impact to Existing Traffic Operations:

- US Route 5 will be constrained to one through lane North and one through lane South.
- Temporary reconfiguration of the I-91 Northbound Off Ramp intersection continues.
    - Truck turning movements may require a single lane for I-91 Northbound Off Ramp traffic to enter onto US Route 5. Work to be performed during non-peak hours under traffic conditions.
- Flagger and UTO control
    - Of the intersections during signal work
    - As required to control traffic for business and local road access
    - As required for the stormwater and associated drainage construction
- Temporary pedestrian access
    - May require multiple shifts of Temporary Traffic Barrier near the I-91 Northbound Off Ramp intersection with US Route 5
    - Temporary crosswalk markings will be maintained by the Contractor.
    - Contractor shall provide pedestrian access through work areas adjacent to construction along the Southeast edge of US 5 and Sykes Mountain Avenue.

Risk and possible mitigation measures:

- **Risk:** Varying lane shifts and rerouting of vehicles through the project limits as the Contractor accesses the existing driveway entrances.
  Mitigation Measure: Well delineated work area with Flaggers, UTO's, approach signage, barrels, cones and other associated traffic control devices. Good communication with property abutters and potential night work will be required to maintain access.

- **Risk:** Trench cuts in the pavement will need to be backfilled after each working day. If these trenches are not paved in a timely manner, it will lead to additional maintenance for the Contractor and can reduce mobility through the project site via large bumps or potholes in the travel way.

Mitigation Measure: Conditions should be included that set parameters for the contractor to pave in trench cuts with temporary pavement at the end of each work week (or other maximum length of trench) for all pipe trenches. This will affect production, but will allow for a paved surface for all public travel areas and reduce maintenance of the roadway for the Contractor.

- **Risk:** Traffic Queue lengths blocking other intersections.
  Mitigation Measure: Conditions should be monitored by the Contractor, especially during peak hours. See Section 4 of the TMP for maximum queue length allowed during AM and PM peak hours.

- **Risk:** Maintaining pedestrian access during construction.
  Mitigation Measure: Conditions should be monitored by the Contractor to ensure the temporary access route is ADA compliant during construction. The route should be reviewed weekly for conformance and all deficiencies addressed immediately. Temporary Traffic Barrier may require multiple locations shifts depending on the Contractor's mean and methods.

PHASE 2

LEGEND

WORK AREA UNDER TRAFFIC CONDITIONS

WORK AREA CLOSED TO TRAFFIC

N

VT STATE PLANE GRID

TEMPORARY TRAFFIC BARRIER FOR PEDESTRIAN ACCESS (TYP)

IMPACT ATTENUATOR (TYP)

SYKES MOUNTAIN AVENUE

US ROUTE 5

0 50 100

SCALE IN FEET

PROJECT NAME: HARTFORD

PROJECT NUMBER: STP 0113(59)S

FILE NAME: zc334bdr_tsph2.dgn
PROJECT LEADER: S. IRELAND
DESIGNED BY: S. IRELAND
TRAFFIC SAFETY PLAN - PHASE 2

PLOT DATE: 8/12/2019
DRAWN BY: M. LOVETT
CHECKED BY: B. COLBURN
SHEET 3 OF 8

Phase 3 – Construction of the center of Sykes Mountain Avenue

Work hours: Normal Daytime

Description: Adjust signal head locations at the intersection of US Route 5 and Sykes Mountain Avenue for lane locations during Phase 3 to allow the Contractor space for full box reconstruction of the center of Sykes Mountain Avenue. Maintain access to all businesses and Town Roads during construction. Pave full width of work area and do not install median island at this time. Pedestrian access shall be maintained on sidewalks constructed under Phase 1A and Phase 2 for the remainder of the project.

Impact to Existing Traffic Operations:

- US Route 5 will be constrained to one through lane North and one through lane South.
- Temporary reconfiguration of the I-91 Northbound Off Ramp intersection continues.
- Flagger and UTO control
    - Of the intersections during signal work
    - As required to control traffic for business and local road access
    - As required for the full box re-construction on Sykes Mountain Avenue

Risk and possible mitigation measures:

- **Risk:** Varying lane shifts and rerouting of vehicles through the project limits as the Contractor accesses the existing driveway entrances.
  Mitigation Measure: Well delineated work area with Flaggers, UTO's, approach signage, barrels, cones and other associated traffic control devices. Good communication with property abutters will be required to maintain access.

- **Risk:** Full box re-construction of the pavement will need to be backfilled after each working day. If these areas are not paved in a timely manner, it will lead to additional maintenance for the Contractor and can reduce mobility through the project site via large bumps or potholes in the travel way.
  Mitigation Measure: Conditions should be included that set parameters for the contractor to complete this work in a two-week period and permanently pave half of the work area at the end of the first week. The remainder of the area shall be paved by the end of the second week. This will affect production, but will allow for a paved surface for all public travel areas and reduce maintenance of the roadway for the Contractor.

- **Risk:** Traffic Queue lengths blocking other intersections.
  Mitigation Measure: Conditions should be monitored by the Contractor, especially during peak hours. See Section 4 of the TMP for maximum queue length allowed during AM and PM peak hours.

PHASE 3

LEGEND

WORK AREA UNDER TRAFFIC CONDITIONS

WORK AREA CLOSED TO TRAFFIC

N

VT STATE PLANE GRID

US ROUTE 5

SYKES MOUNTAIN AVENUE

US ROUTE 5

0 50 100

SCALE IN FEET

PROJECT NAME: HARTFORD

PROJECT NUMBER: STP 0113(59)S

FILE NAME: zc334bdr_tsph3.dgn

PROJECT LEADER: S. IRELAND

DESIGNED BY: S. IRELAND

TRAFFIC SAFETY PLAN - PHASE 3

PLOT DATE: 8/12/2019

DRAWN BY: M. LOVETT

CHECKED BY: B. COLBURN

SHEET 4 OF 8

Phase 4 – Construction of the Northeast Corner of US Route 5 and Sykes Mountain Avenue

Work hours: Normal Daytime with Possible Night Work in some locations

Description: Adjust signal head locations at the intersection of US Route 5 and Sykes Mountain Avenue for lane locations of Phase 4 to allow the Contractor space for full box reconstruction of the Northeast corner of US Route 5 and Sykes Mountain Avenue. Construct curbing, sidewalks, drainage, drive entrances and all work to binder grade within limits shown on Traffic Safety Plan Phase 4. Maintain access to all businesses and Town Roads during construction.

Impact to Existing Traffic Operations:

- US Route 5 will be constrained to one through lane North and one through lane South.
- Temporary reconfiguration of the I-91 Northbound Off Ramp intersection continues.
- Flagger and UTO control
    - Of the intersections during signal work
    - As required to control traffic for business and local road access

Risk and possible mitigation measures:

- **Risk:** Varying lane shifts and rerouting of vehicles through the project limits as the Contractor accesses the existing driveway entrances.
  Mitigation Measure: Well delineated work area with Flaggers, UTO's, approach signage, barrels, cones and other associated traffic control devices. Good communication with property abutters and potential night work will be required to maintain access.

- **Risk:** Trench cuts in the pavement will need to be backfilled after each working day. If these trenches are not paved in a timely manner, it will lead to additional maintenance for the Contractor and can reduce mobility through the project site via large bumps or potholes in the travel way.
  Mitigation Measure: Conditions should be included that set parameters for the contractor to pave in trench cuts with temporary pavement at the end of each work week (or other maximum length of trench) for all pipe trenches. This will affect production but will allow for a paved surface for all public travel areas and reduce maintenance of the roadway for the Contractor.

- **Risk:** Traffic Queue lengths blocking other intersections.
  Mitigation Measure: Conditions should be monitored by the Contractor, especially during peak hours. See Section 4 of the TMP for maximum queue length allowed during AM and PM peak hours.

- **Risk:** Maintaining bus stop during construction.

Mitigation Measure: Contractor shall ensure a temporary bus stop be provided during construction. The location shall be coordinated with the GMT and shall make provisions for ADA access. Temporary signage may be required.

PHASE 4

LEGEND

WORK AREA UNDER TRAFFIC CONDITIONS

WORK AREA CLOSED TO TRAFFIC

N

VT STATE PLANE GRID

US ROUTE 5

SYKES MOUNTAIN AVENUE

US ROUTE 5

0 50 100

SCALE IN FEET

PROJECT NAME: HARTFORD

PROJECT NUMBER: STP 0113(59)S

FILE NAME: zc334bdr_tsph4.dgn

PROJECT LEADER: S. IRELAND

DESIGNED BY: S. IRELAND

TRAFFIC SAFETY PLAN - PHASE 4

PLOT DATE: 8/12/2019

DRAWN BY: M. LOVETT

CHECKED BY: B. COLBURN

SHEET 5 OF 8

Phase 5 – Construction of the remaining Right side of US Route 5

Work hours: Normal Daytime with Possible Night Work in some locations

Description: Adjust signal head locations at the intersection of US Route 5 and Sykes Mountain Avenue for lane locations of Phase 5 to allow the Contractor space for full box reconstruction of the Northeast corner of US Route 5 and Sykes Mountain Avenue. Construct curbing, sidewalks, drainage, drive entrances and all work to binder grade within limits shown on Traffic Safety Plan Phase 5. Maintain access to all businesses and Town Roads during construction.

Impact to Existing Traffic Operations:

- US Route 5 will be constrained to one through lane North and one through lane South.
- Temporary reconfiguration of the I-91 Northbound Off Ramp intersection continues.
- Flagger and UTO control
    - Of the intersections during signal work
    - As required to control traffic for business and local road access

Risk and possible mitigation measures:

- **Risk:** Varying lane shifts and rerouting of vehicles through the project limits as the Contractor accesses the existing driveway entrances.
  Mitigation Measure: Well delineated work area with Flaggers, UTO's, approach signage, barrels, cones and other associated traffic control devices. Good communication with property abutters and potential night work will be required to maintain access.

- **Risk:** Trench cuts in the pavement will need to be backfilled after each working day. If these trenches are not paved in a timely manner, it will lead to additional maintenance for the Contractor and can reduce mobility through the project site via large bumps or potholes in the travel way.
  Mitigation Measure: Conditions should be included that set parameters for the contractor to pave in trench cuts with temporary pavement at the end of each work week (or other maximum length of trench) for all pipe trenches. This will affect production but will allow for a paved surface for all public travel areas and reduce maintenance of the roadway for the Contractor.

- **Risk:** Traffic Queue lengths blocking other intersections.
  Mitigation Measure: Conditions should be monitored by the Contractor, especially during peak hours. See Section 4 of the TMP for maximum queue length allowed during AM and PM peak hours.

PHASE 5

LEGEND

WORK AREA UNDER TRAFFIC CONDITIONS

WORK AREA CLOSED TO TRAFFIC

N

VT STATE PLANE GRID

US ROUTE 5

SYKES MOUNTAIN AVENUE

US ROUTE 5

0 50 100

SCALE IN FEET

PROJECT NAME: HARTFORD

PROJECT NUMBER: STP 0113(59)S

FILE NAME: zc334bdr_tsph5.dgn

PROJECT LEADER: S. IRELAND

DESIGNED BY: S. IRELAND

TRAFFIC SAFETY PLAN - PHASE 5

PLOT DATE: 8/12/2019

DRAWN BY: M. LOVETT

CHECKED BY: B. COLBURN

SHEET 6 OF 8

Phase 6 – Construction of the Center Roundabout Islands

Work hours: Normal Daytime with Possible Night Work in some locations

Description: Remove signal at the intersection of US Route 5 and Sykes Mountain Avenue. Convert traffic flow to roundabout with one lane approaching on each leg. Construct curbing, sidewalks, islands, truck aprons and all work to finish grade within the limits shown on the Traffic Safety Plan Phase 6. Placement of additional temporary pavement will be required to ensure that the lip of the truck apron does not exceed 2" maximum once traffic is allowed to traverse the truck apron. Additional miscellaneous locations have been shown on Traffic Safety Plan 6 as requiring finish work, including curbing and ADA tip downs. Maintain access to all businesses and Town Roads during construction.

Impact to Existing Traffic Operations:

- US Route 5 will be constrained to one through lane North and one through lane South.
- Left turning lanes have been removed.
- Temporary reconfiguration of the I-91 Northbound Off Ramp intersection continues.
- Flagger and UTO control
    - Of the intersections during center island work
    - As required to control traffic for business and local road access

Risk and possible mitigation measures:

- **Risk:** Permanent change and rerouting of vehicles through the project limits to a roundabout configuration without truck aprons.
  Mitigation Measure: Well delineated work area with Flaggers, UTO's, approach signage, barrels, cones and other associated traffic control devices. Good communication with property abutters and potential night work will be required to maintain access. The additional width allowed by restricting each approach leg to one lane provides additional space for truck turning movements.

- **Risk:** Traffic Queue lengths blocking other intersections.
  Mitigation Measure: Conditions should be monitored by the Contractor, especially during peak hours. See Section 4 of the TMP for maximum queue length allowed during AM and PM peak hours.

PHASE 6

LEGEND

WORK AREA UNDER TRAFFIC CONDITIONS

WORK AREA CLOSED TO TRAFFIC

N

VT STATE PLANE GRID

US ROUTE 5

SYKES MOUNTAIN AVENUE

US ROUTE 5

0 50 100

SCALE IN FEET

PROJECT NAME: HARTFORD

PROJECT NUMBER: STP 0113(59)S

FILE NAME: zc334bdr_tsph6.dgn

PROJECT LEADER: S. IRELAND

DESIGNED BY: S. IRELAND

TRAFFIC SAFETY PLAN - PHASE 6

PLOT DATE: 8/12/2019

DRAWN BY: M. LOVETT

CHECKED BY: B. COLBURN

SHEET 7 OF 8

Phase 7 – Construction of the Median Islands

Work hours: Normal Daytime with expected Night Work in some locations

Description: Construct median islands on US Route 5 and Sykes Mountain Avenue, including the portions of median islands removed in Phase 1 to allow for traffic shifting. Median islands beyond the project limits shall be restored to same or better condition. Remove temporary signal at the intersection of I-91 Northbound Off Ramp and US Route 5. Construct curbing, sidewalks, islands, and all work to finsh grade within limits shown on Traffic Safety Plan Phase 7. Any additional temporary pavement placed along the lip of the truck apron to prevent the lip from exceeding 2" shall be ground out just prior to permanent pavement. Wearing course pavement shall be placed at night to reduce traffic disruption. Maintain access to all businesses and Town Roads during construction.

Impact to Existing Traffic Operations:

- US Route 5 will be constrained to one through lane North and one through lane South.
- Left turning lanes have been removed.
- Flagger and UTO control
    - Of the intersections during median island work
    - As required to control traffic for business and local road access
    - As required for placement of wearing coarse pavement at night

Risk and possible mitigation measures:

- **Risk:** Required night work reduces traffic disruptions but increases worker safety concerns and impaired driver concerns.
  Mitigation Measure: Well delineated work area with Flaggers, UTO's, approach signage, barrels, cones and other associated traffic control devices. Advanced notification and enforcement with temporary lighting conditions may be required.

- **Risk:** Traffic Queue lengths blocking other intersections.
  Mitigation Measure: Conditions should be monitored by the Contractor, especially during peak hours. See Section 4 of the TMP for maximum queue length allowed during AM and PM peak hours.

PHASE 7

LEGEND

WORK AREA UNDER TRAFFIC CONDITIONS

WORK AREA CLOSED TO TRAFFIC

N

VT STATE PLANE GRID

US ROUTE 5

SYKES MOUNTAIN AVENUE

US ROUTE 5

0 50 100

SCALE IN FEET

PROJECT NAME: HARTFORD	
PROJECT NUMBER: STP 0113(59)S	
FILE NAME: zc334bdr_tsph7.dgn	PLOT DATE: 8/12/2019
PROJECT LEADER: S. IRELAND	DRAWN BY: M. LOVETT
DESIGNED BY: S. IRELAND	CHECKED BY: B. COLBURN
TRAFFIC SAFETY PLAN - PHASE 7	SHEET 8 OF 8

APPENDIX B

Peak Hour Traffic Volumes at Key Locations

Traffic volumes adjusted to 2018 numbers prior to entry to synchro. (number X 1.01 per year before 2018) (1% growth per year used)

Peak Hour Data for Intersection

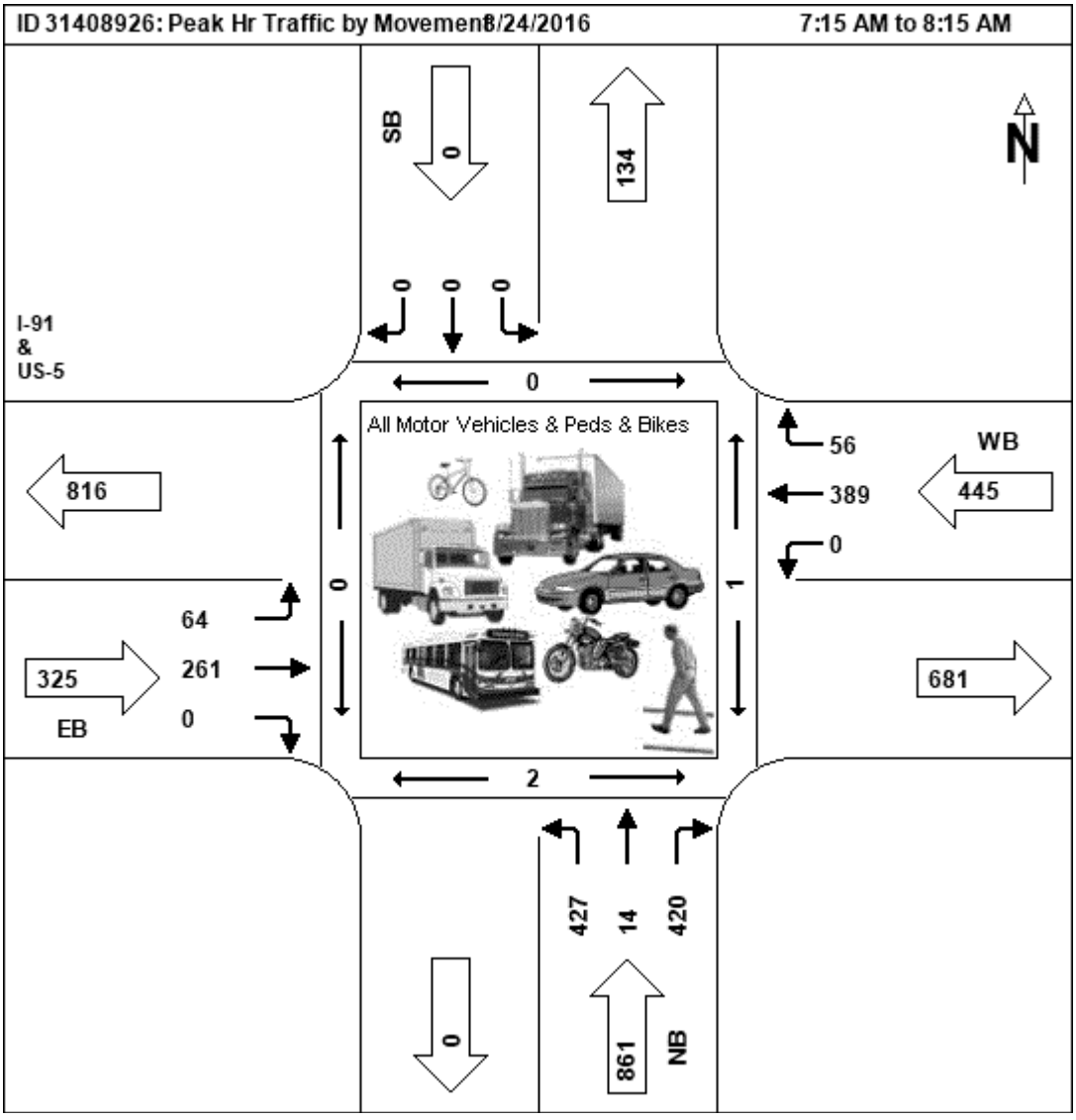
Int ID:	31408926		
Community:	HARTFORD	**Corridor:**	
Road 1:	I-91	**Road 3:**	I-91
Road 2:	US-5	**Road 4:**	US-5

|<< < > >>| 1-4 of 4

AM Peak Hour
08/24/2016

Start Time	NB Left	NB Thru	NB Right	NB Ped	NB App Total	EB Left	EB Thru	EB Right	EB Ped	EB App Total	SB Left	SB Thru	SB Right	SB Ped	SB App Total	WB Left	WB Thru	WB Right	WB Ped	WB App Total	Int Total
7:15 AM	97	7	67	0	171	11	58	0	2	69	0	0	0	0	0	0	87	12	0	99	339
7:30 AM	102	1	98	0	201	12	47	0	0	59	0	0	0	0	0	0	99	18	0	117	377
7:45 AM	130	5	137	0	272	22	56	0	0	78	0	0	0	0	0	0	112	11	0	123	473
8:00 AM	98	1	118	1	217	19	100	0	0	119	0	0	0	0	0	0	91	15	0	106	442
Total	427	14	420	1	861	64	261	0	2	325	0	0	0	0	0	0	389	56	0	445	1631
PHF	0.82	0.50	0.77		0.79	0.73	0.65			0.68							0.87	0.78		0.90	
HV %	5	14	6			11	7										8	7			

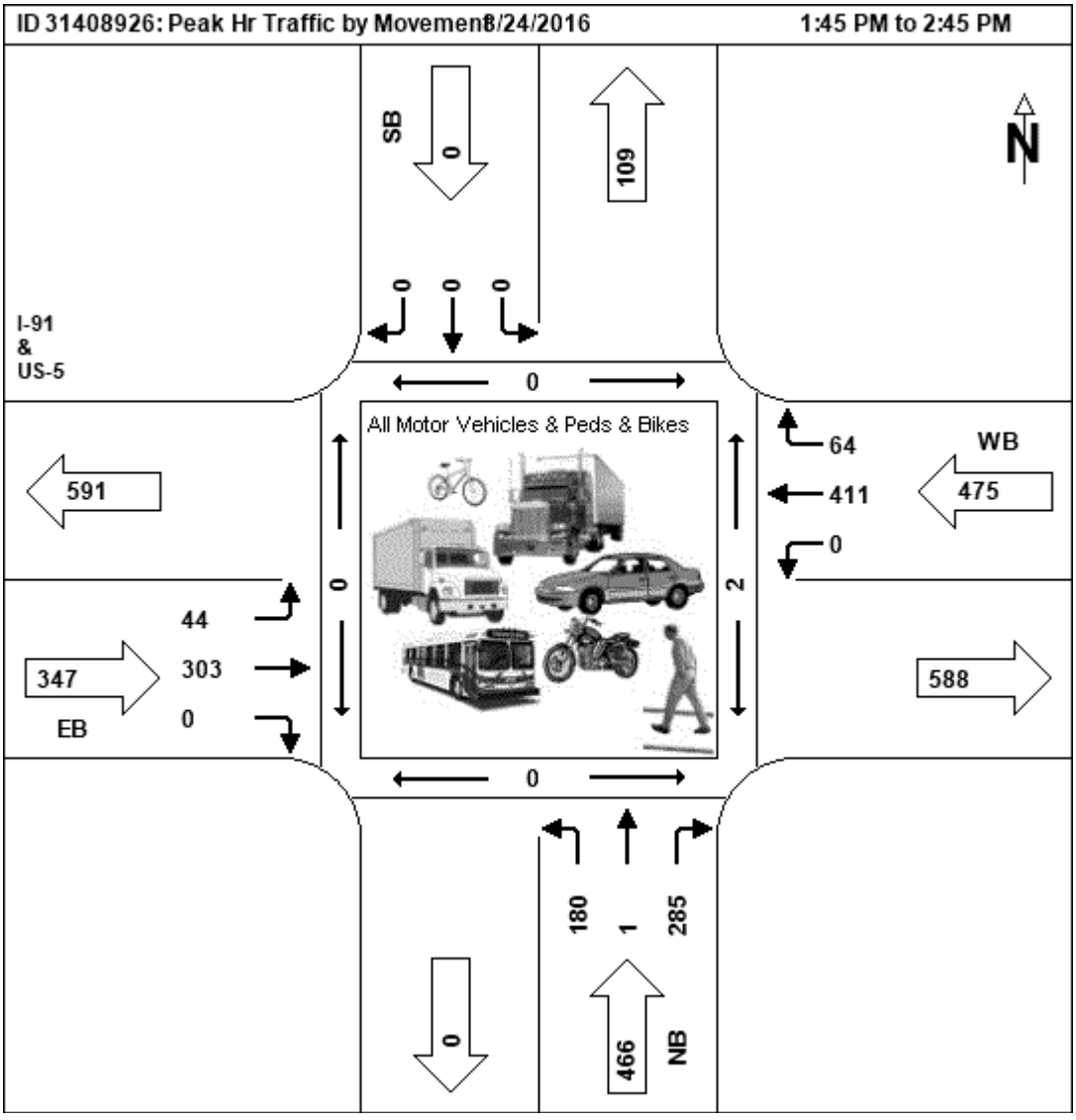
☑ Cars ☑ Trucks ☑ Pedestrians ☑ Bikes



Midday Peak Hour
08/24/2016

Start Time	NB Left	NB Thru	NB Right	NB Ped	NB App Total	EB Left	EB Thru	EB Right	EB Ped	EB App Total	SB Left	SB Thru	SB Right	SB Ped	SB App Total	WB Left	WB Thru	WB Right	WB Ped	WB App Total	Int Total
1:45 PM	41	0	57	0	98	14	71	0	0	85	0	0	0	0	0	0	118	15	0	133	316
2:00 PM	42	0	77	1	119	6	90	0	0	96	0	0	0	0	0	0	88	14	0	102	317
2:15 PM	46	1	68	0	115	14	76	0	0	90	0	0	0	0	0	0	108	19	0	127	332
2:30 PM	51	0	83	1	134	10	66	0	0	76	0	0	0	0	0	0	97	16	0	113	323
Total	180	1	285	2	466	44	303	0	0	347	0	0	0	0	0	0	411	64	0	475	1288
PHF	0.88	0.25	0.86		0.87	0.79	0.84			0.90							0.87	0.84		0.89	
HV %	8	0	5			5	2										2	8			

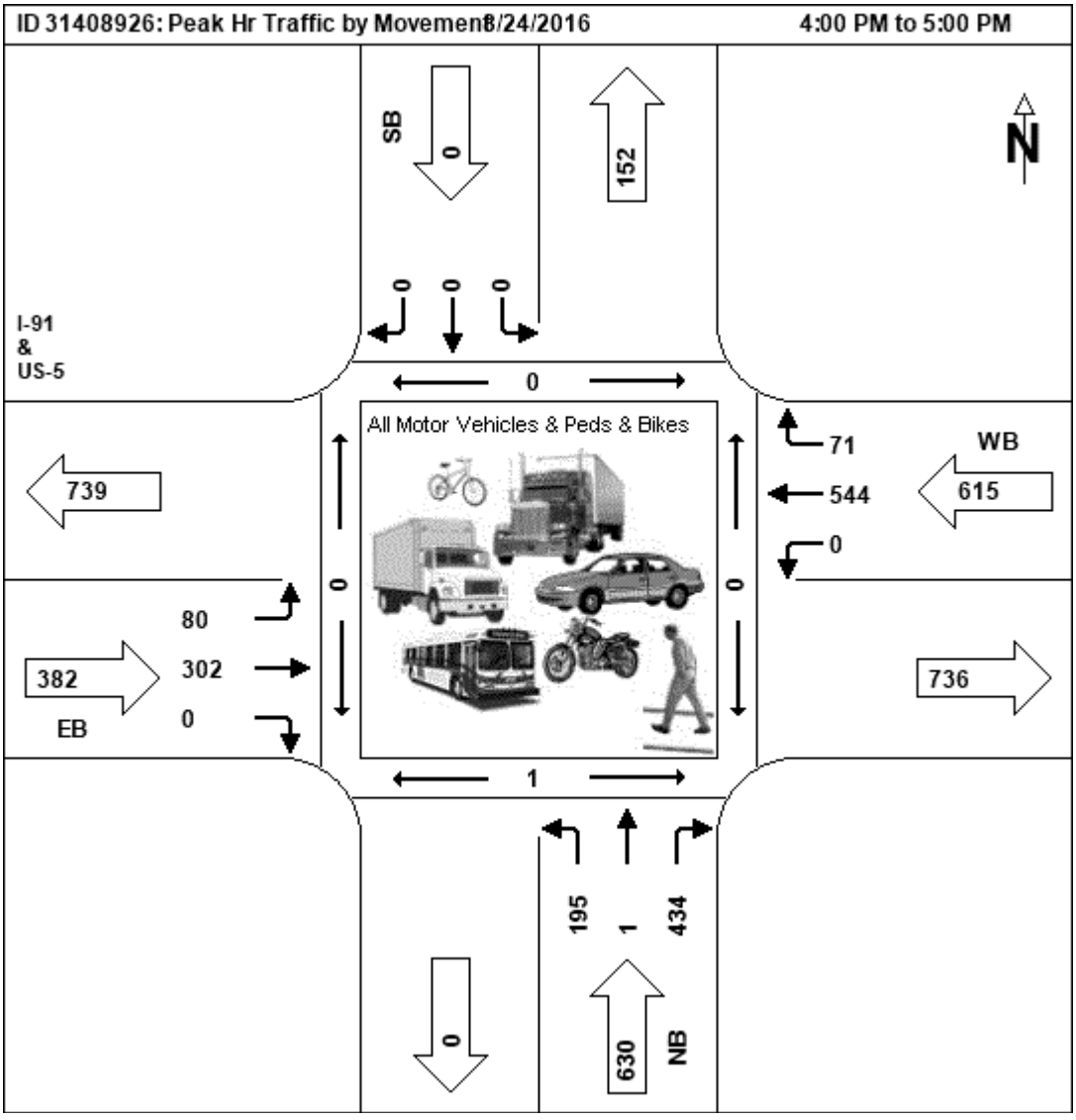
☑ Cars ☑ Trucks ☑ Pedestrians ☑ Bikes



PM Peak Hour
08/24/2016

Start Time	NB Left	NB Thru	NB Right	NB Ped	NB App Total	EB Left	EB Thru	EB Right	EB Ped	EB App Total	SB Left	SB Thru	SB Right	SB Ped	SB App Total	WB Left	WB Thru	WB Right	WB Ped	WB App Total	Int Total
4:00 PM	69	0	100	0	169	18	88	0	0	106	0	0	0	0	0	0	133	15	0	148	423
4:15 PM	45	0	104	0	149	23	72	0	0	95	0	0	0	0	0	0	157	23	0	180	424
4:30 PM	44	0	119	0	163	24	73	0	1	97	0	0	0	0	0	0	137	19	0	156	416
4:45 PM	37	1	111	0	149	15	69	0	0	84	0	0	0	0	0	0	117	14	0	131	364
Total	195	1	434	0	630	80	302	0	1	382	0	0	0	0	0	0	544	71	0	615	1627
PHF	0.71	0.25	0.91		0.93	0.83	0.86			0.90							0.87	0.77		0.85	
HV %	4	0	2			1	2										2	3			

☑ Cars ☑ Trucks ☑ Pedestrians ☑ Bikes



Traffic volumes adjusted to 2018 numbers prior to entry to synchro. (number X 1.01 per year before 2018) (1% growth per year used)

Peak Hour Data for Intersection

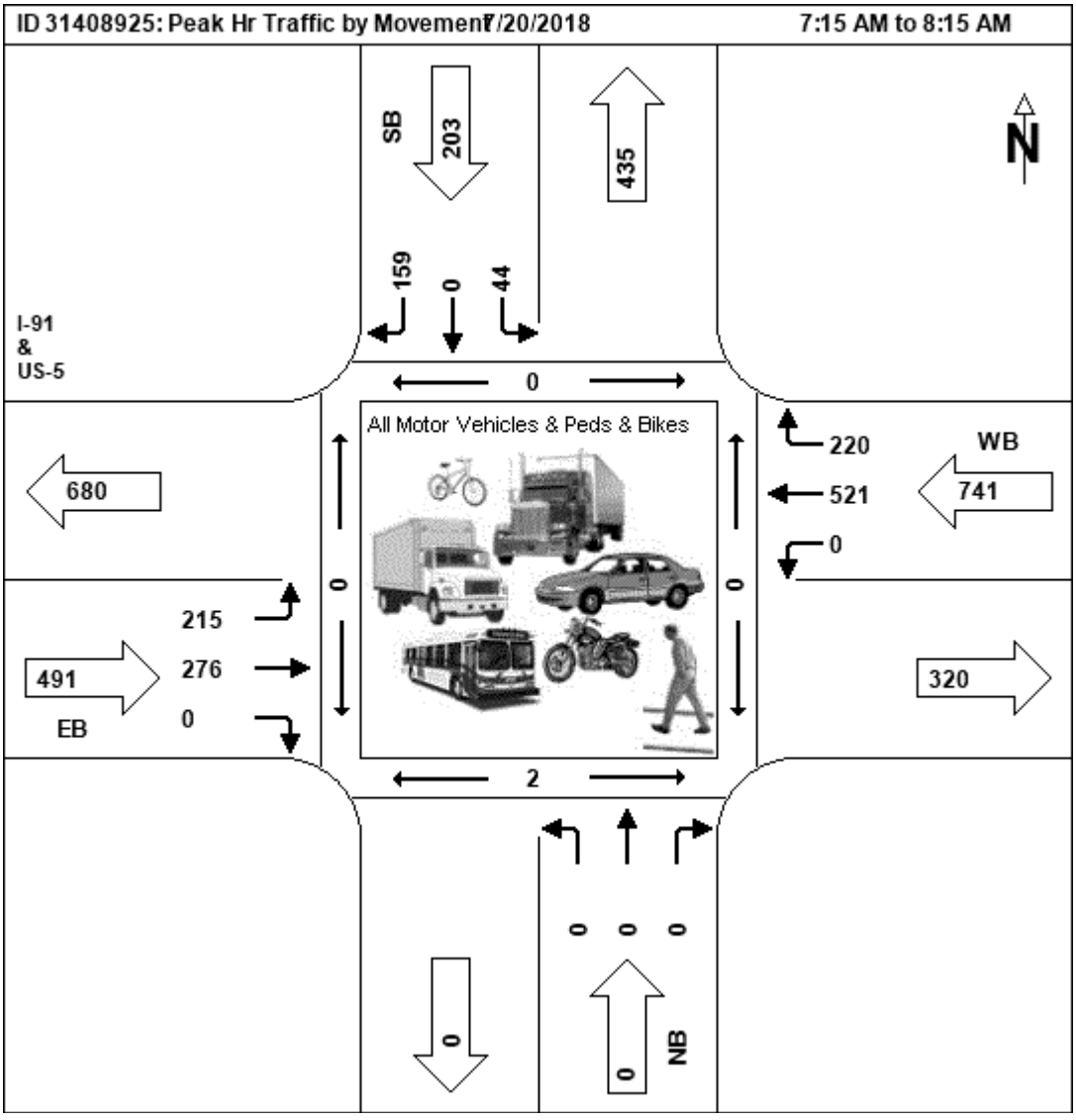
Int ID:	31408925		
Community:	HARTFORD	**Corridor:**	
Road 1:	I-91	**Road 3:**	
Road 2:	US-5	**Road 4:**	US-5

|<< < > >>| 1-6 of 6

AM Peak Hour
07/20/2018

Start Time	EB Left	EB Thru	EB Right	EB Ped	EB App Total	SB Left	SB Thru	SB Right	SB Ped	SB App Total	WB Left	WB Thru	WB Right	WB Ped	WB App Total	Int Total
7:15 AM	49	61	0	0	110	8	0	48	0	56	0	126	45	0	171	337
7:30 AM	54	60	0	0	114	9	0	34	0	43	0	132	66	0	198	355
7:45 AM	53	68	0	2	121	10	0	39	0	49	0	154	63	0	217	387
8:00 AM	59	87	0	0	146	17	0	38	0	55	0	109	46	0	155	356
Total	215	276	0	2	491	44	0	159	0	203	0	521	220	0	741	1435
PHF	0.91	0.79			0.84	0.65		0.83		0.91		0.85	0.83		0.85	
HV %	13	9				0		0				7	7			

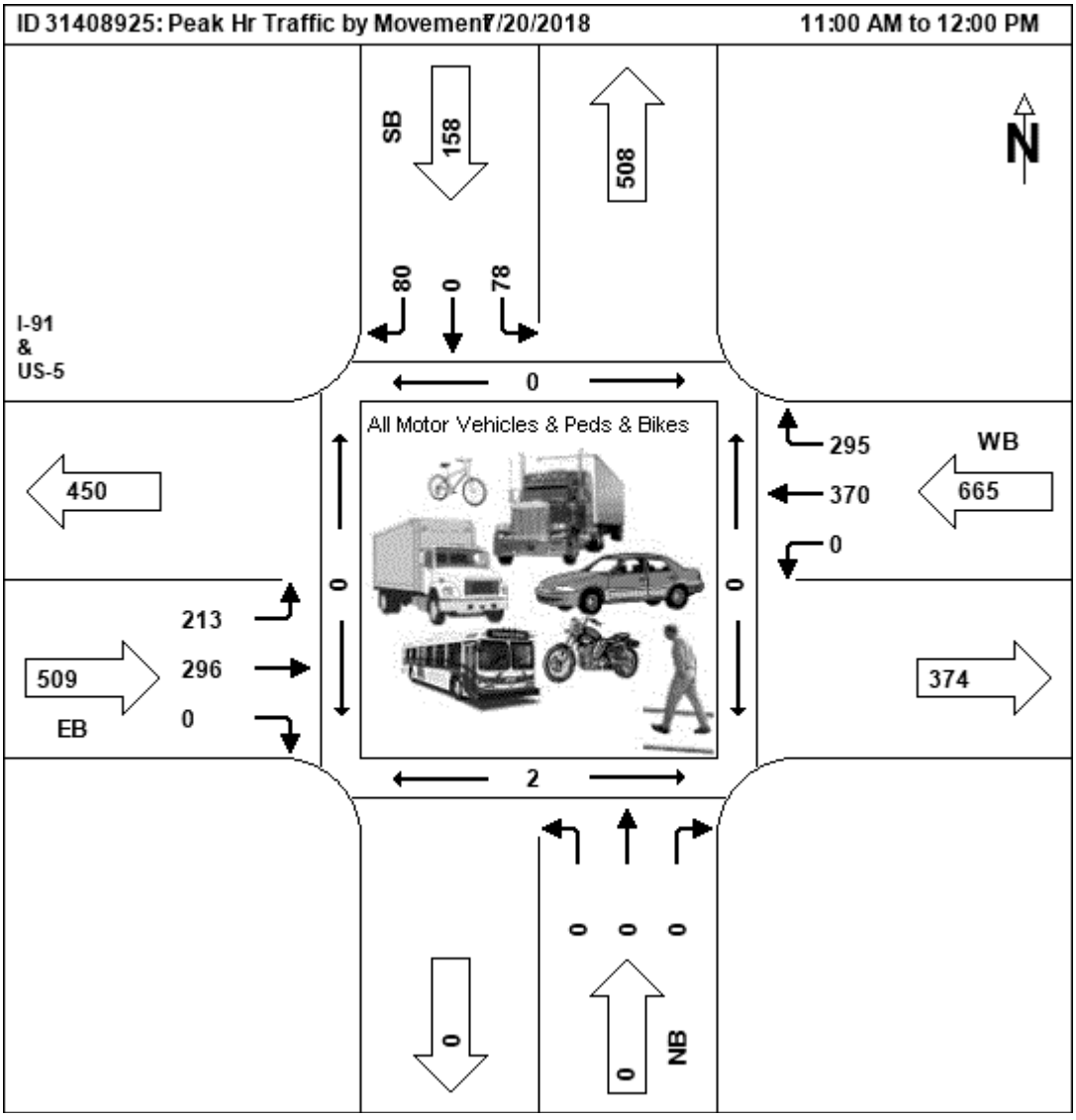
☑ Cars ☑ Trucks ☑ Pedestrians ☑ Bikes



Midday Peak Hour
07/20/2018

Start Time	EB Left	EB Thru	EB Right	EB Ped	EB App Total	SB Left	SB Thru	SB Right	SB Ped	SB App Total	WB Left	WB Thru	WB Right	WB Ped	WB App Total	Int Total
11:00 AM	47	70	0	0	117	18	0	16	0	34	0	99	77	0	176	327
11:15 AM	74	68	0	1	142	20	0	19	0	39	0	102	62	0	164	345
11:30 AM	48	75	0	0	123	19	0	24	0	43	0	82	83	0	165	331
11:45 AM	44	83	0	1	127	21	0	21	0	42	0	87	73	0	160	329
Total	213	296	0	2	509	78	0	80	0	158	0	370	295	0	665	1332
PHF	0.72	0.89			0.90	0.93		0.83		0.92		0.91	0.89		0.94	
HV %	5	10				5		1				7	5			

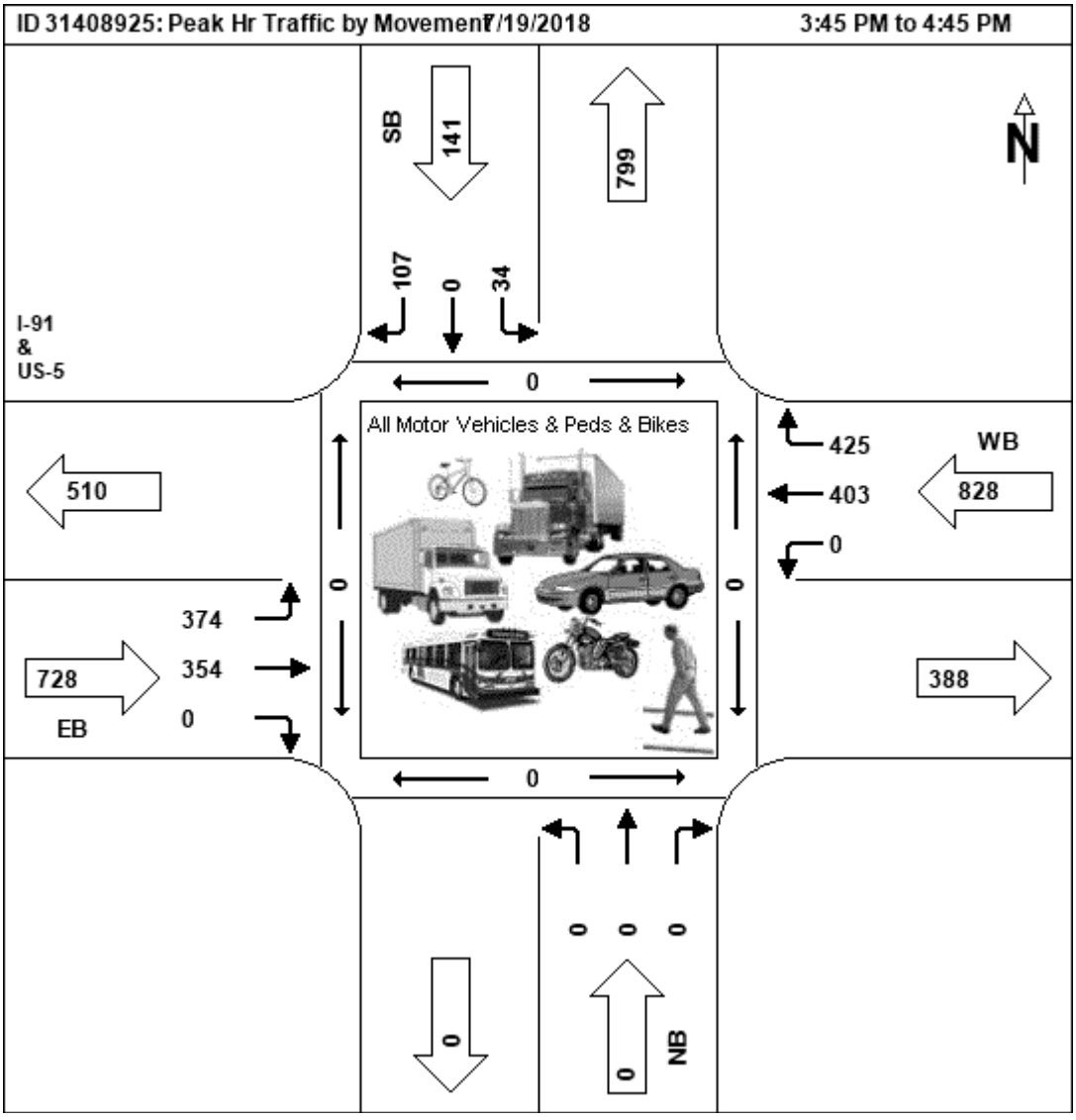
☑ Cars ☑ Trucks ☑ Pedestrians ☑ Bikes



PM Peak Hour
07/19/2018

Start Time	NB Left	NB Thru	NB Right	NB Ped	NB App Total	EB Left	EB Thru	EB Right	EB Ped	EB App Total	SB Left	SB Thru	SB Right	SB Ped	SB App Total	WB Left	WB Thru	WB Right	WB Ped	WB App Total	Int Total
3:45 PM	0	0	0	0	0	84	78	0	0	162	7	0	21	0	28	0	93	106	0	199	389
4:00 PM	0	0	0	0	0	95	91	0	0	186	11	0	27	0	38	0	108	96	0	204	428
4:15 PM	0	0	0	0	0	75	81	0	0	156	10	0	34	0	44	0	106	95	0	201	401
4:30 PM	0	0	0	0	0	120	104	0	0	224	6	0	25	0	31	0	96	128	0	224	479
Total	0	0	0	0	0	374	354	0	0	728	34	0	107	0	141	0	403	425	0	828	1697
PHF						0.78	0.85			0.81	0.77		0.79		0.80		0.93	0.83		0.92	
HV %						2	6				9		4				8	4			

☑ Cars ☑ Trucks ☑ Pedestrians ☑ Bikes



Peak Hour Data for Intersection

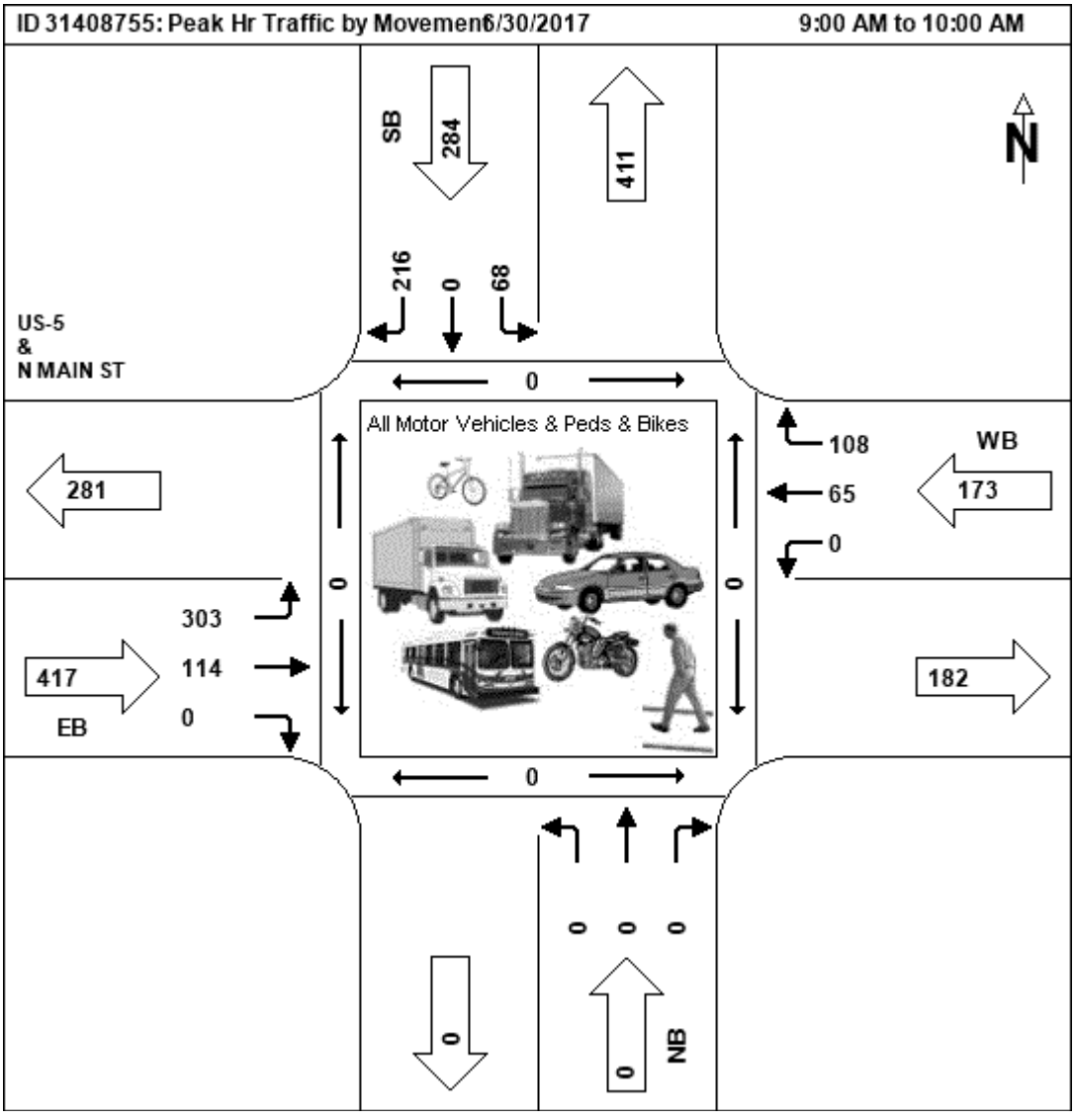
Int ID:	31408755		
Community:	HARTFORD	**Corridor:**	NA
Road 1:	US-5	**Road 3:**	
Road 2:	N MAIN ST	**Road 4:**	US-5

|<< < > >>| 1-8 of 8

AM Peak Hour
06/30/2017

Start Time	NB Left	NB Thru	NB Right	NB Ped	NB App Total	EB Left	EB Thru	EB Right	EB Ped	EB App Total	SB Left	SB Thru	SB Right	SB Ped	SB App Total	WB Left	WB Thru	WB Right	WB Ped	WB App Total	Int Total
9:00 AM	0	0	0	0	0	77	28	0	0	105	19	0	53	0	72	0	13	28	0	41	218
9:15 AM	0	0	0	0	0	70	25	0	0	95	19	0	67	0	86	0	15	36	0	51	232
9:30 AM	0	0	0	0	0	65	29	0	0	94	10	0	40	0	50	0	23	24	0	47	191
9:45 AM	0	0	0	0	0	91	32	0	0	123	20	0	56	0	76	0	14	20	0	34	233
Total	0	0	0	0	0	303	114	0	0	417	68	0	216	0	284	0	65	108	0	173	874
PHF						0.83	0.89			0.85	0.85		0.81		0.83		0.71	0.75		0.85	
HV %						8	4				12		5				12	6			

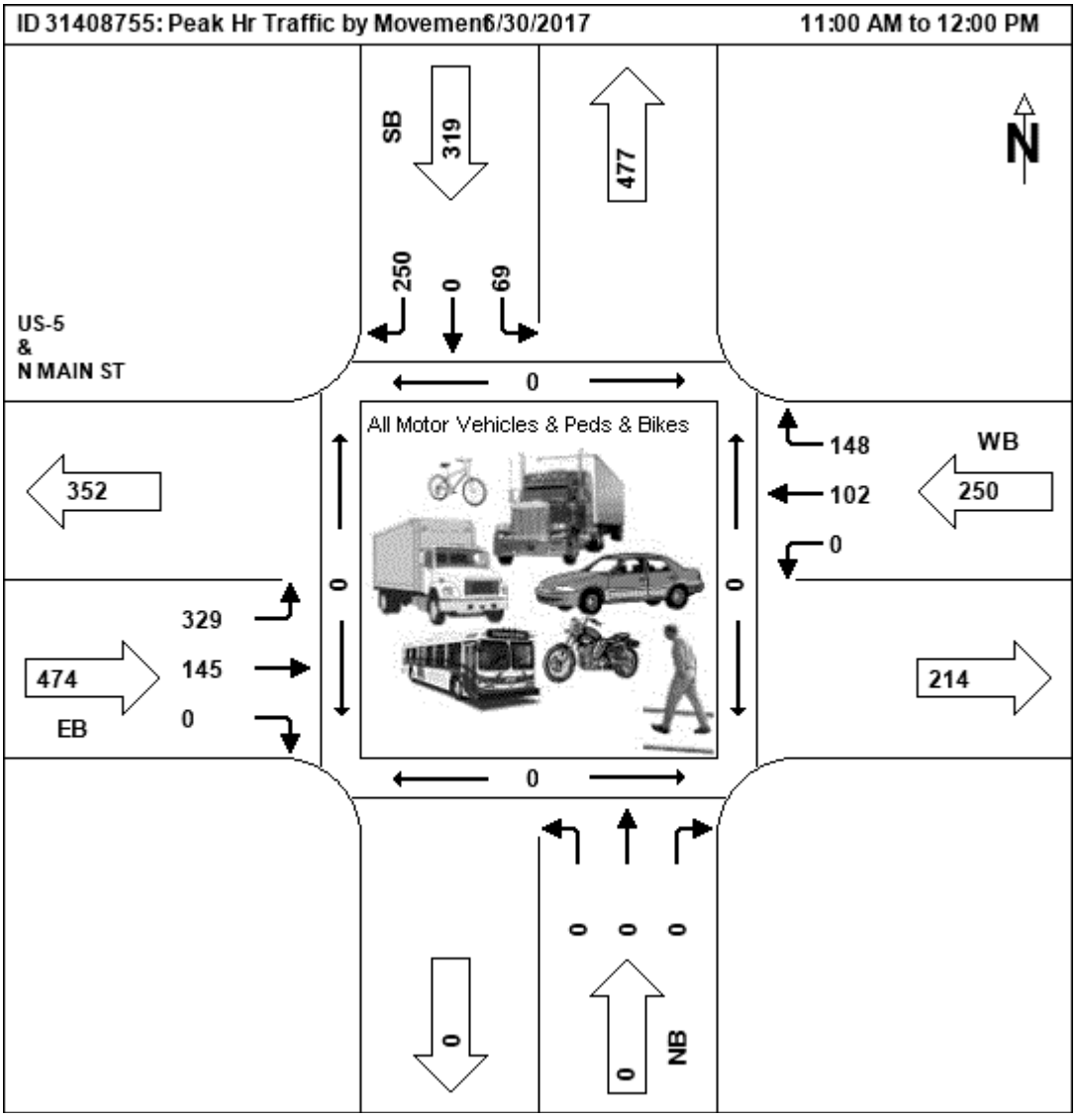
☑ Cars ☑ Trucks ☑ Pedestrians ☑ Bikes



Midday Peak Hour
06/30/2017

Start Time	NB Left	NB Thru	NB Right	NB Ped	NB App Total	EB Left	EB Thru	EB Right	EB Ped	EB App Total	SB Left	SB Thru	SB Right	SB Ped	SB App Total	WB Left	WB Thru	WB Right	WB Ped	WB App Total	Int Total
11:00 AM	0	0	0	0	0	83	39	0	0	122	19	0	31	0	50	0	25	33	0	58	230
11:15 AM	0	0	0	0	0	84	36	0	0	120	10	0	61	0	71	0	19	39	0	58	249
11:30 AM	0	0	0	0	0	81	31	0	0	112	16	0	82	0	98	0	22	35	0	57	267
11:45 AM	0	0	0	0	0	81	39	0	0	120	24	0	76	0	100	0	36	41	0	77	297
Total	0	0	0	0	0	329	145	0	0	474	69	0	250	0	319	0	102	148	0	250	1043
PHF						0.98	0.93			0.97	0.72		0.76		0.80		0.71	0.90		0.81	
HV %						5	3				3		6				4	5			

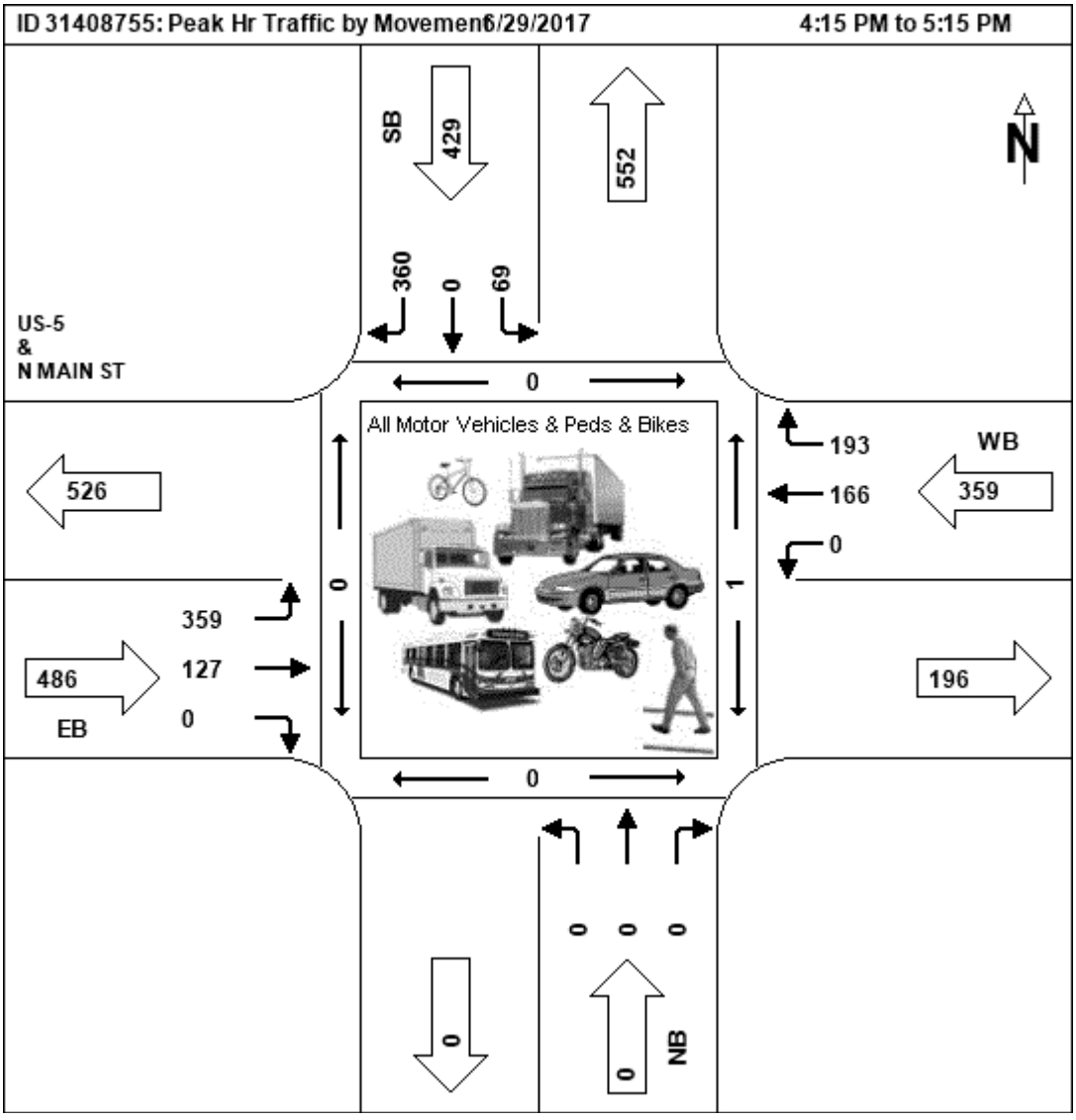
☑ Cars ☑ Trucks ☑ Pedestrians ☑ Bikes



PM Peak Hour
06/29/2017

Start Time	NB Left	NB Thru	NB Right	NB Ped	NB App Total	EB Left	EB Thru	EB Right	EB Ped	EB App Total	SB Left	SB Thru	SB Right	SB Ped	SB App Total	WB Left	WB Thru	WB Right	WB Ped	WB App Total	Int Total
4:15 PM	0	0	0	0	0	83	28	0	0	111	16	0	84	0	100	0	54	41	0	95	306
4:30 PM	0	0	0	1	0	87	26	0	0	113	19	0	77	0	96	0	39	36	0	75	284
4:45 PM	0	0	0	0	0	102	39	0	0	141	22	0	94	0	116	0	26	57	0	83	340
5:00 PM	0	0	0	0	0	87	34	0	0	121	12	0	105	0	117	0	47	59	0	106	344
Total	0	0	0	1	0	359	127	0	0	486	69	0	360	0	429	0	166	193	0	359	1274
PHF						0.88	0.81			0.86	0.78		0.86		0.92		0.77	0.82		0.85	
HV %						1	2				6		3				1	3			

☑ Cars ☑ Trucks ☑ Pedestrians ☑ Bikes



Traffic volumes adjusted to 2018 numbers prior to entry to synchro. (number X 1.01 per year before 2018) (1% growth per year used)

Peak Hour Data for Intersection

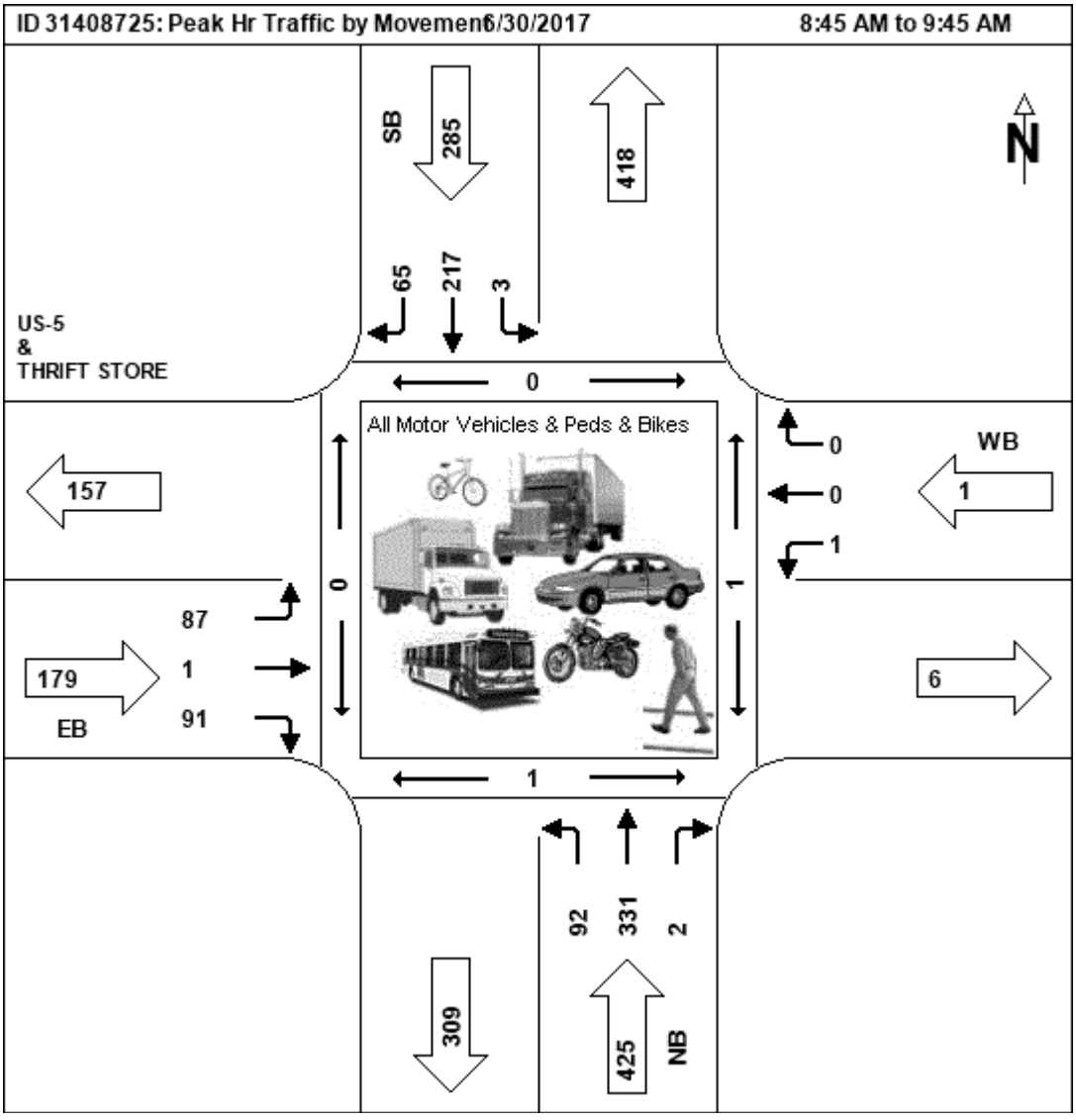
Int ID:	31408725	**Corridor:**	NA
Community:	HARTFORD	**Road 3:**	US-5
Road 1:	US-5	**Road 4:**	US-4
Road 2:	THRIFT STORE		

|<< < > >>| 1-8 of 8

AM Peak Hour
06/30/2017

Start Time	NB Left	NB Thru	NB Right	NB Ped	NB App Total	EB Left	EB Thru	EB Right	EB Ped	EB App Total	SB Left	SB Thru	SB Right	SB Ped	SB App Total	WB Left	WB Thru	WB Right	WB Ped	WB App Total	Int Total
8:45 AM	21	95	0	0	116	30	0	34	0	64	1	55	15	0	71	0	0	0	0	0	251
9:00 AM	27	71	1	1	99	19	0	17	1	36	1	50	16	0	67	1	0	0	0	1	203
9:15 AM	22	82	1	0	105	19	1	23	0	43	0	55	17	0	72	0	0	0	0	0	220
9:30 AM	22	83	0	0	105	19	0	17	0	36	1	57	17	0	75	0	0	0	0	0	216
Total	92	331	2	1	425	87	1	91	1	179	3	217	65	0	285	1	0	0	0	1	890
PHF	0.85	0.87	0.50		0.92	0.73	0.25	0.67		0.70	0.75	0.95	0.96		0.95	0.25				0.25	
HV %	15	10	0			5	0	3			0	7	12			0					

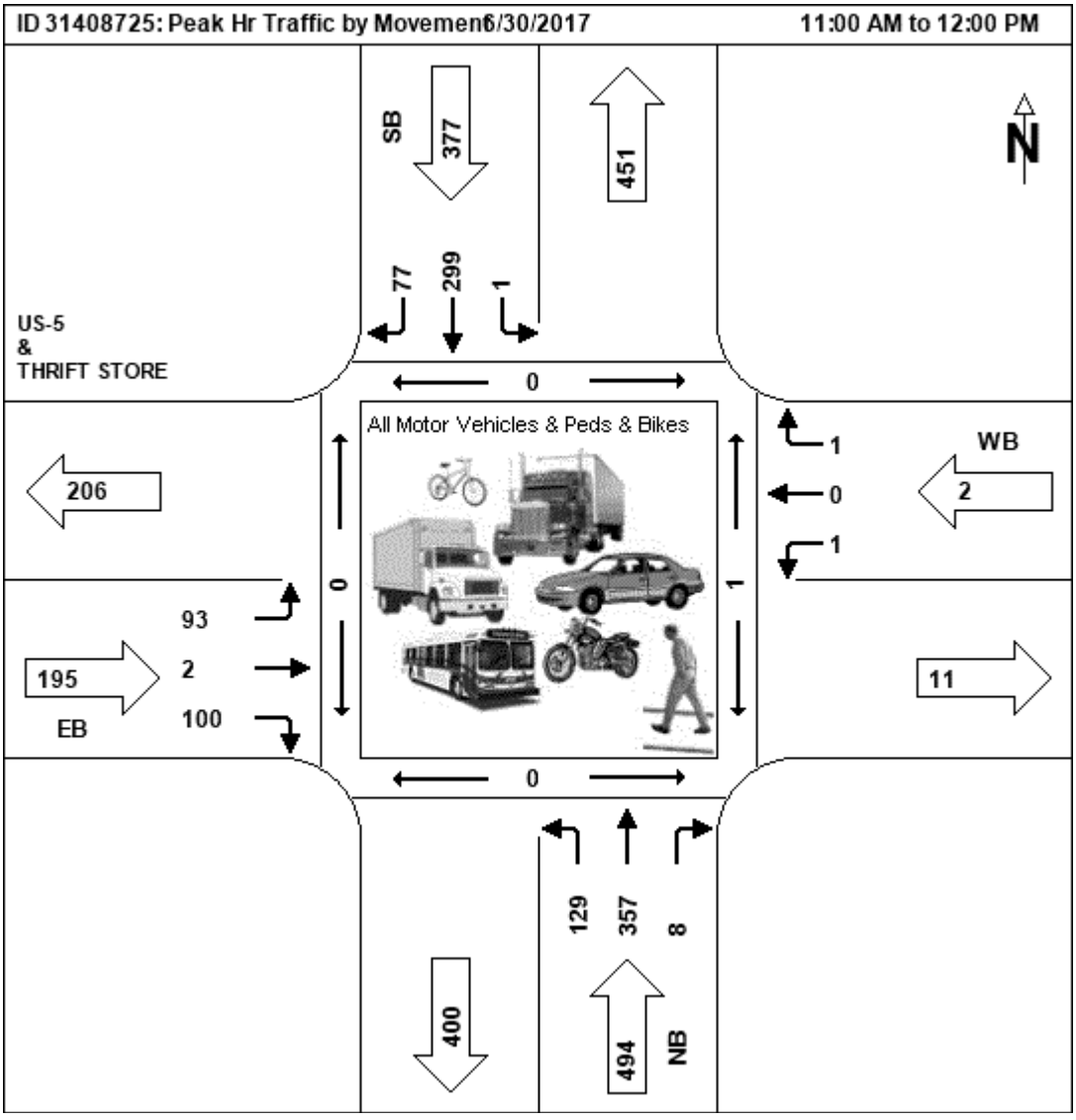
☑ Cars ☑ Trucks ☑ Pedestrians ☑ Bikes



Midday Peak Hour
06/30/2017

Start Time	NB Left	NB Thru	NB Right	NB Ped	NB App Total	EB Left	EB Thru	EB Right	EB Ped	EB App Total	SB Left	SB Thru	SB Right	SB Ped	SB App Total	WB Left	WB Thru	WB Right	WB Ped	WB App Total	Int Total
11:00 AM	26	84	3	0	113	33	0	20	0	53	0	63	17	0	80	0	0	1	0	1	247
11:15 AM	28	96	2	1	126	25	0	15	0	40	0	66	14	0	80	0	0	0	0	0	246
11:30 AM	37	88	2	0	127	19	1	28	0	48	1	76	23	0	100	0	0	0	0	0	275
11:45 AM	38	89	1	0	128	16	1	37	0	54	0	94	23	0	117	1	0	0	0	1	300
Total	129	357	8	1	494	93	2	100	0	195	1	299	77	0	377	1	0	1	0	2	1068
PHF	0.85	0.93	0.67		0.96	0.70	0.50	0.68		0.90	0.25	0.80	0.84		0.81	0.25		0.25		0.50	
HV %	13	6	0			3	0	8			100	4	9			0		0			

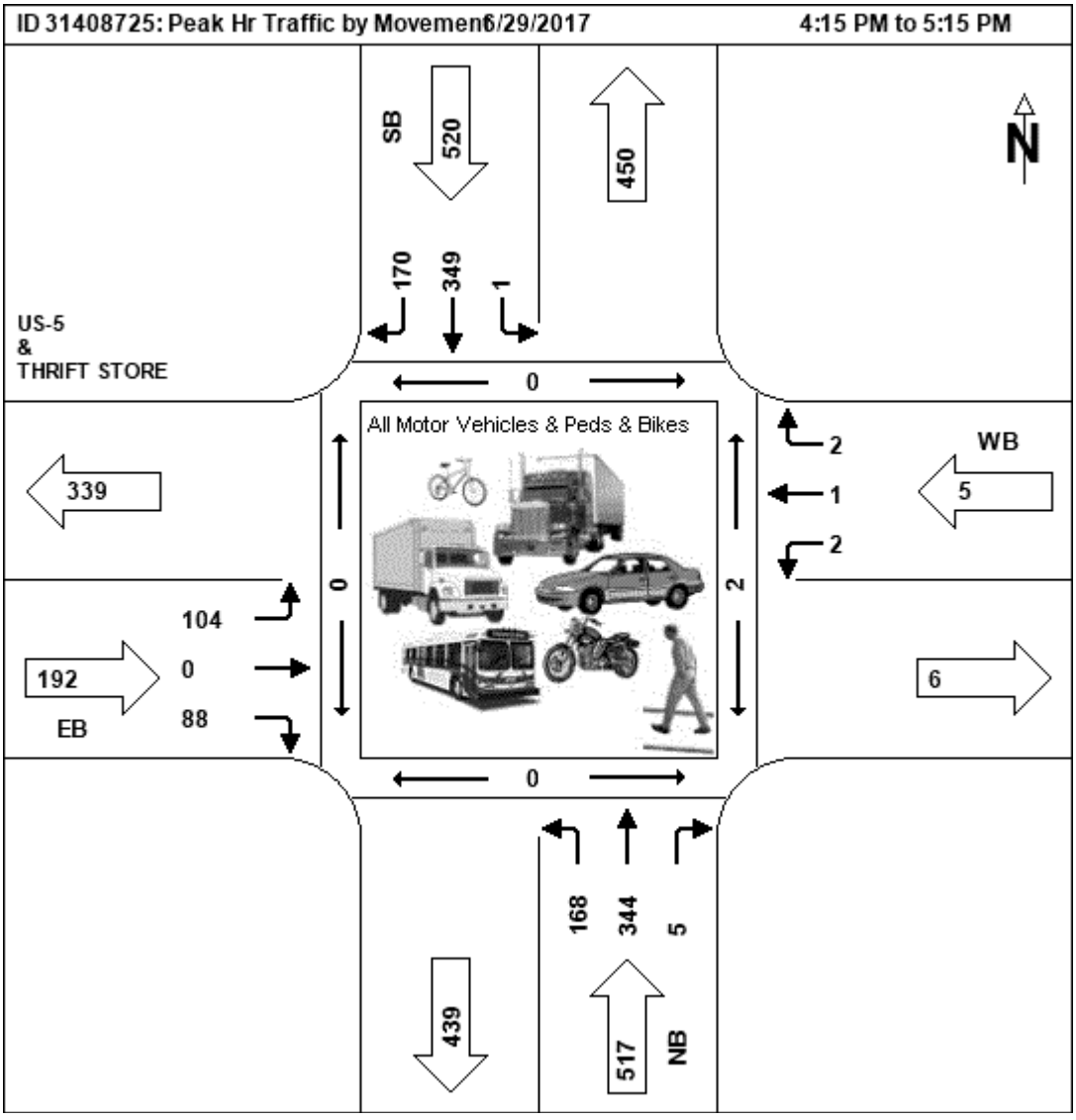
☑ Cars ☑ Trucks ☑ Pedestrians ☑ Bikes



PM Peak Hour
06/29/2017

Start Time	NB Left	NB Thru	NB Right	NB Ped	NB App Total	EB Left	EB Thru	EB Right	EB Ped	EB App Total	SB Left	SB Thru	SB Right	SB Ped	SB App Total	WB Left	WB Thru	WB Right	WB Ped	WB App Total	Int Total
4:15 PM	43	77	2	1	122	33	0	20	0	53	0	90	39	0	129	2	0	0	0	2	306
4:30 PM	39	87	0	1	126	24	0	23	0	47	1	78	46	0	125	0	0	0	0	0	298
4:45 PM	41	91	0	0	132	24	0	23	0	47	0	75	50	0	125	0	1	1	0	2	306
5:00 PM	45	89	3	0	137	23	0	22	0	45	0	106	35	0	141	0	0	1	0	1	324
Total	168	344	5	2	517	104	0	88	0	192	1	349	170	0	520	2	1	2	0	5	1234
PHF	0.93	0.95	0.42		0.94	0.79		0.96		0.91	0.25	0.82	0.85		0.92	0.25	0.25	0.50		0.63	
HV %	7	1	20			4		2			0	1	4			0	0	0			

☑ Cars ☑ Trucks ☑ Pedestrians ☑ Bikes



Peak Hour Data for Intersection

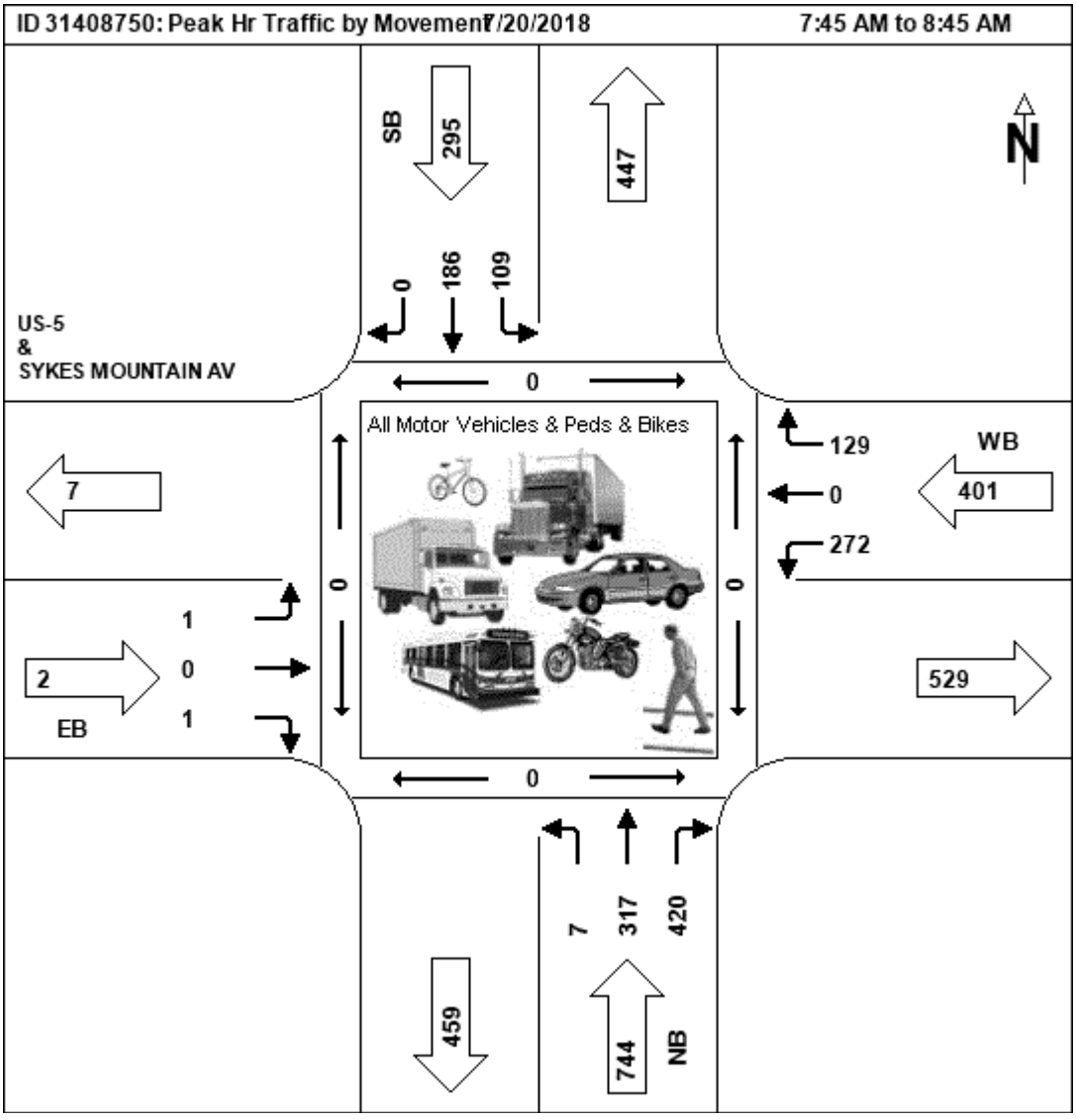
Int ID:	31408750		
Community:	HARTFORD	**Corridor:**	NA
Road 1:	US-5	**Road 3:**	US-5
Road 2:	SYKES MOUNTAIN AV	**Road 4:**	CLOSED DEALERSHIP

|<< < > >>| 1-10 of 10

AM Peak Hour
07/20/2018

Start Time	NB Left	NB Thru	NB Right	NB Ped	NB App Total	EB Left	EB Thru	EB Right	EB Ped	EB App Total	SB Left	SB Thru	SB Right	SB Ped	SB App Total	WB Left	WB Thru	WB Right	WB Ped	WB App Total	Int Total
7:45 AM	1	88	116	0	205	0	0	1	0	1	35	60	0	0	95	68	0	26	0	94	395
8:00 AM	0	80	112	0	192	1	0	0	0	1	23	46	0	0	69	66	0	34	0	100	362
8:15 AM	2	67	91	0	160	0	0	0	0	0	29	38	0	0	67	72	0	25	0	97	324
8:30 AM	4	82	101	0	187	0	0	0	0	0	22	42	0	0	64	66	0	44	0	110	361
Total	7	317	420	0	744	1	0	1	0	2	109	186	0	0	295	272	0	129	0	401	1442
PHF	0.44	0.90	0.91		0.91	0.25		0.25		0.50	0.78	0.78			0.78	0.94		0.73		0.91	
HV %	29	9	8			100		0			5	9				12		9			

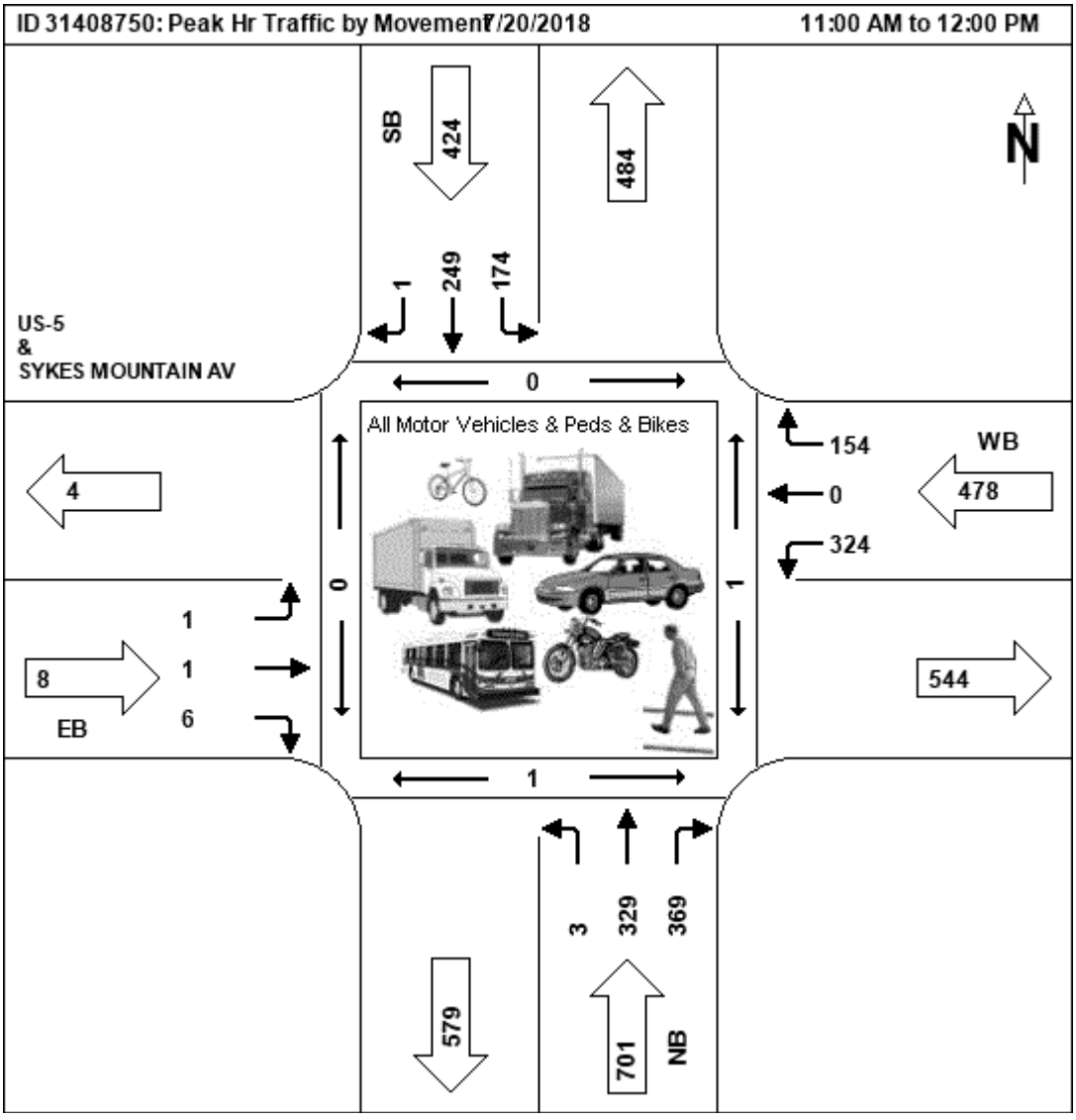
☑ Cars ☑ Trucks ☑ Pedestrians ☑ Bikes



Midday Peak Hour
07/20/2018

Start Time	NB Left	NB Thru	NB Right	NB Ped	NB App Total	EB Left	EB Thru	EB Right	EB Ped	EB App Total	SB Left	SB Thru	SB Right	SB Ped	SB App Total	WB Left	WB Thru	WB Right	WB Ped	WB App Total	Int Total
11:00 AM	0	73	88	0	161	1	1	1	0	3	41	59	1	0	101	81	0	39	0	120	385
11:15 AM	1	93	80	0	174	0	0	1	0	1	40	70	0	0	110	78	0	32	0	110	395
11:30 AM	1	79	92	1	172	0	0	1	0	1	39	61	0	0	100	79	0	33	0	112	385
11:45 AM	1	84	109	0	194	0	0	3	1	3	54	59	0	0	113	86	0	50	0	136	446
Total	3	329	369	1	701	1	1	6	1	8	174	249	1	0	424	324	0	154	0	478	1611
PHF	0.75	0.88	0.85		0.90	0.25	0.25	0.50		0.67	0.81	0.89	0.25		0.94	0.94		0.77		0.88	
HV %	33	12	5			100	100	33			6	10	100			10		2			

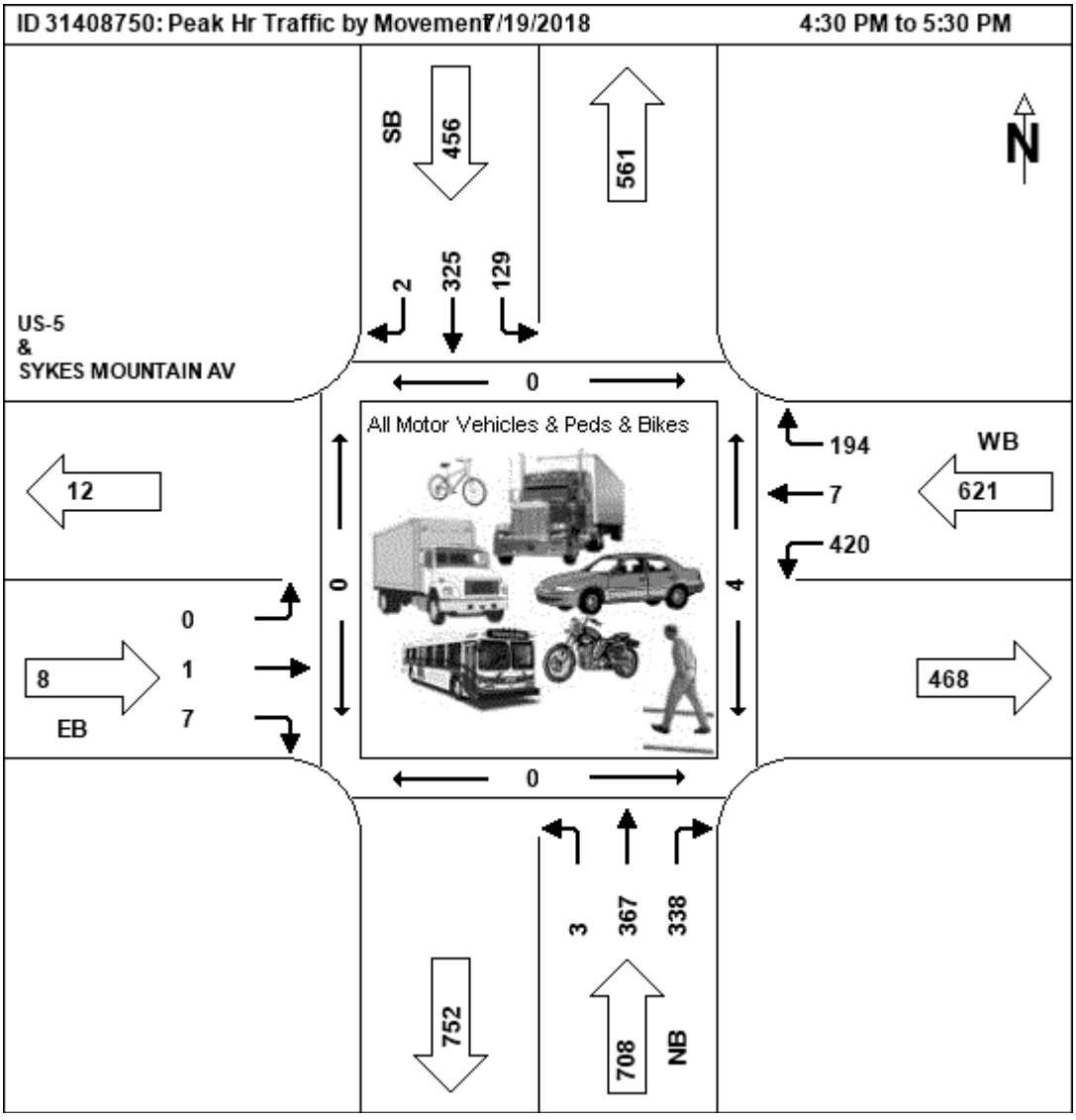
☑ Cars ☑ Trucks ☑ Pedestrians ☑ Bikes



PM Peak Hour
07/19/2018

Start Time	NB Left	NB Thru	NB Right	NB Ped	NB App Total	EB Left	EB Thru	EB Right	EB Ped	EB App Total	SB Left	SB Thru	SB Right	SB Ped	SB App Total	WB Left	WB Thru	WB Right	WB Ped	WB App Total	Int Total
4:30 PM	0	95	93	0	188	0	1	3	0	4	32	99	1	0	132	99	0	56	0	155	479
4:45 PM	1	89	89	0	179	0	0	2	0	2	25	65	1	0	91	96	0	35	0	131	403
5:00 PM	0	92	80	4	172	0	0	2	0	2	36	90	0	0	126	112	6	55	0	173	473
5:15 PM	2	91	76	0	169	0	0	0	0	0	36	71	0	0	107	113	1	48	0	162	438
Total	3	367	338	4	708	0	1	7	0	8	129	325	2	0	456	420	7	194	0	621	1793
PHF	0.38	0.97	0.91		0.94		0.25	0.58		0.50	0.90	0.82	0.50		0.86	0.93	0.29	0.87		0.90	
HV %	0	5	4				0	0			1	3	100			3	14	4			

☑ Cars ☑ Trucks ☑ Pedestrians ☑ Bikes



Peak Hour Data for Intersection

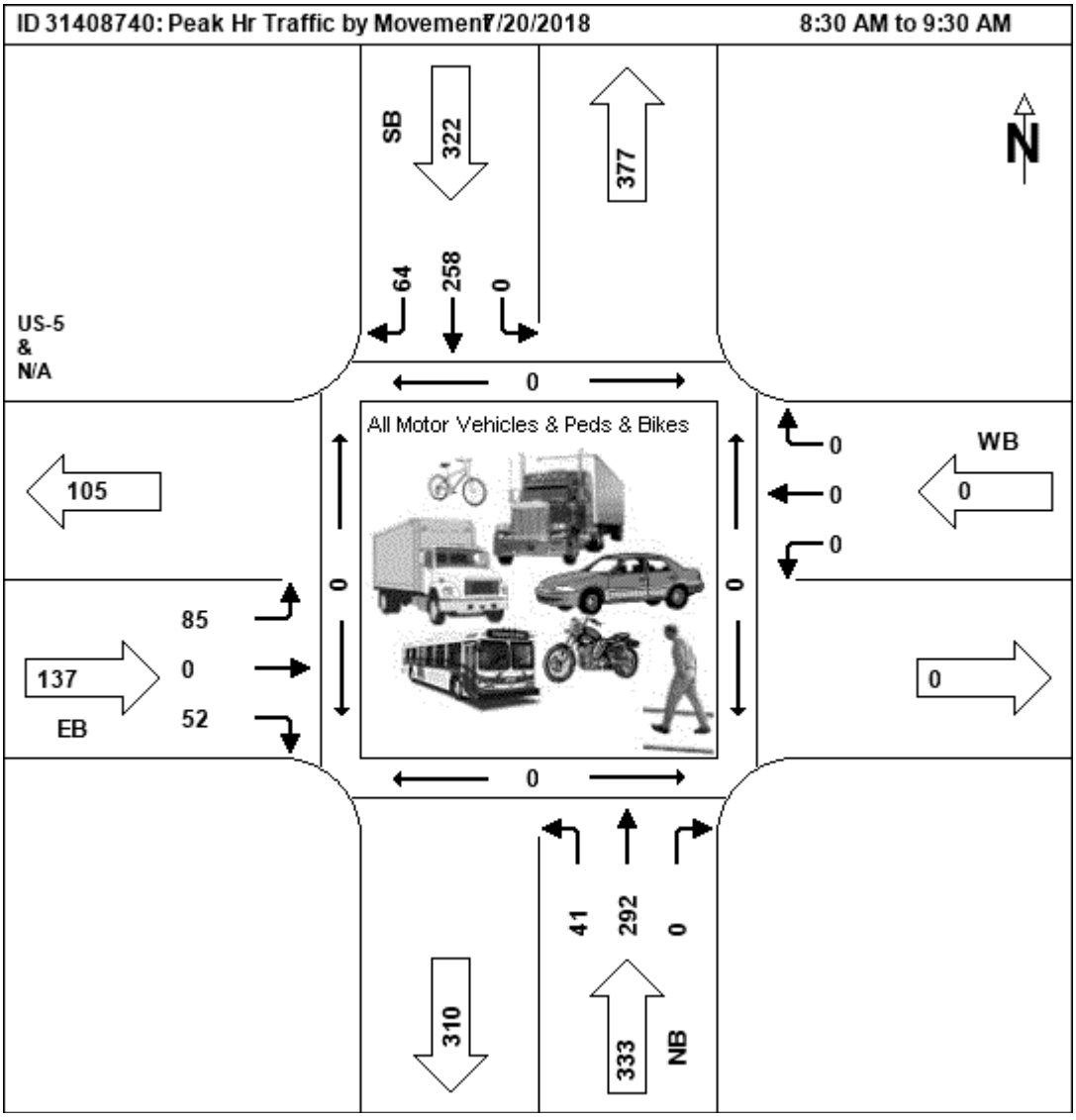
Int ID:	31408740		
Community:	HARTFORD	**Corridor:**	NA
Road 1:	US-5	**Road 3:**	US-5
Road 2:		**Road 4:**	VA CUTOFF RD

|<< < > >>| 1-8 of 8

AM Peak Hour
07/20/2018

Start Time	NB Left	NB Thru	NB Right	NB Ped	NB App Total	EB Left	EB Thru	EB Right	EB Ped	EB App Total	SB Left	SB Thru	SB Right	SB Ped	SB App Total	WB Left	WB Thru	WB Right	WB Ped	WB App Total	Int Total
8:30 AM	8	66	0	0	74	24	0	7	0	31	0	71	6	0	77	0	0	0	0	0	182
8:45 AM	12	75	0	0	87	19	0	21	0	40	0	77	22	0	99	0	0	0	0	0	226
9:00 AM	9	76	0	0	85	20	0	13	0	33	0	63	18	0	81	0	0	0	0	0	199
9:15 AM	12	75	0	0	87	22	0	11	0	33	0	47	18	0	65	0	0	0	0	0	185
Total	41	292	0	0	333	85	0	52	0	137	0	258	64	0	322	0	0	0	0	0	792
PHF	0.85	0.96			0.96	0.89		0.62		0.86		0.84	0.73		0.81						
HV %	17	14				5		13				17	6								

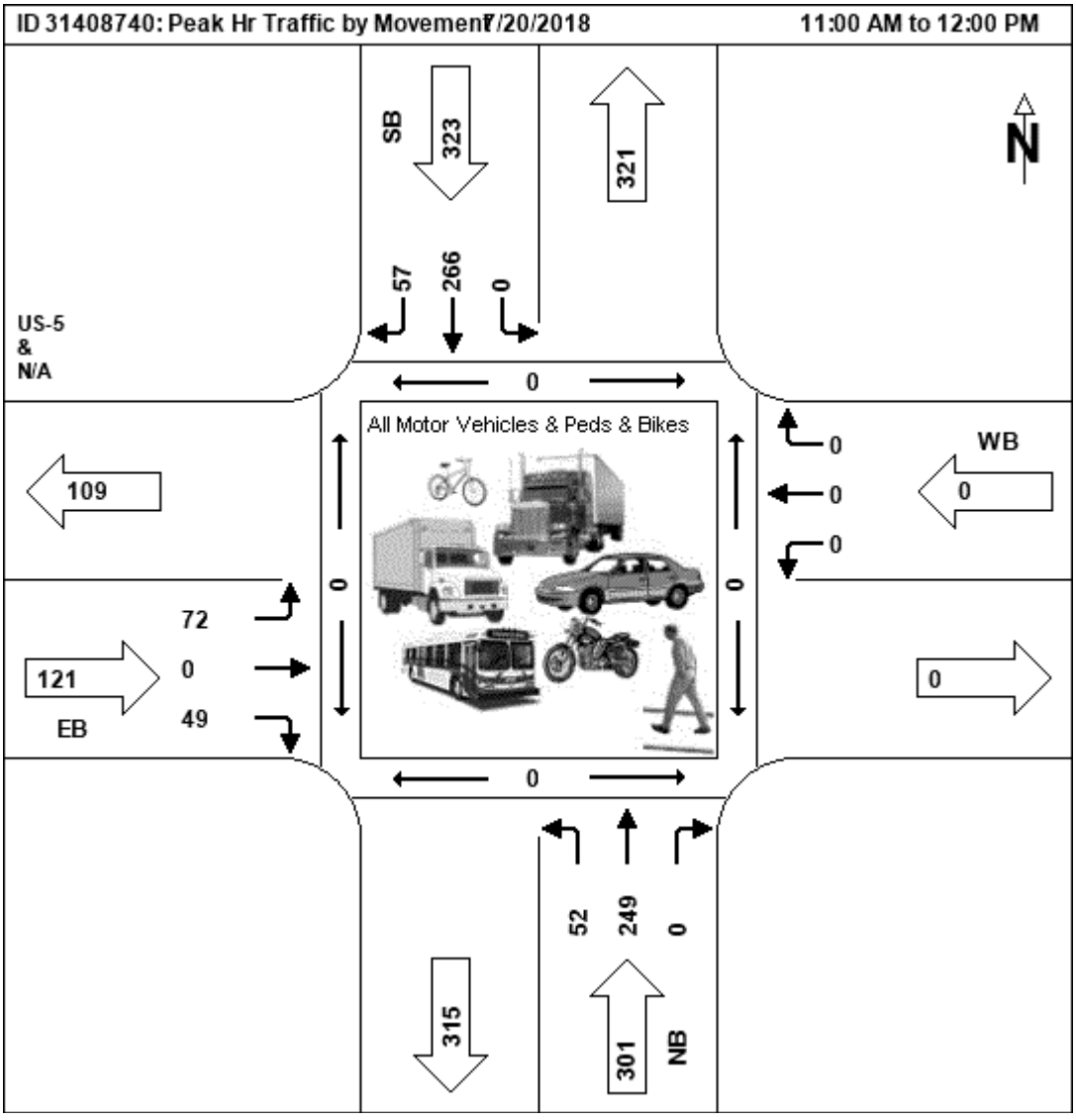
☑ Cars ☑ Trucks ☑ Pedestrians ☑ Bikes



Midday Peak Hour
07/20/2018

Start Time	NB Left	NB Thru	NB Right	NB Ped	NB App Total	EB Left	EB Thru	EB Right	EB Ped	EB App Total	SB Left	SB Thru	SB Right	SB Ped	SB App Total	WB Left	WB Thru	WB Right	WB Ped	WB App Total	Int Total
11:00 AM	8	56	0	0	64	18	0	13	0	31	0	59	12	0	71	0	0	0	0	0	166
11:15 AM	15	67	0	0	82	14	0	14	0	28	0	67	14	0	81	0	0	0	0	0	191
11:30 AM	15	65	0	0	80	18	0	12	0	30	0	70	15	0	85	0	0	0	0	0	195
11:45 AM	14	61	0	0	75	22	0	10	0	32	0	70	16	0	86	0	0	0	0	0	193
Total	52	249	0	0	301	72	0	49	0	121	0	266	57	0	323	0	0	0	0	0	745
PHF	0.87	0.93			0.92	0.82		0.88		0.95		0.95	0.89		0.94						
HV %	8	16				3		6				12	5								

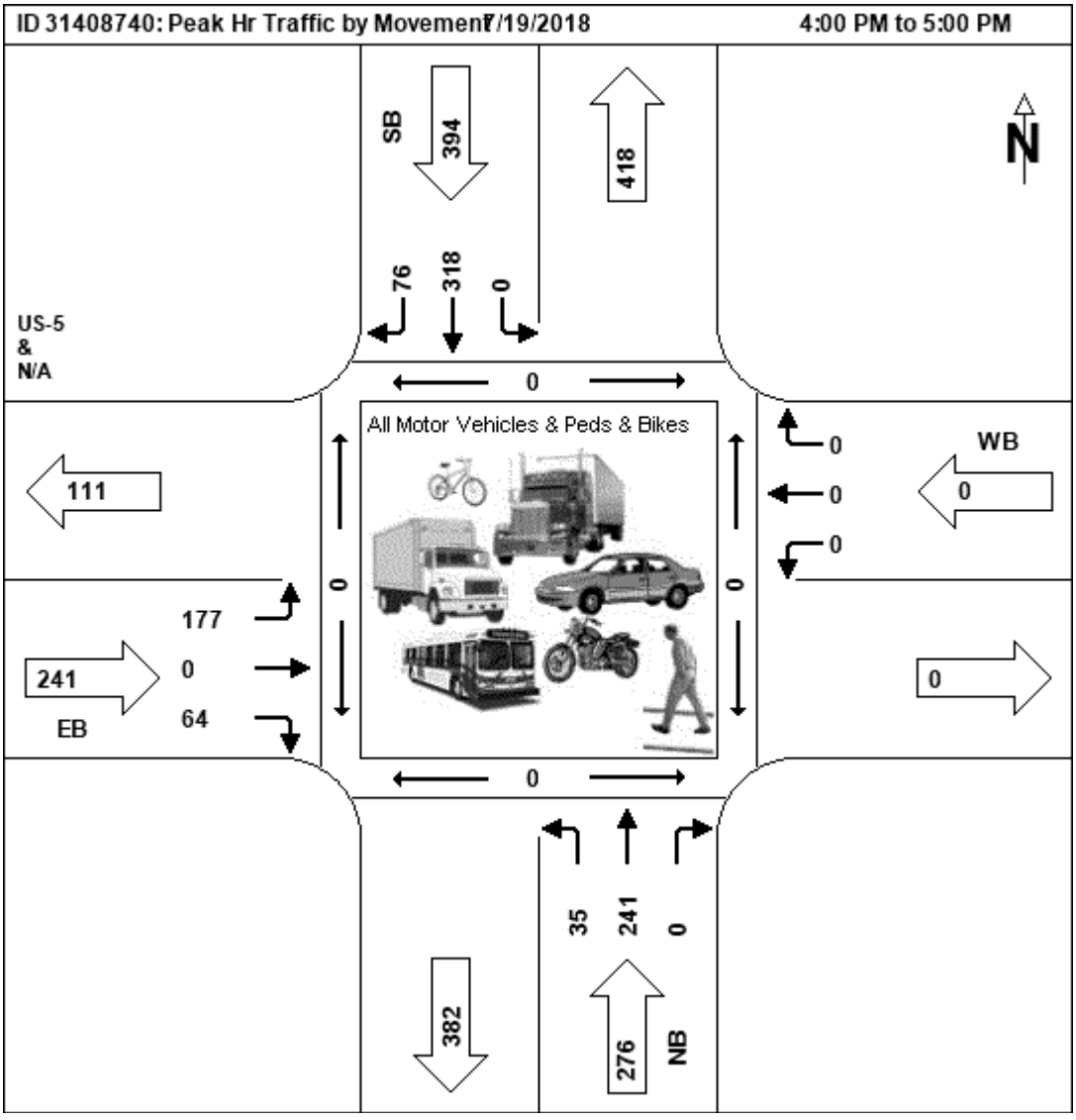
☑ Cars ☑ Trucks ☑ Pedestrians ☑ Bikes



PM Peak Hour
07/19/2018

Start Time	NB Left	NB Thru	NB Right	NB Ped	NB App Total	EB Left	EB Thru	EB Right	EB Ped	EB App Total	SB Left	SB Thru	SB Right	SB Ped	SB App Total	WB Left	WB Thru	WB Right	WB Ped	WB App Total	Int Total
4:00 PM	8	57	0	0	65	47	0	14	0	61	0	79	13	0	92	0	0	0	0	0	218
4:15 PM	6	59	0	0	65	29	0	16	0	45	0	82	23	0	105	0	0	0	0	0	215
4:30 PM	9	75	0	0	84	63	0	19	0	82	0	76	17	0	93	0	0	0	0	0	259
4:45 PM	12	50	0	0	62	38	0	15	0	53	0	81	23	0	104	0	0	0	0	0	219
Total	35	241	0	0	276	177	0	64	0	241	0	318	76	0	394	0	0	0	0	0	911
PHF	0.73	0.80			0.82	0.70		0.84		0.73		0.97	0.83		0.94						
HV %	0	5				3		0				5	4								

☑ Cars ☑ Trucks ☑ Pedestrians ☑ Bikes



Peak Hour Data for Intersection

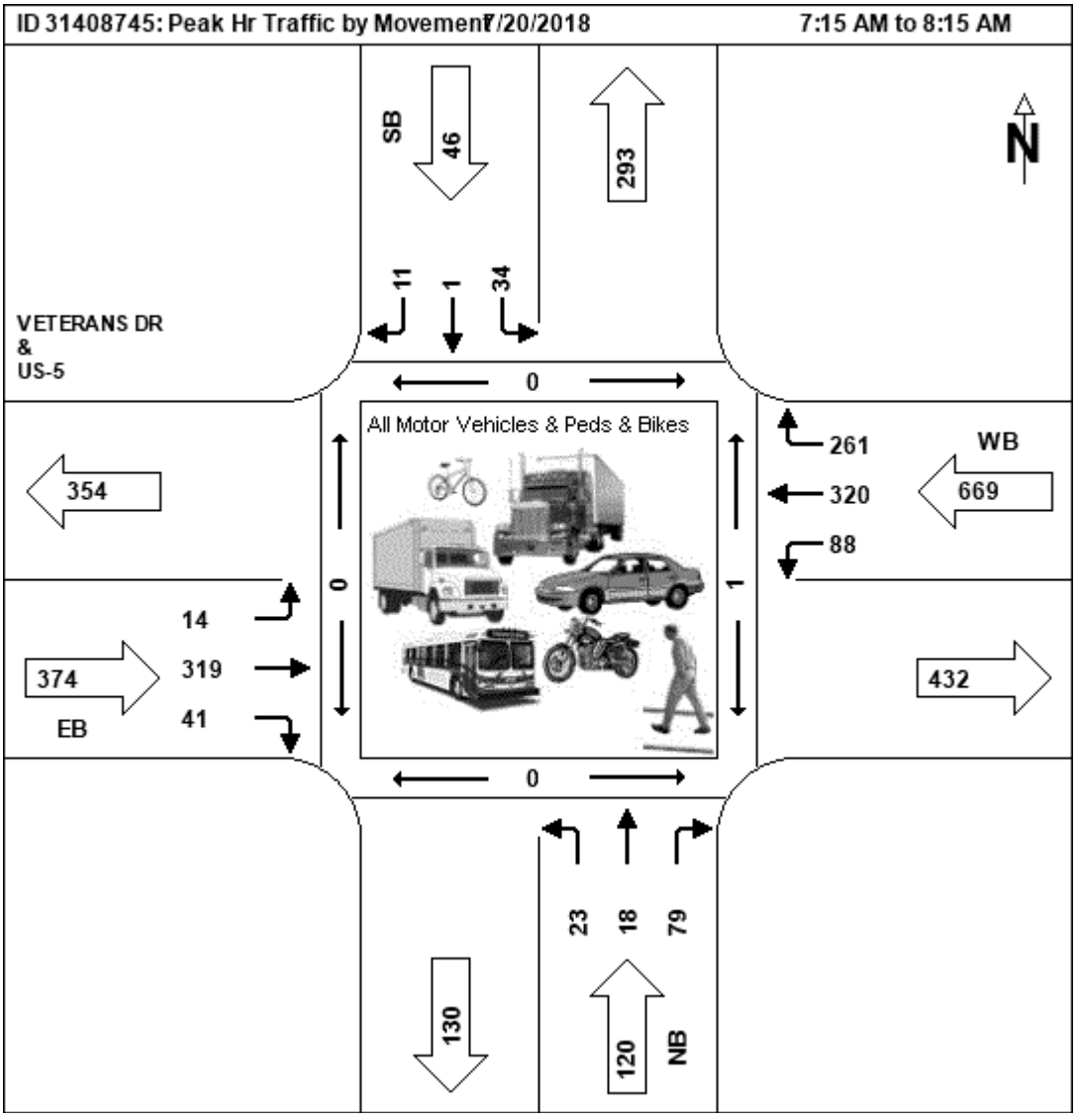
Int ID:	31408745		
Community:	HARTFORD	**Corridor:**	NA
Road 1:	VETERANS DR	**Road 3:**	CONVENIENCE STORE
Road 2:	US-5	**Road 4:**	US-5

|<< < > >>| 1-4 of 4

AM Peak Hour
07/20/2018

Start Time	NB Left	NB Thru	NB Right	NB Ped	NB App Total	EB Left	EB Thru	EB Right	EB Ped	EB App Total	SB Left	SB Thru	SB Right	SB Ped	SB App Total	WB Left	WB Thru	WB Right	WB Ped	WB App Total	Int Total
7:15 AM	4	5	23	0	32	6	65	8	0	79	12	0	0	0	12	26	55	90	0	171	294
7:30 AM	3	4	15	0	22	3	74	9	0	86	6	0	1	0	7	27	77	60	0	164	279
7:45 AM	9	6	21	1	36	3	81	13	0	97	5	0	4	0	9	18	100	65	0	183	325
8:00 AM	7	3	20	0	30	2	99	11	0	112	11	1	6	0	18	17	88	46	0	151	311
Total	23	18	79	1	120	14	319	41	0	374	34	1	11	0	46	88	320	261	0	669	1209
PHF	0.64	0.75	0.86		0.83	0.58	0.81	0.79		0.83	0.71	0.25	0.46		0.64	0.81	0.80	0.73		0.91	
HV %	0	0	0			0	18	0			18	0	0			0	14	1			

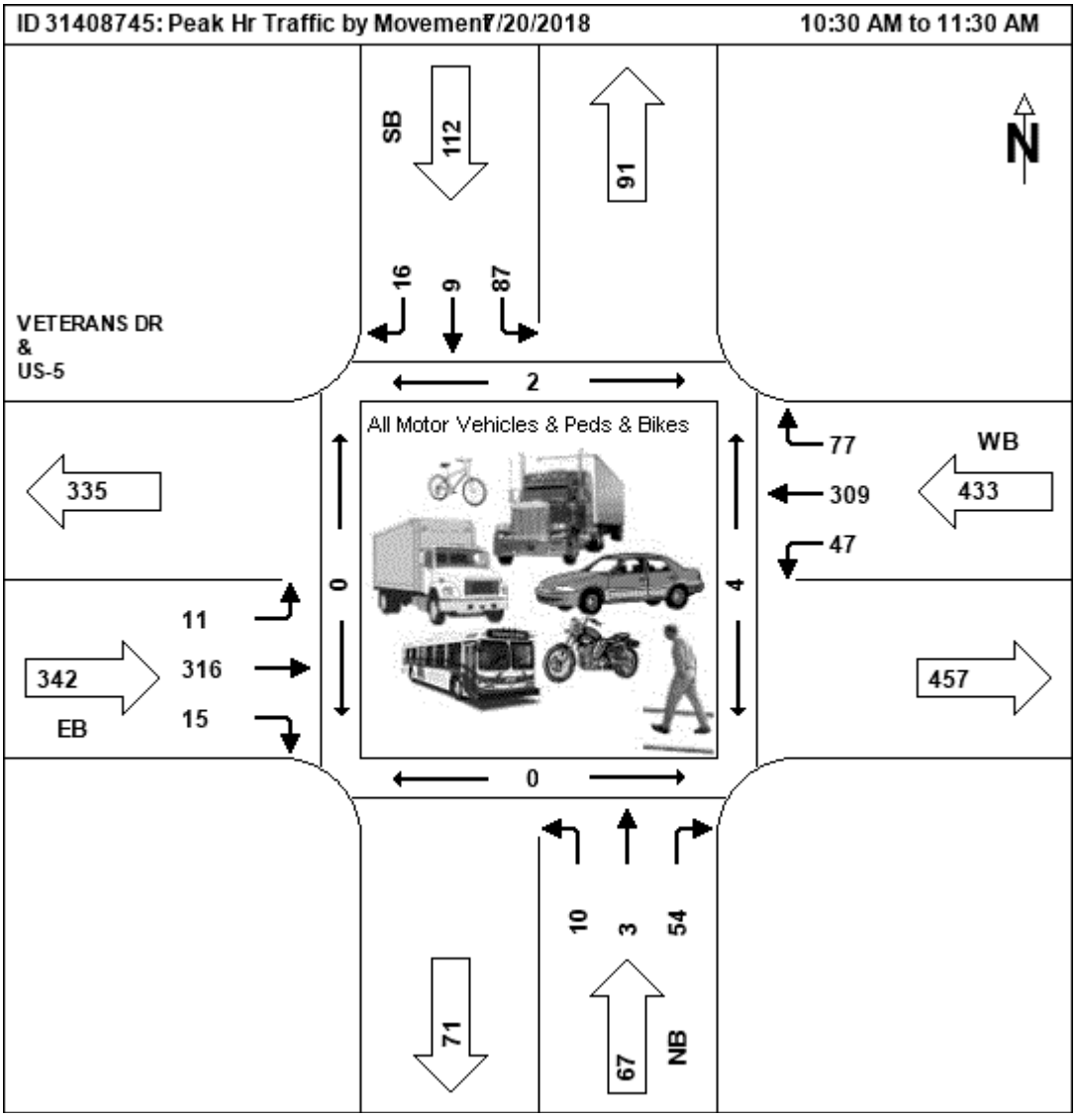
☑ Cars ☑ Trucks ☑ Pedestrians ☑ Bikes



Midday Peak Hour
07/20/2018

Start Time	NB Left	NB Thru	NB Right	NB Ped	NB App Total	EB Left	EB Thru	EB Right	EB Ped	EB App Total	SB Left	SB Thru	SB Right	SB Ped	SB App Total	WB Left	WB Thru	WB Right	WB Ped	WB App Total	Int Total
10:30 AM	4	1	12	1	17	3	86	2	0	91	15	2	6	0	23	11	77	25	1	113	244
10:45 AM	2	2	12	0	16	1	76	3	0	80	27	1	5	0	33	11	71	18	1	100	229
11:00 AM	1	0	13	2	14	5	74	4	0	83	15	2	2	0	19	14	79	16	0	109	225
11:15 AM	3	0	17	1	20	2	80	6	0	88	30	4	3	0	37	11	82	18	0	111	256
Total	10	3	54	4	67	11	316	15	0	342	87	9	16	0	112	47	309	77	2	433	954
PHF	0.63	0.38	0.79		0.84	0.55	0.92	0.63		0.94	0.73	0.56	0.67		0.76	0.84	0.94	0.77		0.96	
HV %	0	0	6			0	16	7			2	11	6			2	14	6			

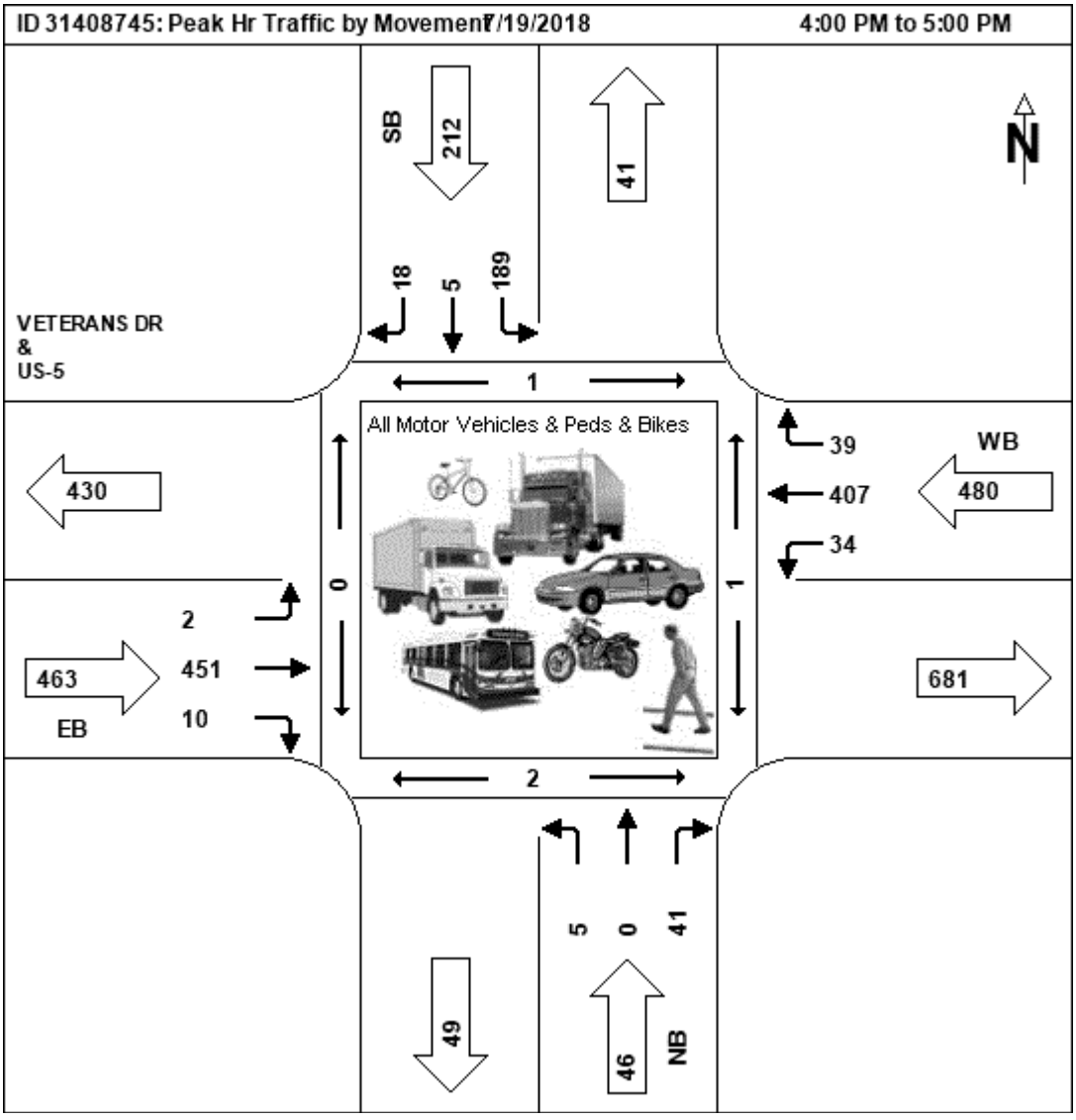
☑ Cars ☑ Trucks ☑ Pedestrians ☑ Bikes



PM Peak Hour
07/19/2018

Start Time	NB Left	NB Thru	NB Right	NB Ped	NB App Total	EB Left	EB Thru	EB Right	EB Ped	EB App Total	SB Left	SB Thru	SB Right	SB Ped	SB App Total	WB Left	WB Thru	WB Right	WB Ped	WB App Total	Int Total
4:00 PM	1	0	9	1	10	2	110	0	2	112	53	0	6	0	59	11	100	9	0	120	301
4:15 PM	1	0	11	0	12	0	93	5	0	98	46	2	3	0	51	8	108	9	1	125	286
4:30 PM	3	0	12	0	15	0	150	2	0	152	46	1	3	0	50	10	96	9	0	115	332
4:45 PM	0	0	9	0	9	0	98	3	0	101	44	2	6	0	52	5	103	12	0	120	282
Total	5	0	41	1	46	2	451	10	2	463	189	5	18	0	212	34	407	39	1	480	1201
PHF	0.42		0.85		0.77	0.25	0.75	0.50		0.76	0.89	0.63	0.75		0.90	0.77	0.94	0.81		0.96	
HV %	0		0			0	5	0			2	0	0			0	6	13			

☑ Cars ☑ Trucks ☑ Pedestrians ☑ Bikes



Peak Hour Data for Intersection

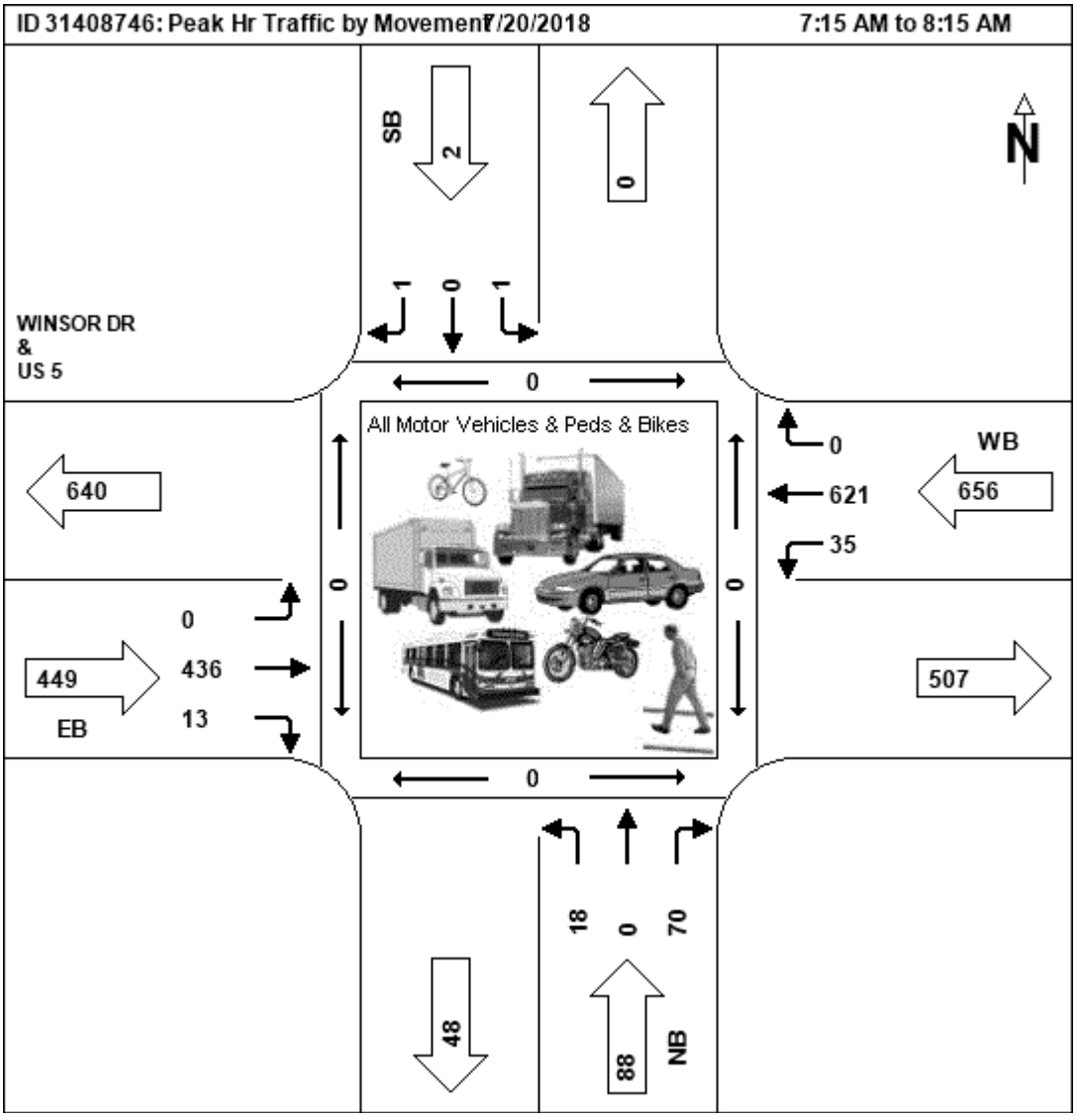
Int ID:	31408746		
Community:	HARTFORD	**Corridor:**	
Road 1:	WINSOR DR	**Road 3:**	BALLARDVALE DR
Road 2:	US 5	**Road 4:**	US 5

|<< < > >>| 1-2 of 2

AM Peak Hour
07/20/2018

Start Time	NB Left	NB Thru	NB Right	NB Ped	NB App Total	EB Left	EB Thru	EB Right	EB Ped	EB App Total	SB Left	SB Thru	SB Right	SB Ped	SB App Total	WB Left	WB Thru	WB Right	WB Ped	WB App Total	Int Total
7:15 AM	1	0	19	0	20	0	105	3	0	108	0	0	0	0	0	8	154	0	0	162	290
7:30 AM	7	0	13	0	20	0	95	2	0	97	1	0	0	0	1	3	158	0	0	161	279
7:45 AM	5	0	19	0	24	0	104	5	0	109	0	0	1	0	1	13	172	0	0	185	319
8:00 AM	5	0	19	0	24	0	132	3	0	135	0	0	0	0	0	11	137	0	0	148	307
Total	18	0	70	0	88	0	436	13	0	449	1	0	1	0	2	35	621	0	0	656	1195
PHF	0.64		0.92		0.92		0.83	0.65		0.83	0.25		0.25		0.50	0.67	0.90			0.89	
HV %	0		6				13	15			0		0			0	7				

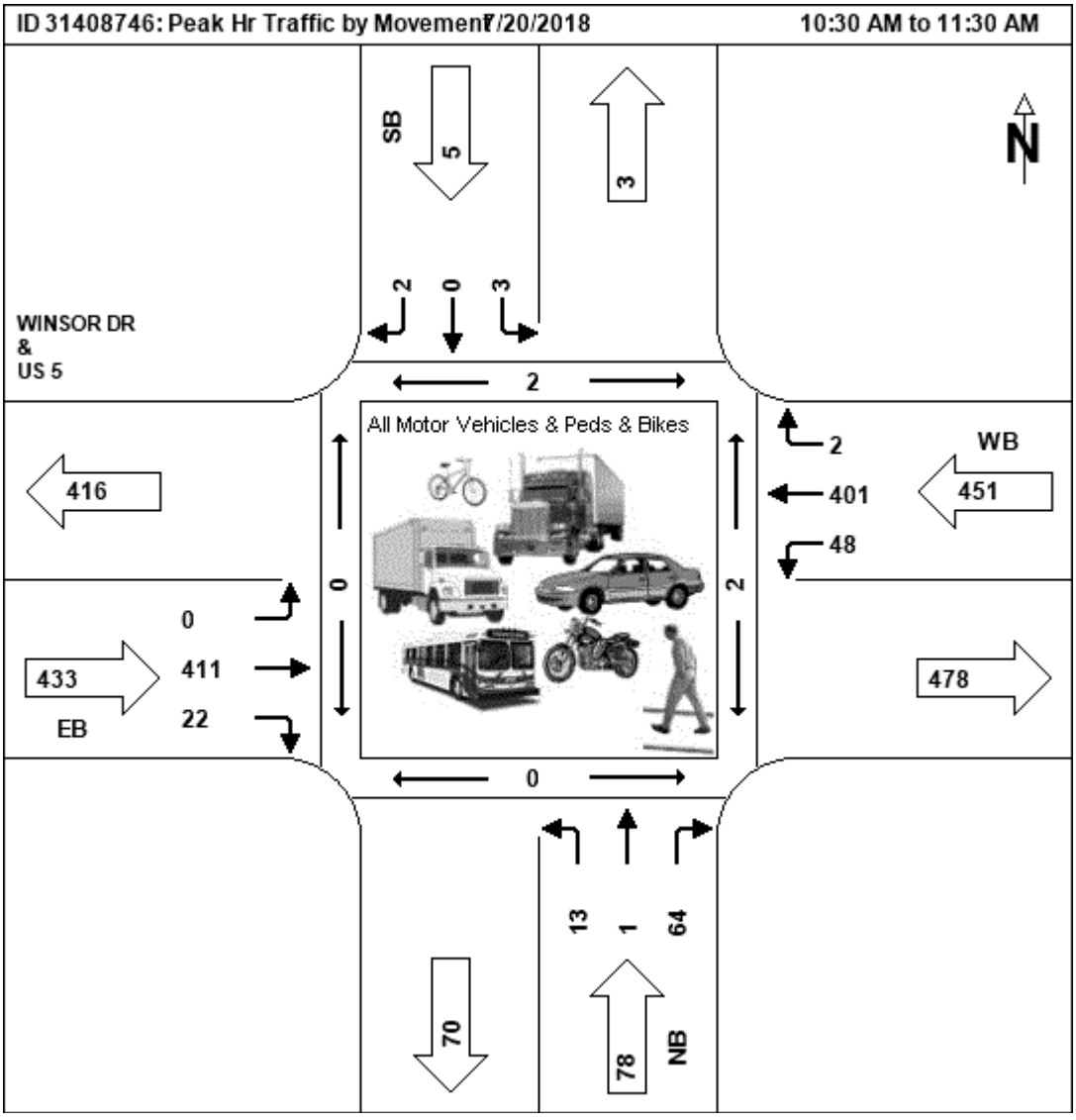
☑ Cars ☑ Trucks ☑ Pedestrians ☑ Bikes



Midday Peak Hour
07/20/2018

Start Time	NB Left	NB Thru	NB Right	NB Ped	NB App Total	EB Left	EB Thru	EB Right	EB Ped	EB App Total	SB Left	SB Thru	SB Right	SB Ped	SB App Total	WB Left	WB Thru	WB Right	WB Ped	WB App Total	Int Total
10:30 AM	3	1	12	1	16	0	106	6	0	112	1	0	2	0	3	12	106	1	1	119	250
10:45 AM	3	0	21	1	24	0	98	4	0	102	0	0	0	0	0	13	87	0	1	100	226
11:00 AM	4	0	18	0	22	0	92	6	0	98	1	0	0	0	1	8	103	1	0	112	233
11:15 AM	3	0	13	0	16	0	115	6	0	121	1	0	0	0	1	15	105	0	0	120	258
Total	13	1	64	2	78	0	411	22	0	433	3	0	2	0	5	48	401	2	2	451	967
PHF	0.81	0.25	0.76		0.81		0.89	0.92		0.89	0.75		0.25		0.42	0.80	0.95	0.50		0.94	
HV %	0	0	8				10	5			0		0			10	7	0			

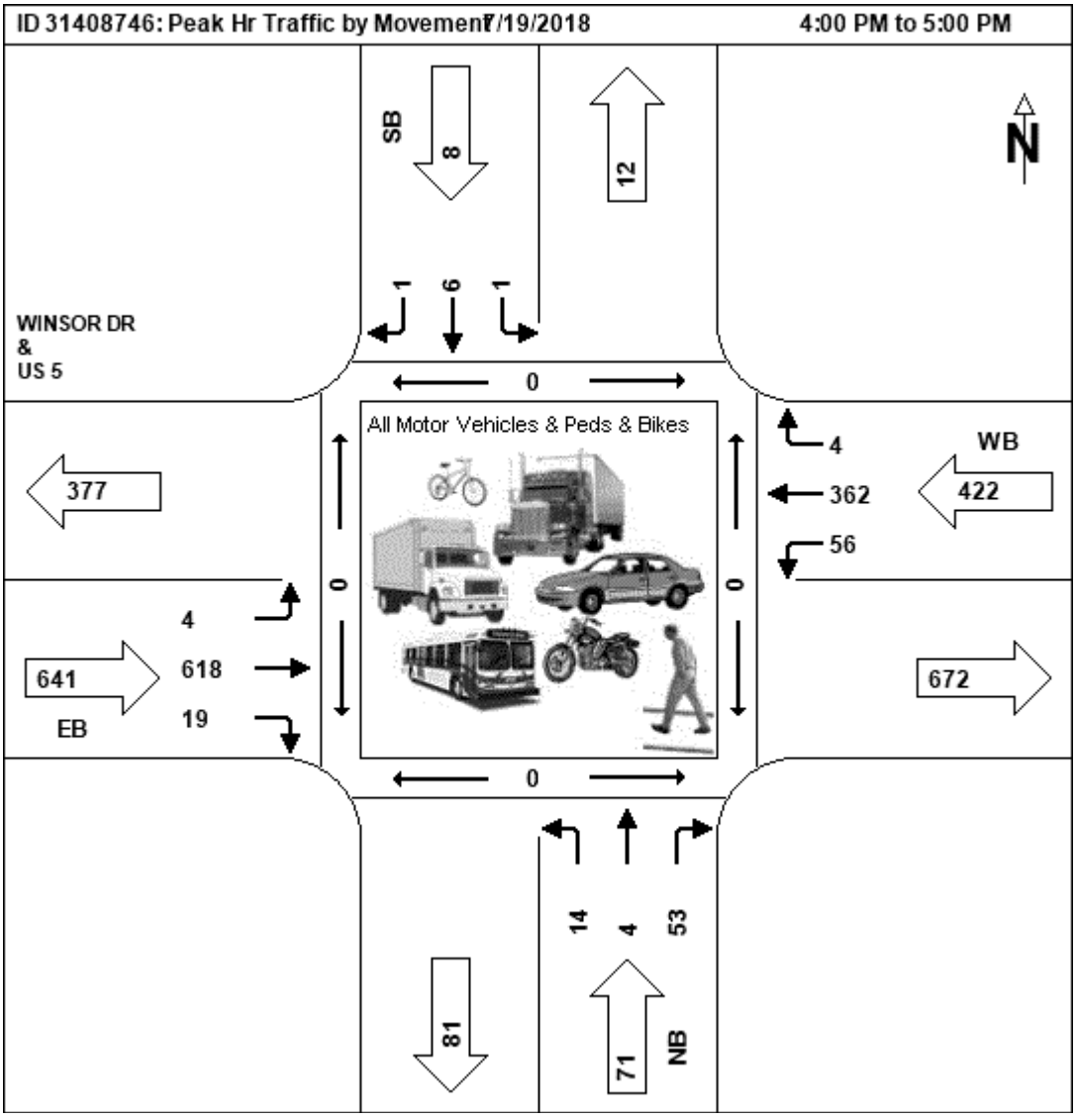
☑ Cars ☑ Trucks ☑ Pedestrians ☑ Bikes



PM Peak Hour
07/19/2018

Start Time	NB Left	NB Thru	NB Right	NB Ped	NB App Total	EB Left	EB Thru	EB Right	EB Ped	EB App Total	SB Left	SB Thru	SB Right	SB Ped	SB App Total	WB Left	WB Thru	WB Right	WB Ped	WB App Total	Int Total
4:00 PM	4	0	18	0	22	1	155	8	0	164	1	1	0	0	2	17	80	0	0	97	285
4:15 PM	6	0	15	0	21	1	130	3	0	134	0	0	0	0	0	22	84	0	0	106	261
4:30 PM	2	0	10	0	12	0	182	4	0	186	0	0	0	0	0	8	106	3	0	117	315
4:45 PM	2	4	10	0	16	2	151	4	0	157	0	5	1	0	6	9	92	1	0	102	281
Total	14	4	53	0	71	4	618	19	0	641	1	6	1	0	8	56	362	4	0	422	1142
PHF	0.58	0.25	0.74		0.81	0.50	0.85	0.59		0.86	0.25	0.30	0.25		0.33	0.64	0.85	0.33		0.90	
HV %	0	0	4			25	4	0			0	0	0			4	5	0			

☑ Cars ☑ Trucks ☑ Pedestrians ☑ Bikes



Assume 50% each direction

use 1% growth per year to get all data to 2018.

APPENDIX C

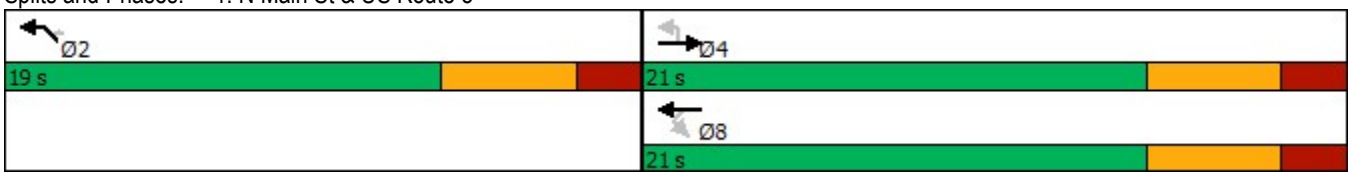
Traffic Simulation Queue Length Report

Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Traffic Volume (vph)	303	114	68	216	65	108
Future Volume (vph)	303	114	68	216	65	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		680	0		0	150
Storage Lanes		0	1		2	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	0.95	1.00	1.00	0.97	1.00
Frt	0.959					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3394	0	1770	1863	3433	1583
Flt Permitted			0.491		0.950	
Satd. Flow (perm)	3394	0	915	1863	3433	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	124					117
Link Speed (mph)	30			30	30	
Link Distance (ft)	1824			983	1114	
Travel Time (s)	41.5			22.3	25.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	329	124	74	235	71	117
Shared Lane Traffic (%)						
Lane Group Flow (vph)	453	0	74	235	71	117
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2		1	2	1	1
Detector Template	Thru		Left	Thru	Left	Right
Leading Detector (ft)	100		20	100	20	20
Trailing Detector (ft)	0		0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0
Detector 1 Size(ft)	6		20	6	20	20
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	4			8	2	
Permitted Phases			8			2

Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Detector Phase	4		8	8	2	2
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	10.0	10.0
Minimum Split (s)	16.0		16.0	16.0	16.0	16.0
Total Split (s)	21.0		21.0	21.0	19.0	19.0
Total Split (%)	52.5%		52.5%	52.5%	47.5%	47.5%
Maximum Green (s)	15.0		15.0	15.0	13.0	13.0
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		6.0	6.0	6.0	6.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		None	None	Min	Min
Act Effct Green (s)	10.8		10.8	10.8	10.0	10.0
Actuated g/C Ratio	0.33		0.33	0.33	0.30	0.30
v/c Ratio	0.38		0.25	0.38	0.07	0.21
Control Delay	7.0		10.3	10.5	8.8	3.8
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	7.0		10.3	10.5	8.8	3.8
LOS	A		B	B	A	A
Approach Delay	7.0			10.5	5.7	
Approach LOS	A			B	A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 40			
Actuated Cycle Length: 32.8			
Natural Cycle: 40			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.38			
Intersection Signal Delay: 7.8		Intersection LOS: A	
Intersection Capacity Utilization 46.7%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 1: N Main St & US Route 5

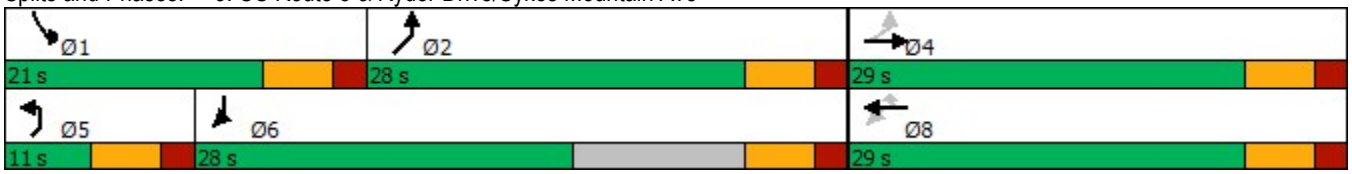


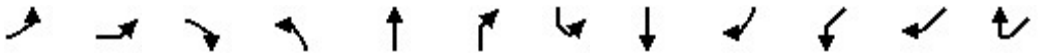
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	NEL2	NEL	NER
Lane Configurations											
Traffic Volume (vph)	1	0	1	272	0	129	109	186	7	317	420
Future Volume (vph)	1	0	1	272	0	129	109	186	7	317	420
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	220	0		100	0
Storage Lanes	0		0	0		1	1	2		1	0
Taper Length (ft)	25			25			25			25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.88	1.00	0.97	0.95
Frt		0.932				0.850		0.850		0.915	
Flt Protected		0.976			0.950		0.950		0.950	0.979	
Satd. Flow (prot)	0	1694	0	0	1770	1583	1770	2787	1770	3237	0
Flt Permitted		0.867			0.757		0.950		0.950	0.979	
Satd. Flow (perm)	0	1505	0	0	1410	1583	1770	2787	1770	3237	0
Right Turn on Red			Yes			Yes					Yes
Satd. Flow (RTOR)		210				210				426	
Link Speed (mph)		30			30		30			30	
Link Distance (ft)		264			230		482			463	
Travel Time (s)		6.0			5.2		11.0			10.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	0	1	296	0	140	118	202	8	345	457
Shared Lane Traffic (%)											
Lane Group Flow (vph)	0	2	0	0	296	140	118	202	8	802	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Right	Left	Left	Right
Median Width(ft)		0			0		12			36	
Link Offset(ft)		0			0		0			0	
Crosswalk Width(ft)		16			16		16			16	
Two way Left Turn Lane											
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15	9	15	15	9
Number of Detectors	1	2		1	2	1	1	1	1	1	
Detector Template	Left	Thru		Left	Thru	Right	Left	Right	Left	Left	
Leading Detector (ft)	20	100		20	100	20	20	20	20	20	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	20	20	20	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel											
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94						
Detector 2 Size(ft)		6			6						
Detector 2 Type		Cl+Ex			Cl+Ex						
Detector 2 Channel											
Detector 2 Extend (s)		0.0			0.0						
Turn Type	Perm	NA		Perm	NA	Perm	Prot	Prot	Prot	Prot	
Protected Phases		4			8		1	6	5	2	
Permitted Phases	4			8		8					

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	NEL2	NEL	NER
Detector Phase	4	4		8	8	8	1	6	5	2	
Switch Phase											
Minimum Initial (s)	8.0	8.0		8.0	8.0	8.0	5.0	11.0	5.0	11.0	
Minimum Split (s)	16.0	16.0		16.0	16.0	16.0	15.0	17.0	11.0	17.0	
Total Split (s)	29.0	29.0		29.0	29.0	29.0	21.0	28.0	11.0	28.0	
Total Split (%)	37.2%	37.2%		37.2%	37.2%	37.2%	26.9%	35.9%	14.1%	35.9%	
Maximum Green (s)	23.0	23.0		23.0	23.0	23.0	15.0	22.0	5.0	22.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0			6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag							Lead	Lag	Lead	Lag	
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Recall Mode	None	None		None	None	None	None	Min	None	Min	
Act Effct Green (s)		16.0			16.0	16.0	8.7	24.4	5.5	14.6	
Actuated g/C Ratio		0.29			0.29	0.29	0.16	0.44	0.10	0.26	
v/c Ratio		0.00			0.73	0.23	0.43	0.16	0.05	0.68	
Control Delay		0.0			31.3	1.9	29.9	11.0	31.0	13.0	
Queue Delay		0.0			0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		0.0			31.3	1.9	29.9	11.0	31.0	13.0	
LOS		A			C	A	C	B	C	B	
Approach Delay					21.8		18.0			13.2	
Approach LOS					C		B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 78			
Actuated Cycle Length: 55.1			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay: 16.6		Intersection LOS: B	
Intersection Capacity Utilization 65.1%		ICU Level of Service C	
Analysis Period (min) 15			

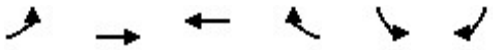
Splits and Phases: 3: US Route 5 & Ryder Drive/Sykes Mountain Ave





Lane Group	EBL2	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR	SWR2
Lane Configurations												
Traffic Volume (vph)	66	270	0	436	15	429	0	0	0	0	397	58
Future Volume (vph)	66	270	0	436	15	429	0	0	0	0	397	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		110	0	0		150	0		0	0	250	
Storage Lanes		1	0	0		1	0		0	0	1	
Taper Length (ft)		25		25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.88	1.00
Frt						0.850					0.850	0.850
Flt Protected	0.950	0.950			0.954							
Satd. Flow (prot)	1770	1770	0	0	1777	1583	0	0	0	0	2787	1583
Flt Permitted	0.950	0.950			0.954							
Satd. Flow (perm)	1770	1770	0	0	1777	1583	0	0	0	0	2787	1583
Link Speed (mph)		30			30			30		30		
Link Distance (ft)		840			1151			400		463		
Travel Time (s)		19.1			26.2			9.1		10.5		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	72	293	0	474	16	466	0	0	0	0	432	63
Shared Lane Traffic (%)												
Lane Group Flow (vph)	72	293	0	0	490	466	0	0	0	0	432	63
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Right	Right
Median Width(ft)		24			0			0		12		
Link Offset(ft)		0			0			0		0		
Crosswalk Width(ft)		16			16			16		16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	15	9	15		9	15		9	15	9	9
Sign Control		Free			Stop			Stop		Free		

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 46.6%		ICU Level of Service A	
Analysis Period (min) 15			

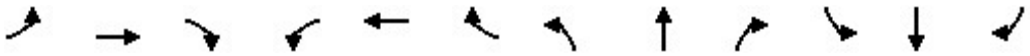


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	215	276	521	220	44	159
Future Volume (vph)	215	276	521	220	44	159
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850	0.894	
Flt Protected	0.950				0.989	
Satd. Flow (prot)	1770	1863	1863	1583	1647	0
Flt Permitted	0.950				0.989	
Satd. Flow (perm)	1770	1863	1863	1583	1647	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		306	840		585	
Travel Time (s)		7.0	19.1		13.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	234	300	566	239	48	173
Shared Lane Traffic (%)						
Lane Group Flow (vph)	234	300	566	239	221	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 61.6%		ICU Level of Service B	
Analysis Period (min) 15			

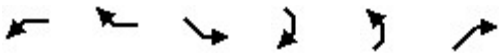
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	30	29	417	30	30	295
Future Volume (vph)	30	29	417	30	30	295
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	325	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt	0.934		0.990			
Flt Protected	0.975				0.950	
Satd. Flow (prot)	1696	0	3504	0	1770	3539
Flt Permitted	0.975				0.950	
Satd. Flow (perm)	1696	0	3504	0	1770	3539
Link Speed (mph)	30		30			30
Link Distance (ft)	782		482			2055
Travel Time (s)	17.8		11.0			46.7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	32	453	33	33	321
Shared Lane Traffic (%)						
Lane Group Flow (vph)	65	0	486	0	33	321
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 29.3%		ICU Level of Service A	
Analysis Period (min) 15			



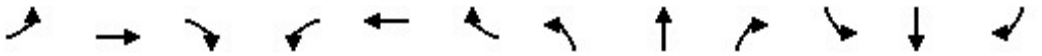
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	319	41	88	320	261	23	18	79	34	1	11
Future Volume (vph)	14	319	41	88	320	261	23	18	79	34	1	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.985			0.947			0.911			0.968	
Flt Protected		0.998			0.993			0.991			0.964	
Satd. Flow (prot)	0	1831	0	0	1752	0	0	1682	0	0	1738	0
Flt Permitted		0.998			0.993			0.991			0.964	
Satd. Flow (perm)	0	1831	0	0	1752	0	0	1682	0	0	1738	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		906			287			190			542	
Travel Time (s)		20.6			6.5			4.3			12.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	15	347	45	96	348	284	25	20	86	37	1	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	407	0	0	728	0	0	131	0	0	50	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 75.5%		ICU Level of Service D	
Analysis Period (min) 15			



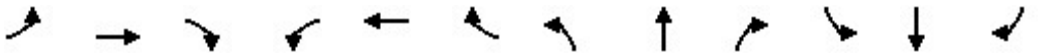
Lane Group	WBL	WBR	SEL	SER	NEL	NER
Lane Configurations						
Traffic Volume (vph)	258	64	85	52	41	292
Future Volume (vph)	258	64	85	52	41	292
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.973		0.948		0.882	
Flt Protected	0.962		0.970		0.994	
Satd. Flow (prot)	1744	0	1713	0	1633	0
Flt Permitted	0.962		0.970		0.994	
Satd. Flow (perm)	1744	0	1713	0	1633	0
Link Speed (mph)	30		30		30	
Link Distance (ft)	906		2012		1510	
Travel Time (s)	20.6		45.7		34.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	280	70	92	57	45	317
Shared Lane Traffic (%)						
Lane Group Flow (vph)	350	0	149	0	362	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Right
Median Width(ft)	12		12		12	
Link Offset(ft)	0		0		0	
Crosswalk Width(ft)	16		16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15	9	15	9
Sign Control	Free		Stop		Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 56.4%		ICU Level of Service B	
Analysis Period (min) 15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	93	335	2	3	220	66	1	0	1	88	1	92
Future Volume (vph)	93	335	2	3	220	66	1	0	1	88	1	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	380		0	0		150	0		0	0		0
Storage Lanes	1		0	0		1	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999				0.850		0.932				0.850
Flt Protected	0.950				0.999			0.976			0.953	
Satd. Flow (prot)	1770	3536	0	0	3536	1583	0	1694	0	0	1775	1583
Flt Permitted	0.950				0.999			0.976			0.953	
Satd. Flow (perm)	1770	3536	0	0	3536	1583	0	1694	0	0	1775	1583
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2055			1824			609			1803	
Travel Time (s)		46.7			41.5			13.8			41.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	101	364	2	3	239	72	1	0	1	96	1	100
Shared Lane Traffic (%)												
Lane Group Flow (vph)	101	366	0	0	242	72	0	2	0	0	97	100
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 34.1%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	436	13	35	621	0	18	0	70	1	0	1
Future Volume (vph)	0	436	13	35	621	0	18	0	70	1	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996						0.850			0.932	
Flt Protected				0.950			0.950				0.976	
Satd. Flow (prot)	0	1855	0	1770	1863	0	1770	1583	0	0	1694	0
Flt Permitted				0.950			0.950				0.976	
Satd. Flow (perm)	0	1855	0	1770	1863	0	1770	1583	0	0	1694	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		287			306			926			699	
Travel Time (s)		6.5			7.0			21.0			15.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	474	14	38	675	0	20	0	76	1	0	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	488	0	38	675	0	20	76	0	0	2	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 43.7%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	497	32	32	369	32	32
Future Volume (vph)	497	32	32	369	32	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.992				0.932	
Flt Protected				0.996	0.976	
Satd. Flow (prot)	1848	0	0	1855	1694	0
Flt Permitted				0.996	0.976	
Satd. Flow (perm)	1848	0	0	1855	1694	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	230			250	275	
Travel Time (s)	5.2			5.7	6.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	540	35	35	401	35	35
Shared Lane Traffic (%)						
Lane Group Flow (vph)	575	0	0	436	70	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 56.3%		ICU Level of Service B	
Analysis Period (min) 15			

Lane Group	EBR	EBR2	NBL	NBR	NWL2	NWL
Lane Configurations						
Traffic Volume (vph)	521	8	8	8	8	393
Future Volume (vph)	521	8	8	8	8	393
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.865		0.932			
Flt Protected			0.976			0.950
Satd. Flow (prot)	1611	0	1694	0	0	1770
Flt Permitted			0.976			0.950
Satd. Flow (perm)	1611	0	1694	0	0	1770
Link Speed (mph)	30		30			30
Link Distance (ft)	250		271			704
Travel Time (s)	5.7		6.2			16.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	566	9	9	9	9	427
Shared Lane Traffic (%)						
Lane Group Flow (vph)	575	0	18	0	0	436
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Right	Right	Left	Right	Left	Left
Median Width(ft)	0		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	9	15	9	15	15
Sign Control	Free		Stop			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 36.1%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	5	11	55	0	16	54
Future Volume (vph)	5	11	55	0	16	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.905					
Flt Protected	0.986					0.989
Satd. Flow (prot)	1662	0	1863	0	0	1842
Flt Permitted	0.986					0.989
Satd. Flow (perm)	1662	0	1863	0	0	1842
Link Speed (mph)	30		30			30
Link Distance (ft)	248		265			275
Travel Time (s)	5.6		6.0			6.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	12	60	0	17	59
Shared Lane Traffic (%)						
Lane Group Flow (vph)	17	0	60	0	0	76
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Stop			Stop

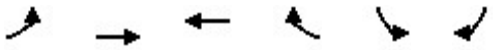
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 20.4%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	12	4	0	0	0	0
Future Volume (vph)	12	4	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.968					
Flt Protected	0.963					
Satd. Flow (prot)	1736	0	0	1863	1863	0
Flt Permitted	0.963					
Satd. Flow (perm)	1736	0	0	1863	1863	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	248			305	271	
Travel Time (s)	5.6			6.9	6.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	13	4	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	17	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Stop	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 6.7%		ICU Level of Service A	
Analysis Period (min) 15			

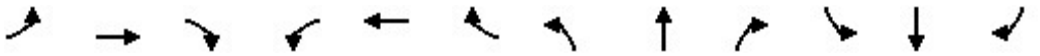
Lane Group	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations						
Traffic Volume (vph)	63	63	458	63	63	338
Future Volume (vph)	63	63	458	63	63	338
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.932		0.984			
Flt Protected	0.976					0.992
Satd. Flow (prot)	1694	0	1833	0	0	1848
Flt Permitted	0.976					0.992
Satd. Flow (perm)	1694	0	1833	0	0	1848
Link Speed (mph)	30		30			30
Link Distance (ft)	1534		704			683
Travel Time (s)	34.9		16.0			15.5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	68	68	498	68	68	367
Shared Lane Traffic (%)						
Lane Group Flow (vph)	136	0	566	0	0	435
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 66.6%		ICU Level of Service C	
Analysis Period (min) 15			



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	0	1863	1863	0	1863	0
Flt Permitted						
Satd. Flow (perm)	0	1863	1863	0	1863	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		683	208		871	
Travel Time (s)		15.5	4.7		19.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 0.0%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt												
Flt Protected												
Satd. Flow (prot)	0	1863	0	0	1863	0	0	1863	0	0	1863	0
Flt Permitted												
Satd. Flow (perm)	0	1863	0	0	1863	0	0	1863	0	0	1863	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		208			1172			999			796	
Travel Time (s)		4.7			26.6			22.7			18.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 0.0%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection: 1: N Main St & US Route 5

Movement	EB	EB	WB	WB	NW	NW
Directions Served	UT	TR	L	T	L	L
Maximum Queue (ft)	95	134	87	87	70	50
Average Queue (ft)	43	60	34	43	23	15
95th Queue (ft)	79	105	71	76	56	41
Link Distance (ft)	1741	1741	932	932	1053	1053
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 3: US Route 5 & Ryder Drive/Sykes Mountain Ave

Movement	EB	WB	WB	SB	SB	SB	NE	NE	NE
Directions Served	LTR	LT	R	L	R	R>	<	L	LR
Maximum Queue (ft)	28	157	78	121	53	72	28	135	262
Average Queue (ft)	1	103	41	55	28	28	3	65	111
95th Queue (ft)	9	161	68	96	57	63	16	118	216
Link Distance (ft)	202	153	153		405	405		390	390
Upstream Blk Time (%)		2							
Queuing Penalty (veh)		4							
Storage Bay Dist (ft)				220			100		
Storage Blk Time (%)								1	
Queuing Penalty (veh)								0	

Intersection: 6: I-91 NB off Ramp/I-91 NB on ramp & US Route 5

Movement	EB	NB	NB	SW	SW	SW
Directions Served	L	LT	R	R	R	>
Maximum Queue (ft)	21	1162	175	18	20	38
Average Queue (ft)	1	1075	175	1	1	3
95th Queue (ft)	7	1384	175	8	7	17
Link Distance (ft)	789	1110		390	390	
Upstream Blk Time (%)		78				
Queuing Penalty (veh)		0				
Storage Bay Dist (ft)			150			250
Storage Blk Time (%)		80	2			
Queuing Penalty (veh)		341	10			

Intersection: 9: US Route 5 & I-91 SB ramp

Movement	EB	WB	SB
Directions Served	L	R	LR
Maximum Queue (ft)	100	51	177
Average Queue (ft)	50	10	86
95th Queue (ft)	80	33	145
Link Distance (ft)	245	789	511
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 10: US Route 5 & Airport Dr

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	62	56
Average Queue (ft)	28	8
95th Queue (ft)	52	32
Link Distance (ft)	730	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		325
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 12: Dunkin Donuts/Veterans Dr & US Route 5

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	73	94	67	69
Average Queue (ft)	11	34	35	26
95th Queue (ft)	45	84	59	56
Link Distance (ft)	839	218	157	511
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 15: US Route 5 & VA Cutoff Rd

Movement	WB	SE	NE
Directions Served	LR	LR	LR
Maximum Queue (ft)	73	112	75
Average Queue (ft)	8	51	10
95th Queue (ft)	37	92	40
Link Distance (ft)	839	1973	1487
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 18: Store Driveway/US Route 4 & US Route 5

Movement	EB	NB	SB
Directions Served	L	LTR	LT
Maximum Queue (ft)	51	23	147
Average Queue (ft)	15	1	44
95th Queue (ft)	46	11	90
Link Distance (ft)		530	1755
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	380		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 24: Ballardvale Dr/Windsor Dr & US Route 5

Movement	EB	WB	NB	NB	SB
Directions Served	LTR	L	L	TR	LTR
Maximum Queue (ft)	17	29	45	52	29
Average Queue (ft)	1	10	13	29	3
95th Queue (ft)	6	32	39	50	17
Link Distance (ft)	218	245	879	879	660
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 27: Beswick Dr & Sykes Mountain Ave

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	115	74
Average Queue (ft)	18	37
95th Queue (ft)	72	69
Link Distance (ft)	194	224
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 30: Ralph Lehman Dr & Sykes Mountain Ave

Movement	NB
Directions Served	LR
Maximum Queue (ft)	49
Average Queue (ft)	13
95th Queue (ft)	39
Link Distance (ft)	202
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 33: Beswick Dr

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (ft)	30	56	50
Average Queue (ft)	10	33	25
95th Queue (ft)	33	50	47
Link Distance (ft)		232	224
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 34: Ralph Lehman Dr

Movement	EB
Directions Served	LR
Maximum Queue (ft)	31
Average Queue (ft)	11
95th Queue (ft)	36
Link Distance (ft)	190
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 37: Holiday Dr & Sykes Mountain Ave

Movement	NB	NW
Directions Served	LR	LT
Maximum Queue (ft)	183	75
Average Queue (ft)	61	31
95th Queue (ft)	119	77
Link Distance (ft)	1506	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 40: Sykes Mountain Ave & Lowery hyde Park

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 42: Bowling Ave & Sykes Mountain Ave

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

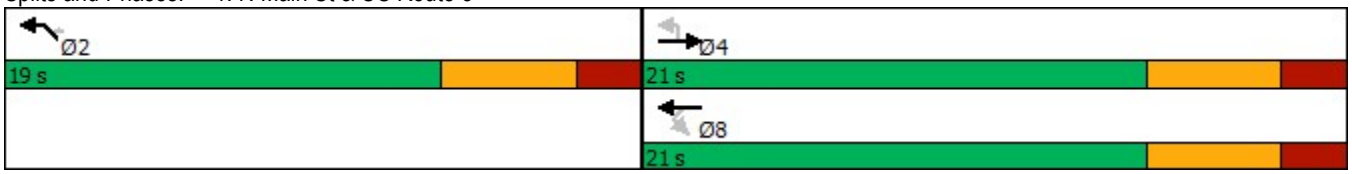
Network wide Queuing Penalty: 356

Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Traffic Volume (vph)	363	139	70	364	168	195
Future Volume (vph)	363	139	70	364	168	195
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		680	0		0	150
Storage Lanes		0	1		2	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	0.95	1.00	1.00	0.97	1.00
Frt	0.959					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3394	0	1770	1863	3433	1583
Flt Permitted			0.448		0.950	
Satd. Flow (perm)	3394	0	835	1863	3433	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	151					212
Link Speed (mph)	30			30	30	
Link Distance (ft)	1824			983	1114	
Travel Time (s)	41.5			22.3	25.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	395	151	76	396	183	212
Shared Lane Traffic (%)						
Lane Group Flow (vph)	546	0	76	396	183	212
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2		1	2	1	1
Detector Template	Thru		Left	Thru	Left	Right
Leading Detector (ft)	100		20	100	20	20
Trailing Detector (ft)	0		0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0
Detector 1 Size(ft)	6		20	6	20	20
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	4			8	2	
Permitted Phases			8			2

Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Detector Phase	4		8	8	2	2
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	10.0	10.0
Minimum Split (s)	16.0		16.0	16.0	16.0	16.0
Total Split (s)	21.0		21.0	21.0	19.0	19.0
Total Split (%)	52.5%		52.5%	52.5%	47.5%	47.5%
Maximum Green (s)	15.0		15.0	15.0	13.0	13.0
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		6.0	6.0	6.0	6.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		None	None	Min	Min
Act Effct Green (s)	12.5		12.5	12.5	10.2	10.2
Actuated g/C Ratio	0.36		0.36	0.36	0.29	0.29
v/c Ratio	0.41		0.25	0.59	0.18	0.35
Control Delay	6.9		10.2	13.1	10.4	4.1
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	6.9		10.2	13.1	10.4	4.1
LOS	A		B	B	B	A
Approach Delay	6.9			12.6	7.0	
Approach LOS	A			B	A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 40			
Actuated Cycle Length: 34.8			
Natural Cycle: 40			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.59			
Intersection Signal Delay: 8.8		Intersection LOS: A	
Intersection Capacity Utilization 57.0%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 1: N Main St & US Route 5

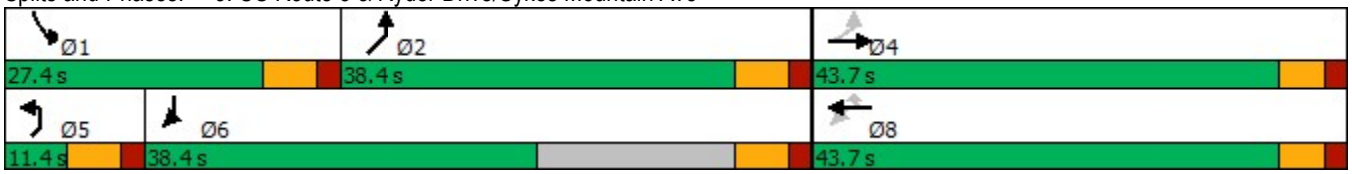


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	SBR2	NEL2	NEL	NER
Lane Configurations												
Traffic Volume (vph)	0	1	7	420	7	194	129	325	2	3	367	338
Future Volume (vph)	0	1	7	420	7	194	129	325	2	3	367	338
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	220	0			100	0
Storage Lanes	0		0	0		1	1	2			1	0
Taper Length (ft)	25			25			25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.88	1.00	1.00	0.97	0.95
Frt		0.880				0.850		0.850			0.928	
Flt Protected					0.953		0.950			0.950	0.975	
Satd. Flow (prot)	0	1639	0	0	1775	1583	1770	2787	0	1770	3270	0
Flt Permitted					0.724		0.950			0.950	0.975	
Satd. Flow (perm)	0	1639	0	0	1349	1583	1770	2787	0	1770	3270	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8				211		91			216	
Link Speed (mph)		30			30		30				30	
Link Distance (ft)		264			230		482				463	
Travel Time (s)		6.0			5.2		11.0				10.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1	8	457	8	211	140	353	2	3	399	367
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	9	0	0	465	211	140	355	0	3	766	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Right	Right	Left	Left	Right
Median Width(ft)		0			0		12				36	
Link Offset(ft)		0			0		0				0	
Crosswalk Width(ft)		16			16		16				16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15	9	9	15	15	9
Number of Detectors	1	2		1	2	1	1	1		1	1	
Detector Template	Left	Thru		Left	Thru	Right	Left	Right		Left	Left	
Leading Detector (ft)	20	100		20	100	20	20	20		20	20	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	20		20	20	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type		NA		Perm	NA	Perm	Prot	Prot		Prot	Prot	
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4			8		8						

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	SBR2	NEL2	NEL	NER
Detector Phase	4	4		8	8	8	1	6		5	2	
Switch Phase												
Minimum Initial (s)	38.0	38.0		38.0	38.0	38.0	21.0	32.0		5.0	32.0	
Minimum Split (s)	43.7	43.7		43.7	43.7	43.7	27.4	38.4		11.4	38.4	
Total Split (s)	43.7	43.7		43.7	43.7	43.7	27.4	38.4		11.4	38.4	
Total Split (%)	39.9%	39.9%		39.9%	39.9%	39.9%	25.0%	35.1%		10.4%	35.1%	
Maximum Green (s)	38.0	38.0		38.0	38.0	38.0	21.0	32.0		5.0	32.0	
Yellow Time (s)	3.7	3.7		3.7	3.7	3.7	4.4	4.4		4.4	4.4	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.7			5.7	5.7	6.4	6.4		6.4	6.4	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Recall Mode	None	None		None	None	None	None	Min		None	Min	
Act Effct Green (s)		38.0			38.0	38.0	21.0	57.1		5.0	32.0	
Actuated g/C Ratio		0.35			0.35	0.35	0.19	0.52		0.05	0.29	
v/c Ratio		0.02			0.99	0.31	0.41	0.24		0.04	0.69	
Control Delay		13.9			76.9	4.7	43.2	11.5		51.0	28.0	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		13.9			76.9	4.7	43.2	11.5		51.0	28.0	
LOS		B			E	A	D	B		D	C	
Approach Delay		13.9			54.3		20.5				28.1	
Approach LOS		B			D		C				C	

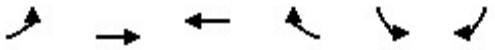
Intersection Summary			
Area Type:	Other		
Cycle Length: 109.5			
Actuated Cycle Length: 109.5			
Natural Cycle: 110			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.99			
Intersection Signal Delay: 35.2		Intersection LOS: D	
Intersection Capacity Utilization 91.3%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 3: US Route 5 & Ryder Drive/Sykes Mountain Ave



Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	199	1	443	0	0	0	82	308	0	0	555	73
Future Volume (vph)	199	1	443	0	0	0	82	308	0	0	555	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		150	0		0	110		0	0		250
Storage Lanes	0		1	0		0	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00
Frt			0.850									0.850
Flt Protected		0.953					0.950					
Satd. Flow (prot)	0	1775	1583	0	0	0	1770	1863	0	0	3539	1583
Flt Permitted		0.953					0.950					
Satd. Flow (perm)	0	1775	1583	0	0	0	1770	1863	0	0	3539	1583
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1151			400			850			463	
Travel Time (s)		26.2			9.1			19.3			10.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	216	1	482	0	0	0	89	335	0	0	603	79
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	217	482	0	0	0	89	335	0	0	603	79
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 50.3%		ICU Level of Service A	
Analysis Period (min) 15			

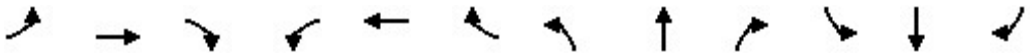


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	374	354	403	425	34	107
Future Volume (vph)	374	354	403	425	34	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850	0.898	
Flt Protected	0.950				0.988	
Satd. Flow (prot)	1770	1863	1863	1583	1653	0
Flt Permitted	0.950				0.988	
Satd. Flow (perm)	1770	1863	1863	1583	1653	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		306	850		481	
Travel Time (s)		7.0	19.3		10.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	407	385	438	462	37	116
Shared Lane Traffic (%)						
Lane Group Flow (vph)	407	385	438	462	153	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 60.4%		ICU Level of Service B	
Analysis Period (min) 15			

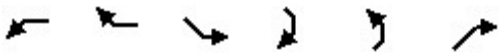
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	34	30	417	35	30	295
Future Volume (vph)	34	30	417	35	30	295
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	325	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt	0.936		0.988			
Flt Protected	0.974				0.950	
Satd. Flow (prot)	1698	0	3497	0	1770	3539
Flt Permitted	0.974				0.950	
Satd. Flow (perm)	1698	0	3497	0	1770	3539
Link Speed (mph)	30		30			30
Link Distance (ft)	782		482			2055
Travel Time (s)	17.8		11.0			46.7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	37	33	453	38	33	321
Shared Lane Traffic (%)						
Lane Group Flow (vph)	70	0	491	0	33	321
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 29.7%		ICU Level of Service A	
Analysis Period (min) 15			



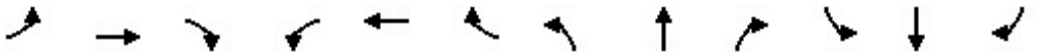
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	451	10	34	407	39	5	0	41	189	5	18
Future Volume (vph)	2	451	10	34	407	39	5	0	41	189	5	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997			0.989			0.878			0.988	
Flt Protected					0.996			0.995			0.957	
Satd. Flow (prot)	0	1857	0	0	1835	0	0	1627	0	0	1761	0
Flt Permitted					0.996			0.995			0.957	
Satd. Flow (perm)	0	1857	0	0	1835	0	0	1627	0	0	1761	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		906			287			190			542	
Travel Time (s)		20.6			6.5			4.3			12.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2	490	11	37	442	42	5	0	45	205	5	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	503	0	0	521	0	0	50	0	0	230	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 74.2%		ICU Level of Service D	
Analysis Period (min) 15			



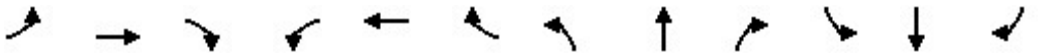
Lane Group	WBL	WBR	SEL	SER	NEL	NER
Lane Configurations						
Traffic Volume (vph)	318	76	177	64	35	241
Future Volume (vph)	318	76	177	64	35	241
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.974		0.964		0.882	
Flt Protected	0.961		0.965		0.994	
Satd. Flow (prot)	1744	0	1733	0	1633	0
Flt Permitted	0.961		0.965		0.994	
Satd. Flow (perm)	1744	0	1733	0	1633	0
Link Speed (mph)	30		30		30	
Link Distance (ft)	906		2012		1510	
Travel Time (s)	20.6		45.7		34.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	346	83	192	70	38	262
Shared Lane Traffic (%)						
Lane Group Flow (vph)	429	0	262	0	300	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Right
Median Width(ft)	12		12		12	
Link Offset(ft)	0		0		0	
Crosswalk Width(ft)	16		16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15	9	15	9
Sign Control	Free		Stop		Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 62.8%		ICU Level of Service B	
Analysis Period (min) 15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	170	348	5	2	353	172	2	1	2	105	0	89
Future Volume (vph)	170	348	5	2	353	172	2	1	2	105	0	89
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	380		0	0		150	0		0	0		0
Storage Lanes	1		0	0		1	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998				0.850		0.946				0.850
Flt Protected	0.950							0.980			0.950	
Satd. Flow (prot)	1770	3532	0	0	3539	1583	0	1727	0	0	1770	1583
Flt Permitted	0.950							0.980			0.950	
Satd. Flow (perm)	1770	3532	0	0	3539	1583	0	1727	0	0	1770	1583
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2055			1824			609			1803	
Travel Time (s)		46.7			41.5			13.8			41.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	185	378	5	2	384	187	2	1	2	114	0	97
Shared Lane Traffic (%)												
Lane Group Flow (vph)	185	383	0	0	386	187	0	5	0	0	114	97
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	42.1%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	618	19	56	362	4	14	4	53	1	6	1
Future Volume (vph)	4	618	19	56	362	4	14	4	53	1	6	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996			0.998			0.860			0.985	
Flt Protected				0.950			0.950				0.994	
Satd. Flow (prot)	0	1855	0	1770	1859	0	1770	1602	0	0	1824	0
Flt Permitted				0.950			0.950				0.994	
Satd. Flow (perm)	0	1855	0	1770	1859	0	1770	1602	0	0	1824	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		287			306			926			699	
Travel Time (s)		6.5			7.0			21.0			15.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	4	672	21	61	393	4	15	4	58	1	7	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	697	0	61	397	0	15	62	0	0	9	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 53.3%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	433	35	35	621	32	22
Future Volume (vph)	433	35	35	621	32	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.990				0.945	
Flt Protected				0.997	0.971	
Satd. Flow (prot)	1844	0	0	1857	1709	0
Flt Permitted				0.997	0.971	
Satd. Flow (perm)	1844	0	0	1857	1709	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	230			250	275	
Travel Time (s)	5.2			5.7	6.3	
Confl. Peds. (#/hr)		5				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	471	38	38	675	35	24
Shared Lane Traffic (%)						
Lane Group Flow (vph)	509	0	0	713	59	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 71.3%		ICU Level of Service C	
Analysis Period (min) 15			

Lane Group	EBR	EBR2	NBL	NBR	NWL2	NWL
Lane Configurations						
Traffic Volume (vph)	449	6	6	6	6	650
Future Volume (vph)	449	6	6	6	6	650
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.865		0.932			
Flt Protected			0.976			0.950
Satd. Flow (prot)	1611	0	1694	0	0	1770
Flt Permitted			0.976			0.950
Satd. Flow (perm)	1611	0	1694	0	0	1770
Link Speed (mph)	30		30			30
Link Distance (ft)	250		271			704
Travel Time (s)	5.7		6.2			16.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	488	7	7	7	7	707
Shared Lane Traffic (%)						
Lane Group Flow (vph)	495	0	14	0	0	714
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Right	Right	Left	Right	Left	Left
Median Width(ft)	0		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	9	15	9	15	15
Sign Control	Free		Stop			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 46.3%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	3	15	39	0	16	54
Future Volume (vph)	3	15	39	0	16	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.886					
Flt Protected	0.992					0.989
Satd. Flow (prot)	1637	0	1863	0	0	1842
Flt Permitted	0.992					0.989
Satd. Flow (perm)	1637	0	1863	0	0	1842
Link Speed (mph)	30		30			30
Link Distance (ft)	248		265			275
Travel Time (s)	5.6		6.0			6.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	16	42	0	17	59
Shared Lane Traffic (%)						
Lane Group Flow (vph)	19	0	42	0	0	76
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Stop			Stop

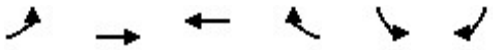
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 20.4%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	12	5	0	0	3	3
Future Volume (vph)	12	5	0	0	3	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.962				0.932	
Flt Protected	0.965					
Satd. Flow (prot)	1729	0	0	1863	1736	0
Flt Permitted	0.965					
Satd. Flow (perm)	1729	0	0	1863	1736	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	248			305	271	
Travel Time (s)	5.6			6.9	6.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	13	5	0	0	3	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	18	0	0	0	6	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Stop	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 13.3%		ICU Level of Service A	
Analysis Period (min) 15			

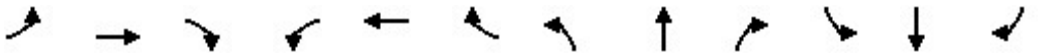
Lane Group	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations						
Traffic Volume (vph)	71	71	313	142	63	579
Future Volume (vph)	71	71	313	142	63	579
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.932		0.958			
Flt Protected	0.976					0.995
Satd. Flow (prot)	1694	0	1785	0	0	1853
Flt Permitted	0.976					0.995
Satd. Flow (perm)	1694	0	1785	0	0	1853
Link Speed (mph)	30		30			30
Link Distance (ft)	1534		704			683
Travel Time (s)	34.9		16.0			15.5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	77	77	340	154	68	629
Shared Lane Traffic (%)						
Lane Group Flow (vph)	154	0	494	0	0	697
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 77.4%		ICU Level of Service D	
Analysis Period (min) 15			



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	0	1863	1863	0	1863	0
Flt Permitted						
Satd. Flow (perm)	0	1863	1863	0	1863	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		683	208		871	
Travel Time (s)		15.5	4.7		19.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 0.0%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt												
Flt Protected												
Satd. Flow (prot)	0	1863	0	0	1863	0	0	1863	0	0	1863	0
Flt Permitted												
Satd. Flow (perm)	0	1863	0	0	1863	0	0	1863	0	0	1863	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		208			1172			999			796	
Travel Time (s)		4.7			26.6			22.7			18.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 0.0%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection: 1: N Main St & US Route 5

Movement	EB	EB	WB	WB	NW	NW	NW
Directions Served	UT	TR	L	T	L	L	R
Maximum Queue (ft)	111	122	67	129	74	77	34
Average Queue (ft)	47	68	27	69	36	33	1
95th Queue (ft)	77	109	55	115	68	67	11
Link Distance (ft)	1741	1741	932	932	1053	1053	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)							150
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 3: US Route 5 & Ryder Drive/Sykes Mountain Ave

Movement	EB	WB	WB	SB	SB	SB	NE	NE	NE
Directions Served	LTR	LT	R	L	R	R>	<	L	LR
Maximum Queue (ft)	30	160	96	160	133	147	27	240	297
Average Queue (ft)	5	144	40	88	57	65	1	138	206
95th Queue (ft)	22	183	72	145	111	124	9	231	283
Link Distance (ft)	202	153	153		405	405		390	390
Upstream Blk Time (%)		19							
Queuing Penalty (veh)		61							
Storage Bay Dist (ft)				220			100		
Storage Blk Time (%)								14	
Queuing Penalty (veh)								0	

Intersection: 6: US Route 5 & I-91 NB off Ramp/I-91 NB on ramp

Movement	NB	NB	NE	SW
Directions Served	LT	R	L	R
Maximum Queue (ft)	283	175	77	21
Average Queue (ft)	89	86	31	1
95th Queue (ft)	179	154	60	7
Link Distance (ft)	1112			
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		150	110	250
Storage Blk Time (%)	1	2		
Queuing Penalty (veh)	6	4		

Intersection: 9: US Route 5 & I-91 SB ramp

Movement	EB	EB	WB	WB	SB
Directions Served	L	T	T	R	LR
Maximum Queue (ft)	265	256	41	52	263
Average Queue (ft)	123	9	2	27	105
95th Queue (ft)	216	84	15	56	206
Link Distance (ft)	245	245	799	799	407
Upstream Blk Time (%)	1	0			
Queuing Penalty (veh)	4	1			
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 10: US Route 5 & Airport Dr

Movement	WB	NB	SB
Directions Served	LR	TR	L
Maximum Queue (ft)	70	22	55
Average Queue (ft)	28	1	13
95th Queue (ft)	56	7	44
Link Distance (ft)	730	405	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			325
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 12: Dunkin Donuts/Veterans Dr & US Route 5

Movement	WB	NB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	93	53	271
Average Queue (ft)	21	23	90
95th Queue (ft)	62	41	190
Link Distance (ft)	218	157	511
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 15: US Route 5 & VA Cutoff Rd

Movement	WB	SE	NE
Directions Served	LR	LR	LR
Maximum Queue (ft)	31	153	53
Average Queue (ft)	6	71	8
95th Queue (ft)	25	118	36
Link Distance (ft)	839	1973	1487
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 18: Store Driveway/US Route 4 & US Route 5

Movement	EB	WB	NB	SB
Directions Served	L	R	LTR	LT
Maximum Queue (ft)	96	16	24	96
Average Queue (ft)	29	1	4	48
95th Queue (ft)	66	9	19	81
Link Distance (ft)			530	1755
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	380	150		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 24: Ballardvale Dr/Windsor Dr & US Route 5

Movement	EB	WB	NB	NB	SB
Directions Served	LTR	L	L	TR	LTR
Maximum Queue (ft)	72	76	45	50	30
Average Queue (ft)	4	26	8	22	8
95th Queue (ft)	28	55	30	47	28
Link Distance (ft)	218	245	879	879	660
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 27: Beswick Dr & Sykes Mountain Ave

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	208	114
Average Queue (ft)	127	37
95th Queue (ft)	257	73
Link Distance (ft)	194	224
Upstream Blk Time (%)	4	
Queuing Penalty (veh)	27	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 30: Ralph Lehman Dr & Sykes Mountain Ave

Movement	NB	NW
Directions Served	LR	<L
Maximum Queue (ft)	49	132
Average Queue (ft)	14	27
95th Queue (ft)	39	97
Link Distance (ft)	202	647
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 33: Beswick Dr

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (ft)	31	54	79
Average Queue (ft)	13	24	29
95th Queue (ft)	38	49	56
Link Distance (ft)	190	232	224
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 34: Ralph Lehman Dr

Movement	EB	SB
Directions Served	LR	TR
Maximum Queue (ft)	31	31
Average Queue (ft)	15	5
95th Queue (ft)	40	23
Link Distance (ft)	190	202
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 37: Holiday Dr & Sykes Mountain Ave

Movement	NB	SE	NW
Directions Served	LR	TR	LT
Maximum Queue (ft)	139	22	325
Average Queue (ft)	65	1	54
95th Queue (ft)	120	10	171
Link Distance (ft)	1506	647	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 40: Sykes Mountain Ave & Lowery hyde Park

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 42: Bowling Ave & Sykes Mountain Ave

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

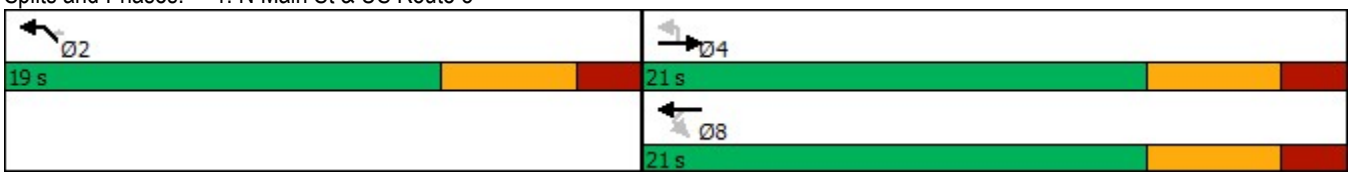
Network wide Queuing Penalty: 102

Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Traffic Volume (vph)	303	114	68	216	65	108
Future Volume (vph)	303	114	68	216	65	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		680	0		0	150
Storage Lanes		0	1		2	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	0.95	1.00	1.00	0.97	1.00
Frt	0.959					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3394	0	1770	1863	3433	1583
Flt Permitted			0.491		0.950	
Satd. Flow (perm)	3394	0	915	1863	3433	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	124					117
Link Speed (mph)	30			30	30	
Link Distance (ft)	1824			983	1114	
Travel Time (s)	41.5			22.3	25.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	329	124	74	235	71	117
Shared Lane Traffic (%)						
Lane Group Flow (vph)	453	0	74	235	71	117
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2		1	2	1	1
Detector Template	Thru		Left	Thru	Left	Right
Leading Detector (ft)	100		20	100	20	20
Trailing Detector (ft)	0		0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0
Detector 1 Size(ft)	6		20	6	20	20
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	4			8	2	
Permitted Phases			8			2

Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Detector Phase	4		8	8	2	2
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	10.0	10.0
Minimum Split (s)	16.0		16.0	16.0	16.0	16.0
Total Split (s)	21.0		21.0	21.0	19.0	19.0
Total Split (%)	52.5%		52.5%	52.5%	47.5%	47.5%
Maximum Green (s)	15.0		15.0	15.0	13.0	13.0
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		6.0	6.0	6.0	6.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		None	None	Min	Min
Act Effct Green (s)	10.8		10.8	10.8	10.0	10.0
Actuated g/C Ratio	0.33		0.33	0.33	0.30	0.30
v/c Ratio	0.38		0.25	0.38	0.07	0.21
Control Delay	7.0		10.3	10.5	8.8	3.8
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	7.0		10.3	10.5	8.8	3.8
LOS	A		B	B	A	A
Approach Delay	7.0			10.5	5.7	
Approach LOS	A			B	A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 40			
Actuated Cycle Length: 32.8			
Natural Cycle: 40			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.38			
Intersection Signal Delay: 7.8		Intersection LOS: A	
Intersection Capacity Utilization 46.7%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 1: N Main St & US Route 5

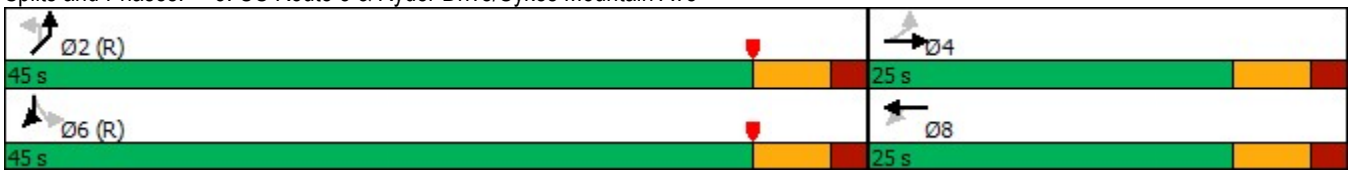


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	NEL2	NEL	NER
Lane Configurations											
Traffic Volume (vph)	1	0	1	272	0	129	109	186	7	317	420
Future Volume (vph)	1	0	1	272	0	129	109	186	7	317	420
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	115		0	245	0		70	0
Storage Lanes	0		0	1		0	1	1		1	0
Taper Length (ft)	25			25			25			25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.932			0.850			0.850		0.915	
Flt Protected		0.976		0.950			0.950		0.950	0.979	
Satd. Flow (prot)	0	1694	0	1770	1583	0	1770	1583	1770	1669	0
Flt Permitted		0.906		0.757			0.202		0.631	0.979	
Satd. Flow (perm)	0	1573	0	1410	1583	0	376	1583	1175	1669	0
Right Turn on Red			Yes			Yes					Yes
Satd. Flow (RTOR)		47			492					154	
Link Speed (mph)		30			30		30			30	
Link Distance (ft)		264			230		482			463	
Travel Time (s)		6.0			5.2		11.0			10.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	0	1	296	0	140	118	202	8	345	457
Shared Lane Traffic (%)											
Lane Group Flow (vph)	0	2	0	296	140	0	118	202	8	802	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Right	Left	Left	Right
Median Width(ft)		12			12		12			24	
Link Offset(ft)		0			0		0			0	
Crosswalk Width(ft)		16			16		16			16	
Two way Left Turn Lane											
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15	9	15	15	9
Number of Detectors	1	2		1	2		1	1	1	1	
Detector Template	Left	Thru		Left	Thru		Left	Right	Left	Left	
Leading Detector (ft)	20	100		20	100		20	20	20	20	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	
Detector 1 Size(ft)	20	6		20	6		20	20	20	20	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel											
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94						
Detector 2 Size(ft)		6			6						
Detector 2 Type		Cl+Ex			Cl+Ex						
Detector 2 Channel											
Detector 2 Extend (s)		0.0			0.0						
Turn Type	Perm	NA		Perm	NA		Perm	Prot	Perm	Prot	
Protected Phases		4			8			6		2	
Permitted Phases	4			8			6		2		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	NEL2	NEL	NER
Detector Phase	4	4		8	8		6	6	2	2	
Switch Phase											
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0	10.0	10.0	
Minimum Split (s)	16.0	16.0		16.0	16.0		16.0	16.0	16.0	16.0	
Total Split (s)	25.0	25.0		25.0	25.0		45.0	45.0	45.0	45.0	
Total Split (%)	35.7%	35.7%		35.7%	35.7%		64.3%	64.3%	64.3%	64.3%	
Maximum Green (s)	19.0	19.0		19.0	19.0		39.0	39.0	39.0	39.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0		0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0		6.0	6.0		6.0	6.0	6.0	6.0	
Lead/Lag											
Lead-Lag Optimize?											
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		C-Min	C-Min	C-Min	C-Min	
Act Effct Green (s)		17.7		17.7	17.7		40.3	40.3	40.3	40.3	
Actuated g/C Ratio		0.25		0.25	0.25		0.58	0.58	0.58	0.58	
v/c Ratio		0.00		0.83	0.18		0.55	0.22	0.01	0.78	
Control Delay		0.0		45.8	0.5		22.5	8.5	7.1	16.7	
Queue Delay		0.0		0.0	0.0		0.0	0.0	0.0	0.8	
Total Delay		0.0		45.8	0.5		22.5	8.5	7.1	17.5	
LOS		A		D	A		C	A	A	B	
Approach Delay					31.2		13.7			17.4	
Approach LOS					C		B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 58 (83%), Referenced to phase 2:NEL and 6:SBL, Start of Yellow			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay: 20.5		Intersection LOS: C	
Intersection Capacity Utilization 88.4%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 3: US Route 5 & Ryder Drive/Sykes Mountain Ave

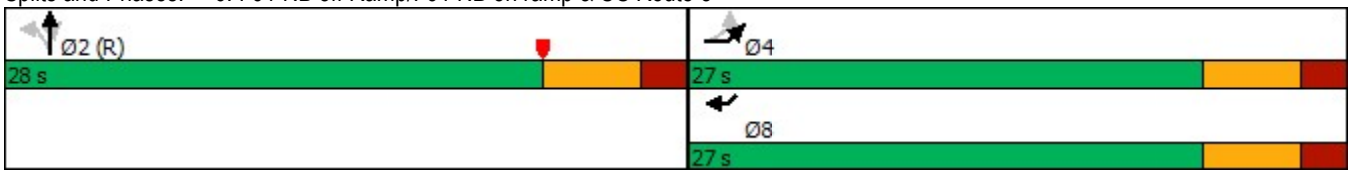


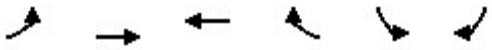
Lane Group	EBL2	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR	SWR2
Lane Configurations												
Traffic Volume (vph)	66	270	0	436	15	429	0	0	0	0	397	58
Future Volume (vph)	66	270	0	436	15	429	0	0	0	0	397	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		110	0	0		150	0		0	0	250	
Storage Lanes		1	0	0		1	0		0	0	0	
Taper Length (ft)		25		25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt						0.850					0.865	
Flt Protected	0.950	0.950			0.954							
Satd. Flow (prot)	1770	1770	0	0	1777	1583	0	0	0	0	1611	0
Flt Permitted	0.282	0.950			0.954							
Satd. Flow (perm)	525	1770	0	0	1777	1583	0	0	0	0	1611	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						405					60	
Link Speed (mph)		30			30			30		30		
Link Distance (ft)		847			1151			400		463		
Travel Time (s)		19.3			26.2			9.1		10.5		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	72	293	0	474	16	466	0	0	0	0	432	63
Shared Lane Traffic (%)												
Lane Group Flow (vph)	72	293	0	0	490	466	0	0	0	0	495	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Right	Right
Median Width(ft)		24			0			0		12		
Link Offset(ft)		0			0			0		0		
Crosswalk Width(ft)		16			16			16		16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	15	9	15		9	15		9	15	9	9
Number of Detectors	1	1		1	2	1					1	
Detector Template	Left	Left		Left	Thru	Right					Right	
Leading Detector (ft)	20	20		20	100	20					20	
Trailing Detector (ft)	0	0		0	0	0					0	
Detector 1 Position(ft)	0	0		0	0	0					0	
Detector 1 Size(ft)	20	20		20	6	20					20	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex					Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0					0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0					0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0					0.0	
Detector 2 Position(ft)					94							
Detector 2 Size(ft)					6							
Detector 2 Type					Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)					0.0							
Turn Type	Perm	Prot		Perm	NA	Perm					Prot	
Protected Phases		4			2						8	
Permitted Phases	4			2		2					8	

Lane Group	EBL2	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR	SWR2
Detector Phase	4	4		2	2	2					8	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0					10.0	
Minimum Split (s)	16.0	16.0		16.0	16.0	16.0					16.0	
Total Split (s)	27.0	27.0		28.0	28.0	28.0					27.0	
Total Split (%)	49.1%	49.1%		50.9%	50.9%	50.9%					49.1%	
Maximum Green (s)	21.0	21.0		22.0	22.0	22.0					21.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0					4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0					2.0	
Lost Time Adjust (s)	0.0	0.0			0.0	0.0					0.0	
Total Lost Time (s)	6.0	6.0			6.0	6.0					6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0					3.0	
Recall Mode	None	None		C-Max	C-Max	C-Max					None	
Act Effct Green (s)	18.7	18.7			24.3	24.3					18.7	
Actuated g/C Ratio	0.34	0.34			0.44	0.44					0.34	
v/c Ratio	0.40	0.49			0.62	0.50					0.84	
Control Delay	20.6	16.8			17.3	4.6					29.3	
Queue Delay	0.0	0.0			0.0	0.0					0.0	
Total Delay	20.6	16.8			17.3	4.6					29.3	
LOS	C	B			B	A					C	
Approach Delay		17.5			11.1					29.3		
Approach LOS		B			B					C		

Intersection Summary			
Area Type:	Other		
Cycle Length: 55			
Actuated Cycle Length: 55			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:, Start of Yellow			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.84			
Intersection Signal Delay: 17.4		Intersection LOS: B	
Intersection Capacity Utilization 63.1%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 6: I-91 NB off Ramp/I-91 NB on ramp & US Route 5



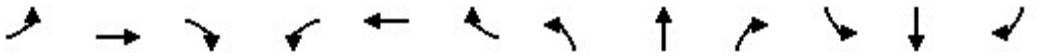


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	215	276	521	220	44	159
Future Volume (vph)	215	276	521	220	44	159
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850	0.894	
Flt Protected	0.950				0.989	
Satd. Flow (prot)	1770	1863	1863	1583	1647	0
Flt Permitted	0.950				0.989	
Satd. Flow (perm)	1770	1863	1863	1583	1647	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		306	847		512	
Travel Time (s)		7.0	19.3		11.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	234	300	566	239	48	173
Shared Lane Traffic (%)						
Lane Group Flow (vph)	234	300	566	239	221	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 61.6%		ICU Level of Service B	
Analysis Period (min) 15			

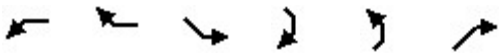
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	30	29	417	30	30	295
Future Volume (vph)	30	29	417	30	30	295
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	345	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	1.00
Frt	0.934		0.990			
Flt Protected	0.975				0.950	
Satd. Flow (prot)	1696	0	3504	0	1770	1863
Flt Permitted	0.975				0.950	
Satd. Flow (perm)	1696	0	3504	0	1770	1863
Link Speed (mph)	30		30			30
Link Distance (ft)	782		482			2055
Travel Time (s)	17.8		11.0			46.7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	32	453	33	33	321
Shared Lane Traffic (%)						
Lane Group Flow (vph)	65	0	486	0	33	321
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 29.3%		ICU Level of Service A	
Analysis Period (min) 15			



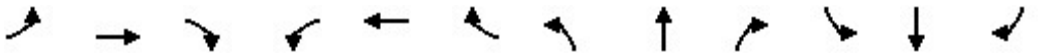
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	319	41	88	320	261	23	18	79	34	1	11
Future Volume (vph)	14	319	41	88	320	261	23	18	79	34	1	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.985			0.947			0.911			0.968	
Flt Protected		0.998			0.993			0.991			0.964	
Satd. Flow (prot)	0	1831	0	0	1752	0	0	1682	0	0	1738	0
Flt Permitted		0.998			0.993			0.991			0.964	
Satd. Flow (perm)	0	1831	0	0	1752	0	0	1682	0	0	1738	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		906			287			190			542	
Travel Time (s)		20.6			6.5			4.3			12.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	15	347	45	96	348	284	25	20	86	37	1	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	407	0	0	728	0	0	131	0	0	50	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 75.5%		ICU Level of Service D	
Analysis Period (min) 15			



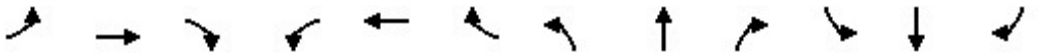
Lane Group	WBL	WBR	SEL	SER	NEL	NER
Lane Configurations						
Traffic Volume (vph)	258	64	85	52	41	292
Future Volume (vph)	258	64	85	52	41	292
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.973		0.948		0.882	
Flt Protected	0.962		0.970		0.994	
Satd. Flow (prot)	1744	0	1713	0	1633	0
Flt Permitted	0.962		0.970		0.994	
Satd. Flow (perm)	1744	0	1713	0	1633	0
Link Speed (mph)	30		30		30	
Link Distance (ft)	906		2012		1510	
Travel Time (s)	20.6		45.7		34.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	280	70	92	57	45	317
Shared Lane Traffic (%)						
Lane Group Flow (vph)	350	0	149	0	362	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Right
Median Width(ft)	12		12		12	
Link Offset(ft)	0		0		0	
Crosswalk Width(ft)	16		16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15	9	15	9
Sign Control	Free		Stop		Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 56.4%		ICU Level of Service B	
Analysis Period (min) 15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	93	335	2	3	220	66	1	0	1	88	1	92
Future Volume (vph)	93	335	2	3	220	66	1	0	1	88	1	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	380		0	0		150	0		0	0		0
Storage Lanes	1		0	0		1	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999				0.850		0.932				0.850
Flt Protected	0.950				0.999			0.976			0.953	
Satd. Flow (prot)	1770	3536	0	0	3536	1583	0	1694	0	0	1775	1583
Flt Permitted	0.950				0.999			0.976			0.953	
Satd. Flow (perm)	1770	3536	0	0	3536	1583	0	1694	0	0	1775	1583
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2055			1824			609			1803	
Travel Time (s)		46.7			41.5			13.8			41.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	101	364	2	3	239	72	1	0	1	96	1	100
Shared Lane Traffic (%)												
Lane Group Flow (vph)	101	366	0	0	242	72	0	2	0	0	97	100
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 34.1%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	436	13	35	621	0	18	0	70	1	0	1
Future Volume (vph)	0	436	13	35	621	0	18	0	70	1	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996						0.850			0.932	
Flt Protected				0.950			0.950				0.976	
Satd. Flow (prot)	0	1855	0	1770	1863	0	1770	1583	0	0	1694	0
Flt Permitted				0.950			0.950				0.976	
Satd. Flow (perm)	0	1855	0	1770	1863	0	1770	1583	0	0	1694	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		287			306			926			699	
Travel Time (s)		6.5			7.0			21.0			15.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	474	14	38	675	0	20	0	76	1	0	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	488	0	38	675	0	20	76	0	0	2	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 43.7%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	497	32	32	369	32	32
Future Volume (vph)	497	32	32	369	32	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.992				0.932	
Flt Protected				0.996	0.976	
Satd. Flow (prot)	1848	0	0	1855	1694	0
Flt Permitted				0.996	0.976	
Satd. Flow (perm)	1848	0	0	1855	1694	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	230			250	275	
Travel Time (s)	5.2			5.7	6.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	540	35	35	401	35	35
Shared Lane Traffic (%)						
Lane Group Flow (vph)	575	0	0	436	70	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 56.3%		ICU Level of Service B	
Analysis Period (min) 15			

Lane Group	EBR	EBR2	NBL	NBR	NWL2	NWL
Lane Configurations						
Traffic Volume (vph)	521	8	8	8	8	393
Future Volume (vph)	521	8	8	8	8	393
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.865		0.932			
Flt Protected			0.976			0.950
Satd. Flow (prot)	1611	0	1694	0	0	1770
Flt Permitted			0.976			0.950
Satd. Flow (perm)	1611	0	1694	0	0	1770
Link Speed (mph)	30		30			30
Link Distance (ft)	250		271			704
Travel Time (s)	5.7		6.2			16.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	566	9	9	9	9	427
Shared Lane Traffic (%)						
Lane Group Flow (vph)	575	0	18	0	0	436
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Right	Right	Left	Right	Left	Left
Median Width(ft)	0		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	9	15	9	15	15
Sign Control	Free		Stop			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 36.1%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	5	11	55	0	16	54
Future Volume (vph)	5	11	55	0	16	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.905					
Flt Protected	0.986					0.989
Satd. Flow (prot)	1662	0	1863	0	0	1842
Flt Permitted	0.986					0.989
Satd. Flow (perm)	1662	0	1863	0	0	1842
Link Speed (mph)	30		30			30
Link Distance (ft)	248		265			275
Travel Time (s)	5.6		6.0			6.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	12	60	0	17	59
Shared Lane Traffic (%)						
Lane Group Flow (vph)	17	0	60	0	0	76
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Stop			Stop

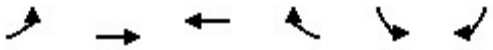
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 20.4%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	12	4	0	0	0	0
Future Volume (vph)	12	4	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.968					
Flt Protected	0.963					
Satd. Flow (prot)	1736	0	0	1863	1863	0
Flt Permitted	0.963					
Satd. Flow (perm)	1736	0	0	1863	1863	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	248			305	271	
Travel Time (s)	5.6			6.9	6.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	13	4	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	17	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Stop	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 6.7%		ICU Level of Service A	
Analysis Period (min) 15			

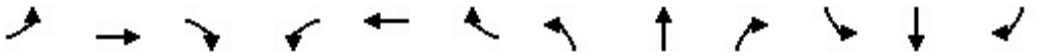
Lane Group	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations						
Traffic Volume (vph)	63	63	458	63	63	338
Future Volume (vph)	63	63	458	63	63	338
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.932		0.984			
Flt Protected	0.976					0.992
Satd. Flow (prot)	1694	0	1833	0	0	1848
Flt Permitted	0.976					0.992
Satd. Flow (perm)	1694	0	1833	0	0	1848
Link Speed (mph)	30		30			30
Link Distance (ft)	1534		704			683
Travel Time (s)	34.9		16.0			15.5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	68	68	498	68	68	367
Shared Lane Traffic (%)						
Lane Group Flow (vph)	136	0	566	0	0	435
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 66.6%		ICU Level of Service C	
Analysis Period (min) 15			



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	0	1863	1863	0	1863	0
Flt Permitted						
Satd. Flow (perm)	0	1863	1863	0	1863	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		683	208		871	
Travel Time (s)		15.5	4.7		19.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 0.0%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt												
Flt Protected												
Satd. Flow (prot)	0	1863	0	0	1863	0	0	1863	0	0	1863	0
Flt Permitted												
Satd. Flow (perm)	0	1863	0	0	1863	0	0	1863	0	0	1863	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		208			1172			999			796	
Travel Time (s)		4.7			26.6			22.7			18.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 0.0%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection: 1: N Main St & US Route 5

Movement	EB	EB	WB	WB	NW	NW
Directions Served	UT	TR	L	T	L	L
Maximum Queue (ft)	90	115	106	85	53	53
Average Queue (ft)	42	58	35	44	23	11
95th Queue (ft)	75	89	79	75	48	37
Link Distance (ft)	1741	1741	932	932	1053	1053
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 3: US Route 5 & Ryder Drive/Sykes Mountain Ave

Movement	WB	WB	SB	SB	NE	NE
Directions Served	L	TR	L	R>	<	LR
Maximum Queue (ft)	139	187	152	98	29	399
Average Queue (ft)	103	76	67	49	3	222
95th Queue (ft)	150	171	117	93	17	377
Link Distance (ft)		152		401		391
Upstream Blk Time (%)	1	4				1
Queuing Penalty (veh)	0	15				9
Storage Bay Dist (ft)	115		245		70	
Storage Blk Time (%)	7	2				29
Queuing Penalty (veh)	9	5				2

Intersection: 6: I-91 NB off Ramp/I-91 NB on ramp & US Route 5

Movement	EB	EB	NB	NB	SW
Directions Served	<	L	LT	R	R>
Maximum Queue (ft)	109	182	299	175	400
Average Queue (ft)	32	106	137	107	204
95th Queue (ft)	68	167	231	182	327
Link Distance (ft)		799	1123		391
Upstream Blk Time (%)					0
Queuing Penalty (veh)					2
Storage Bay Dist (ft)	110			150	
Storage Blk Time (%)	1	7	3	1	
Queuing Penalty (veh)	2	4	12	5	

Intersection: 9: US Route 5 & I-91 SB ramp

Movement	EB	WB	SB
Directions Served	L	R	LR
Maximum Queue (ft)	94	22	120
Average Queue (ft)	49	4	63
95th Queue (ft)	77	18	103
Link Distance (ft)	246	799	438
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 10: US Route 5 & Airport Dr

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	61	31
Average Queue (ft)	28	7
95th Queue (ft)	52	29
Link Distance (ft)	730	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		345
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 12: Dunkin Donuts/Veterans Dr & US Route 5

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	75	95	153	69
Average Queue (ft)	15	30	50	29
95th Queue (ft)	55	79	96	55
Link Distance (ft)	839	218	157	511
Upstream Blk Time (%)			0	
Queuing Penalty (veh)			0	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 15: US Route 5 & VA Cutoff Rd

Movement	WB	SE	NE
Directions Served	LR	LR	LR
Maximum Queue (ft)	31	113	73
Average Queue (ft)	3	52	13
95th Queue (ft)	18	93	46
Link Distance (ft)	839	1973	1487
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 18: Store Driveway/US Route 4 & US Route 5

Movement	EB	NB	SB
Directions Served	L	LTR	LT
Maximum Queue (ft)	51	23	73
Average Queue (ft)	14	2	32
95th Queue (ft)	39	11	59
Link Distance (ft)		530	1758
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	380		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 24: Ballardvale Dr/Windsor Dr & US Route 5

Movement	WB	NB	NB	SB
Directions Served	L	L	TR	LTR
Maximum Queue (ft)	29	45	52	30
Average Queue (ft)	14	13	27	3
95th Queue (ft)	37	33	43	18
Link Distance (ft)	246	879	879	660
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 27: Beswick Dr & Sykes Mountain Ave

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	164	96
Average Queue (ft)	32	44
95th Queue (ft)	105	78
Link Distance (ft)	194	218
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 30: Ralph Lehman Dr & Sykes Mountain Ave

Movement	EB	NB
Directions Served	R>	LR
Maximum Queue (ft)	49	51
Average Queue (ft)	2	11
95th Queue (ft)	16	36
Link Distance (ft)	194	202
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 33: Beswick Dr

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (ft)	52	55	55
Average Queue (ft)	17	29	29
95th Queue (ft)	44	52	44
Link Distance (ft)		232	218
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 34: Ralph Lehman Dr

Movement	EB
Directions Served	LR
Maximum Queue (ft)	31
Average Queue (ft)	9
95th Queue (ft)	32
Link Distance (ft)	190
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 37: Holiday Dr & Sykes Mountain Ave

Movement	NB	NW
Directions Served	LR	LT
Maximum Queue (ft)	164	114
Average Queue (ft)	55	34
95th Queue (ft)	111	91
Link Distance (ft)	1506	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 40: Sykes Mountain Ave & Lowery hyde Park

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 42: Bowling Ave & Sykes Mountain Ave

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

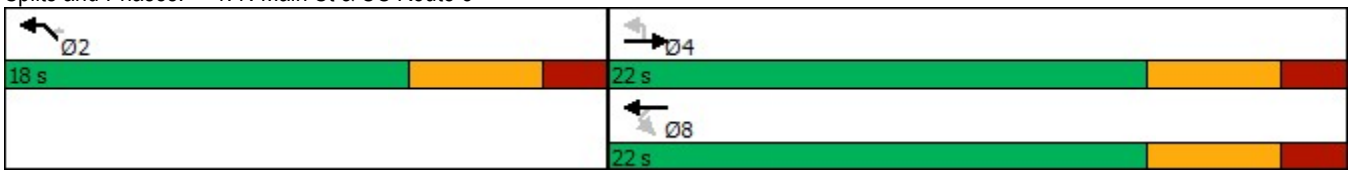
Network wide Queuing Penalty: 65

Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Traffic Volume (vph)	363	139	70	364	168	195
Future Volume (vph)	363	139	70	364	168	195
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		680	0		0	200
Storage Lanes		0	1		2	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	0.95	1.00	1.00	0.97	1.00
Frt	0.959					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3394	0	1770	1863	3433	1583
Flt Permitted			0.448		0.950	
Satd. Flow (perm)	3394	0	835	1863	3433	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	151					212
Link Speed (mph)	30			30	30	
Link Distance (ft)	1824			983	1114	
Travel Time (s)	41.5			22.3	25.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	395	151	76	396	183	212
Shared Lane Traffic (%)						
Lane Group Flow (vph)	546	0	76	396	183	212
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2		1	2	1	1
Detector Template	Thru		Left	Thru	Left	Right
Leading Detector (ft)	100		20	100	20	20
Trailing Detector (ft)	0		0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0
Detector 1 Size(ft)	6		20	6	20	20
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	4			8	2	
Permitted Phases			8			2

Lane Group	EBT	EBR	WBL	WBT	NWL	NWR
Detector Phase	4		8	8	2	2
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	10.0	10.0
Minimum Split (s)	16.0		16.0	16.0	16.0	16.0
Total Split (s)	22.0		22.0	22.0	18.0	18.0
Total Split (%)	55.0%		55.0%	55.0%	45.0%	45.0%
Maximum Green (s)	16.0		16.0	16.0	12.0	12.0
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		6.0	6.0	6.0	6.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		None	None	Min	Min
Act Effct Green (s)	12.8		12.8	12.8	10.2	10.2
Actuated g/C Ratio	0.36		0.36	0.36	0.29	0.29
v/c Ratio	0.41		0.25	0.58	0.18	0.35
Control Delay	6.8		10.0	12.9	10.6	4.2
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	6.8		10.0	12.9	10.6	4.2
LOS	A		B	B	B	A
Approach Delay	6.8			12.4	7.2	
Approach LOS	A			B	A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 40			
Actuated Cycle Length: 35.1			
Natural Cycle: 40			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.58			
Intersection Signal Delay: 8.8		Intersection LOS: A	
Intersection Capacity Utilization 57.0%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 1: N Main St & US Route 5

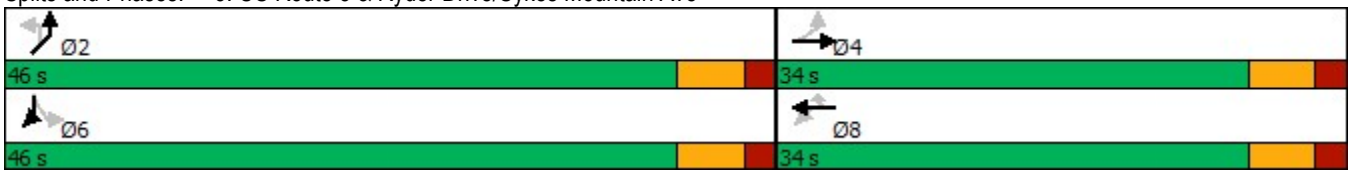


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	SBR2	NEL2	NEL	NER
Lane Configurations												
Traffic Volume (vph)	0	1	7	420	7	194	129	325	2	3	367	338
Future Volume (vph)	0	1	7	420	7	194	129	325	2	3	367	338
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	115		115	245	0			70	0
Storage Lanes	0		0	1		0	1	1			1	0
Taper Length (ft)	25			25			25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.880				0.850		0.850			0.928	
Flt Protected					0.953		0.950			0.950	0.975	
Satd. Flow (prot)	0	1639	0	0	1775	1583	1770	1583	0	1770	1685	0
Flt Permitted					0.724		0.153			0.496	0.975	
Satd. Flow (perm)	0	1639	0	0	1349	1583	285	1583	0	924	1685	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8				211		41			83	
Link Speed (mph)		30			30		30				30	
Link Distance (ft)		264			230		482				463	
Travel Time (s)		6.0			5.2		11.0				10.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1	8	457	8	211	140	353	2	3	399	367
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	9	0	0	465	211	140	355	0	3	766	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Right	Right	Left	Left	Right
Median Width(ft)		0			0		12				24	
Link Offset(ft)		0			0		0				0	
Crosswalk Width(ft)		16			16		16				16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15	9	9	15	15	9
Number of Detectors	1	2		1	2	1	1	1		1	1	
Detector Template	Left	Thru		Left	Thru	Right	Left	Right		Left	Left	
Leading Detector (ft)	20	100		20	100	20	20	20		20	20	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	20		20	20	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type		NA		Perm	NA	Perm	Perm	Prot		Perm	Prot	
Protected Phases		4			8			6			2	
Permitted Phases	4			8		8	6			2		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	SBR2	NEL2	NEL	NER
Detector Phase	4	4		8	8	8	6	6		2	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	16.0	16.0		16.0	16.0	16.0	16.0	16.0		16.0	16.0	
Total Split (s)	34.0	34.0		34.0	34.0	34.0	46.0	46.0		46.0	46.0	
Total Split (%)	42.5%	42.5%		42.5%	42.5%	42.5%	57.5%	57.5%		57.5%	57.5%	
Maximum Green (s)	28.0	28.0		28.0	28.0	28.0	40.0	40.0		40.0	40.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0			6.0	6.0	6.0	6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	Min	Min		Min	Min	
Act Effct Green (s)		28.0			28.0	28.0	40.0	40.0		40.0	40.0	
Actuated g/C Ratio		0.35			0.35	0.35	0.50	0.50		0.50	0.50	
v/c Ratio		0.02			0.99	0.31	0.99	0.44		0.01	0.87	
Control Delay		10.8			66.5	4.2	98.7	13.3		10.0	28.3	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	6.3	
Total Delay		10.8			66.5	4.2	98.7	13.3		10.0	34.6	
LOS		B			E	A	F	B		A	C	
Approach Delay		10.8			47.1		37.4				34.5	
Approach LOS		B			D		D				C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Natural Cycle: 80			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.99			
Intersection Signal Delay: 39.5		Intersection LOS: D	
Intersection Capacity Utilization 94.7%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 3: US Route 5 & Ryder Drive/Sykes Mountain Ave

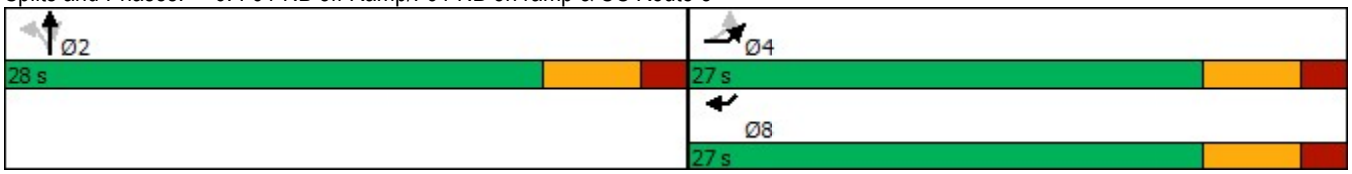


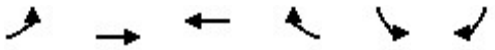
Lane Group	EBL2	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR	SWR2
Lane Configurations												
Traffic Volume (vph)	82	308	0	199	1	443	0	0	0	0	555	73
Future Volume (vph)	82	308	0	199	1	443	0	0	0	0	555	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		110	0	0		150	0		0	0	250	
Storage Lanes		1	0	0		1	0		0	0	0	
Taper Length (ft)		25		25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt						0.850					0.865	
Flt Protected	0.950	0.950			0.953							
Satd. Flow (prot)	1770	1770	0	0	1775	1583	0	0	0	0	1611	0
Flt Permitted	0.190	0.950			0.953							
Satd. Flow (perm)	354	1770	0	0	1775	1583	0	0	0	0	1611	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						350					60	
Link Speed (mph)		30			30			30		30		
Link Distance (ft)		849			1151			400		463		
Travel Time (s)		19.3			26.2			9.1		10.5		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	89	335	0	216	1	482	0	0	0	0	603	79
Shared Lane Traffic (%)												
Lane Group Flow (vph)	89	335	0	0	217	482	0	0	0	0	682	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Right	Right
Median Width(ft)		24			0			0		12		
Link Offset(ft)		0			0			0		0		
Crosswalk Width(ft)		16			16			16		16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	15	9	15		9	15		9	15	9	9
Number of Detectors	1	1		1	2	1					1	
Detector Template	Left	Left		Left	Thru	Right					Right	
Leading Detector (ft)	20	20		20	100	20					20	
Trailing Detector (ft)	0	0		0	0	0					0	
Detector 1 Position(ft)	0	0		0	0	0					0	
Detector 1 Size(ft)	20	20		20	6	20					20	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex					Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0					0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0					0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0					0.0	
Detector 2 Position(ft)					94							
Detector 2 Size(ft)					6							
Detector 2 Type					Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)					0.0							
Turn Type	Perm	Prot		Perm	NA	Perm					Prot	
Protected Phases		4			2						8	
Permitted Phases	4			2		2					8	

Lane Group	EBL2	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR	SWR2
Detector Phase	4	4		2	2	2					8	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0					10.0	
Minimum Split (s)	16.0	16.0		16.0	16.0	16.0					16.0	
Total Split (s)	27.0	27.0		28.0	28.0	28.0					27.0	
Total Split (%)	49.1%	49.1%		50.9%	50.9%	50.9%					49.1%	
Maximum Green (s)	21.0	21.0		22.0	22.0	22.0					21.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0					4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0					2.0	
Lost Time Adjust (s)	0.0	0.0			0.0	0.0					0.0	
Total Lost Time (s)	6.0	6.0			6.0	6.0					6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0					3.0	
Recall Mode	None	None		Max	Max	Max					None	
Act Effct Green (s)	21.0	21.0			22.0	22.0					21.0	
Actuated g/C Ratio	0.38	0.38			0.40	0.40					0.38	
v/c Ratio	0.66	0.50			0.31	0.57					1.05	
Control Delay	43.2	16.1			12.8	6.8					67.8	
Queue Delay	0.0	0.0			0.0	0.0					0.0	
Total Delay	43.2	16.1			12.8	6.8					67.8	
LOS	D	B			B	A					E	
Approach Delay		21.8			8.7					67.8		
Approach LOS		C			A					E		

Intersection Summary			
Area Type:	Other		
Cycle Length: 55			
Actuated Cycle Length: 55			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.05			
Intersection Signal Delay: 34.1		Intersection LOS: C	
Intersection Capacity Utilization 60.0%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 6: I-91 NB off Ramp/I-91 NB on ramp & US Route 5



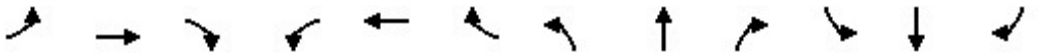


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	374	354	403	425	34	107
Future Volume (vph)	374	354	403	425	34	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850	0.898	
Flt Protected	0.950				0.988	
Satd. Flow (prot)	1770	1863	1863	1583	1653	0
Flt Permitted	0.950				0.988	
Satd. Flow (perm)	1770	1863	1863	1583	1653	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		306	849		617	
Travel Time (s)		7.0	19.3		14.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	407	385	438	462	37	116
Shared Lane Traffic (%)						
Lane Group Flow (vph)	407	385	438	462	153	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 60.4%		ICU Level of Service B	
Analysis Period (min) 15			

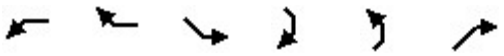
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	34	30	417	35	30	295
Future Volume (vph)	34	30	417	35	30	295
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.936		0.990			
Flt Protected	0.974				0.950	
Satd. Flow (prot)	1698	0	1844	0	1770	1863
Flt Permitted	0.974				0.950	
Satd. Flow (perm)	1698	0	1844	0	1770	1863
Link Speed (mph)	30		30			30
Link Distance (ft)	782		482			2055
Travel Time (s)	17.8		11.0			46.7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	37	33	453	38	33	321
Shared Lane Traffic (%)						
Lane Group Flow (vph)	70	0	491	0	33	321
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 35.3%		ICU Level of Service A	
Analysis Period (min) 15			



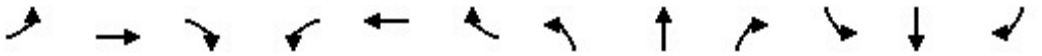
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	451	10	34	407	39	5	0	41	189	5	18
Future Volume (vph)	2	451	10	34	407	39	5	0	41	189	5	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997			0.989			0.878			0.988	
Flt Protected					0.996			0.995			0.957	
Satd. Flow (prot)	0	1857	0	0	1835	0	0	1627	0	0	1761	0
Flt Permitted					0.996			0.995			0.957	
Satd. Flow (perm)	0	1857	0	0	1835	0	0	1627	0	0	1761	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		906			287			190			542	
Travel Time (s)		20.6			6.5			4.3			12.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2	490	11	37	442	42	5	0	45	205	5	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	503	0	0	521	0	0	50	0	0	230	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 74.2%		ICU Level of Service D	
Analysis Period (min) 15			



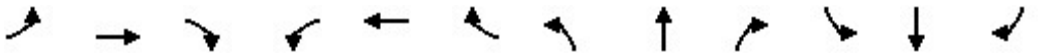
Lane Group	WBL	WBR	SEL	SER	NEL	NER
Lane Configurations						
Traffic Volume (vph)	318	76	177	64	35	241
Future Volume (vph)	318	76	177	64	35	241
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.974		0.964		0.882	
Flt Protected	0.961		0.965		0.994	
Satd. Flow (prot)	1744	0	1733	0	1633	0
Flt Permitted	0.961		0.965		0.994	
Satd. Flow (perm)	1744	0	1733	0	1633	0
Link Speed (mph)	30		30		30	
Link Distance (ft)	906		2012		1510	
Travel Time (s)	20.6		45.7		34.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	346	83	192	70	38	262
Shared Lane Traffic (%)						
Lane Group Flow (vph)	429	0	262	0	300	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Right
Median Width(ft)	12		12		12	
Link Offset(ft)	0		0		0	
Crosswalk Width(ft)	16		16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15	9	15	9
Sign Control	Free		Stop		Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 62.8%		ICU Level of Service B	
Analysis Period (min) 15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	170	348	5	2	353	172	2	1	2	105	0	89
Future Volume (vph)	170	348	5	2	353	172	2	1	2	105	0	89
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	380		0	0		150	0		0	0		0
Storage Lanes	1		0	0		1	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998				0.850		0.946				0.850
Flt Protected	0.950							0.980			0.950	
Satd. Flow (prot)	1770	3532	0	0	3539	1583	0	1727	0	0	1770	1583
Flt Permitted	0.950							0.980			0.950	
Satd. Flow (perm)	1770	3532	0	0	3539	1583	0	1727	0	0	1770	1583
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2055			1824			609			1803	
Travel Time (s)		46.7			41.5			13.8			41.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	185	378	5	2	384	187	2	1	2	114	0	97
Shared Lane Traffic (%)												
Lane Group Flow (vph)	185	383	0	0	386	187	0	5	0	0	114	97
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	42.1%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	618	19	56	362	4	14	4	53	1	6	1
Future Volume (vph)	4	618	19	56	362	4	14	4	53	1	6	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996			0.998			0.860			0.985	
Flt Protected				0.950			0.950				0.994	
Satd. Flow (prot)	0	1855	0	1770	1859	0	1770	1602	0	0	1824	0
Flt Permitted				0.950			0.950				0.994	
Satd. Flow (perm)	0	1855	0	1770	1859	0	1770	1602	0	0	1824	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		287			306			926			699	
Travel Time (s)		6.5			7.0			21.0			15.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	4	672	21	61	393	4	15	4	58	1	7	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	697	0	61	397	0	15	62	0	0	9	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 53.3%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	433	35	35	621	32	22
Future Volume (vph)	433	35	35	621	32	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.990				0.945	
Flt Protected				0.997	0.971	
Satd. Flow (prot)	1844	0	0	1857	1709	0
Flt Permitted				0.997	0.971	
Satd. Flow (perm)	1844	0	0	1857	1709	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	230			250	275	
Travel Time (s)	5.2			5.7	6.3	
Confl. Peds. (#/hr)		5				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	471	38	38	675	35	24
Shared Lane Traffic (%)						
Lane Group Flow (vph)	509	0	0	713	59	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 71.3%		ICU Level of Service C	
Analysis Period (min) 15			

Lane Group	EBR	EBR2	NBL	NBR	NWL2	NWL
Lane Configurations						
Traffic Volume (vph)	449	6	6	6	6	650
Future Volume (vph)	449	6	6	6	6	650
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.865		0.932			
Flt Protected			0.976			0.950
Satd. Flow (prot)	1611	0	1694	0	0	1770
Flt Permitted			0.976			0.950
Satd. Flow (perm)	1611	0	1694	0	0	1770
Link Speed (mph)	30		30			30
Link Distance (ft)	250		271			704
Travel Time (s)	5.7		6.2			16.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	488	7	7	7	7	707
Shared Lane Traffic (%)						
Lane Group Flow (vph)	495	0	14	0	0	714
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Right	Right	Left	Right	Left	Left
Median Width(ft)	0		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	9	15	9	15	15
Sign Control	Free		Stop			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 46.3%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	3	15	39	0	16	54
Future Volume (vph)	3	15	39	0	16	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.886					
Flt Protected	0.992					0.989
Satd. Flow (prot)	1637	0	1863	0	0	1842
Flt Permitted	0.992					0.989
Satd. Flow (perm)	1637	0	1863	0	0	1842
Link Speed (mph)	30		30			30
Link Distance (ft)	248		265			275
Travel Time (s)	5.6		6.0			6.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	16	42	0	17	59
Shared Lane Traffic (%)						
Lane Group Flow (vph)	19	0	42	0	0	76
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Stop			Stop

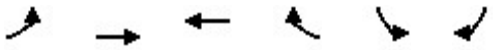
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 20.4%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	12	5	0	0	3	3
Future Volume (vph)	12	5	0	0	3	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.962				0.932	
Flt Protected	0.965					
Satd. Flow (prot)	1729	0	0	1863	1736	0
Flt Permitted	0.965					
Satd. Flow (perm)	1729	0	0	1863	1736	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	248			305	271	
Travel Time (s)	5.6			6.9	6.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	13	5	0	0	3	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	18	0	0	0	6	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Stop	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 13.3%		ICU Level of Service A	
Analysis Period (min) 15			

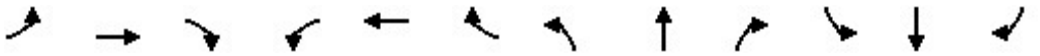
Lane Group	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations						
Traffic Volume (vph)	71	71	313	142	63	579
Future Volume (vph)	71	71	313	142	63	579
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.932		0.958			
Flt Protected	0.976					0.995
Satd. Flow (prot)	1694	0	1785	0	0	1853
Flt Permitted	0.976					0.995
Satd. Flow (perm)	1694	0	1785	0	0	1853
Link Speed (mph)	30		30			30
Link Distance (ft)	1534		704			683
Travel Time (s)	34.9		16.0			15.5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	77	77	340	154	68	629
Shared Lane Traffic (%)						
Lane Group Flow (vph)	154	0	494	0	0	697
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 77.4%		ICU Level of Service D	
Analysis Period (min) 15			



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	0	1863	1863	0	1863	0
Flt Permitted						
Satd. Flow (perm)	0	1863	1863	0	1863	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		683	208		871	
Travel Time (s)		15.5	4.7		19.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 0.0%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt												
Flt Protected												
Satd. Flow (prot)	0	1863	0	0	1863	0	0	1863	0	0	1863	0
Flt Permitted												
Satd. Flow (perm)	0	1863	0	0	1863	0	0	1863	0	0	1863	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		208			1172			999			796	
Travel Time (s)		4.7			26.6			22.7			18.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 0.0%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection: 1: N Main St & US Route 5

Movement	EB	EB	WB	WB	NW	NW
Directions Served	UT	TR	L	T	L	L
Maximum Queue (ft)	97	78	112	130	74	75
Average Queue (ft)	48	56	42	58	41	31
95th Queue (ft)	87	79	89	102	64	62
Link Distance (ft)	1741	1741	932	932	1053	1053
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 3: US Route 5 & Ryder Drive/Sykes Mountain Ave

Movement	EB	WB	WB	SB	SB	NE
Directions Served	LTR	LT	R	L	R>	LR
Maximum Queue (ft)	30	140	232	270	417	413
Average Queue (ft)	4	139	205	146	280	310
95th Queue (ft)	20	140	225	303	452	467
Link Distance (ft)	220		167		405	396
Upstream Blk Time (%)			52		3	5
Queuing Penalty (veh)			342		8	39
Storage Bay Dist (ft)		115		245		
Storage Blk Time (%)		71	4	2	37	47
Queuing Penalty (veh)		138	15	8	48	1

Intersection: 6: I-91 NB off Ramp/I-91 NB on ramp & US Route 5

Movement	EB	EB	NB	NB	SW
Directions Served	<	L	LT	R	R>
Maximum Queue (ft)	134	290	352	175	413
Average Queue (ft)	40	101	90	105	403
95th Queue (ft)	84	185	207	180	410
Link Distance (ft)		798	1122		396
Upstream Blk Time (%)					27
Queuing Penalty (veh)					207
Storage Bay Dist (ft)	110			150	
Storage Blk Time (%)		9	0	5	
Queuing Penalty (veh)		7	0	11	

Intersection: 9: US Route 5 & I-91 SB ramp

Movement	EB	WB	WB	SB
Directions Served	L	T	R	LR
Maximum Queue (ft)	266	22	50	390
Average Queue (ft)	106	1	20	130
95th Queue (ft)	195	7	44	296
Link Distance (ft)	246	798	798	543
Upstream Blk Time (%)	1			
Queuing Penalty (veh)	3			
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 10: US Route 5 & Airport Dr

Movement	WB	NB	SB	SB
Directions Served	LR	TR	L	T
Maximum Queue (ft)	56	20	31	52
Average Queue (ft)	29	1	10	7
95th Queue (ft)	55	7	34	31
Link Distance (ft)	730	405	2002	2002
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 12: Dunkin Donuts/Veterans Dr & US Route 5

Movement	WB	NB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	102	52	155
Average Queue (ft)	24	28	74
95th Queue (ft)	72	47	128
Link Distance (ft)	218	157	511
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 15: US Route 5 & VA Cutoff Rd

Movement	WB	SE	NE
Directions Served	LR	LR	LR
Maximum Queue (ft)	50	142	55
Average Queue (ft)	3	64	9
95th Queue (ft)	20	106	34
Link Distance (ft)	839	1973	1487
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 18: Store Driveway/US Route 4 & US Route 5

Movement	EB	WB	NB	SB
Directions Served	L	R	LTR	LT
Maximum Queue (ft)	75	55	24	113
Average Queue (ft)	28	3	3	47
95th Queue (ft)	60	20	17	76
Link Distance (ft)			530	1755
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	380	150		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 24: Ballardvale Dr/Windsor Dr & US Route 5

Movement	EB	WB	NB	NB	SB
Directions Served	LTR	L	L	TR	LTR
Maximum Queue (ft)	49	51	43	63	30
Average Queue (ft)	5	19	9	28	7
95th Queue (ft)	27	46	29	50	27
Link Distance (ft)	218	246	879	879	660
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 27: Beswick Dr & Sykes Mountain Ave

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (ft)	138	209	225
Average Queue (ft)	9	187	182
95th Queue (ft)	65	257	296
Link Distance (ft)	167	194	218
Upstream Blk Time (%)		44	75
Queuing Penalty (veh)		286	41
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 30: Ralph Lehman Dr & Sykes Mountain Ave

Movement	NB	NW
Directions Served	LR	<L
Maximum Queue (ft)	158	664
Average Queue (ft)	51	510
95th Queue (ft)	131	922
Link Distance (ft)	202	647
Upstream Blk Time (%)		22
Queuing Penalty (veh)		141
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 33: Beswick Dr

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (ft)	160	225	50
Average Queue (ft)	77	159	29
95th Queue (ft)	155	293	47
Link Distance (ft)	190	232	218
Upstream Blk Time (%)		61	
Queuing Penalty (veh)		0	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 34: Ralph Lehman Dr

Movement	EB	SB
Directions Served	LR	TR
Maximum Queue (ft)	31	31
Average Queue (ft)	14	8
95th Queue (ft)	39	30
Link Distance (ft)	190	202
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 37: Holiday Dr & Sykes Mountain Ave

Movement	NB	SE	NW
Directions Served	LR	TR	LT
Maximum Queue (ft)	1266	22	373
Average Queue (ft)	567	1	204
95th Queue (ft)	1302	7	434
Link Distance (ft)	1506	647	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 40: Sykes Mountain Ave & Lowery hyde Park

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 42: Bowling Ave & Sykes Mountain Ave

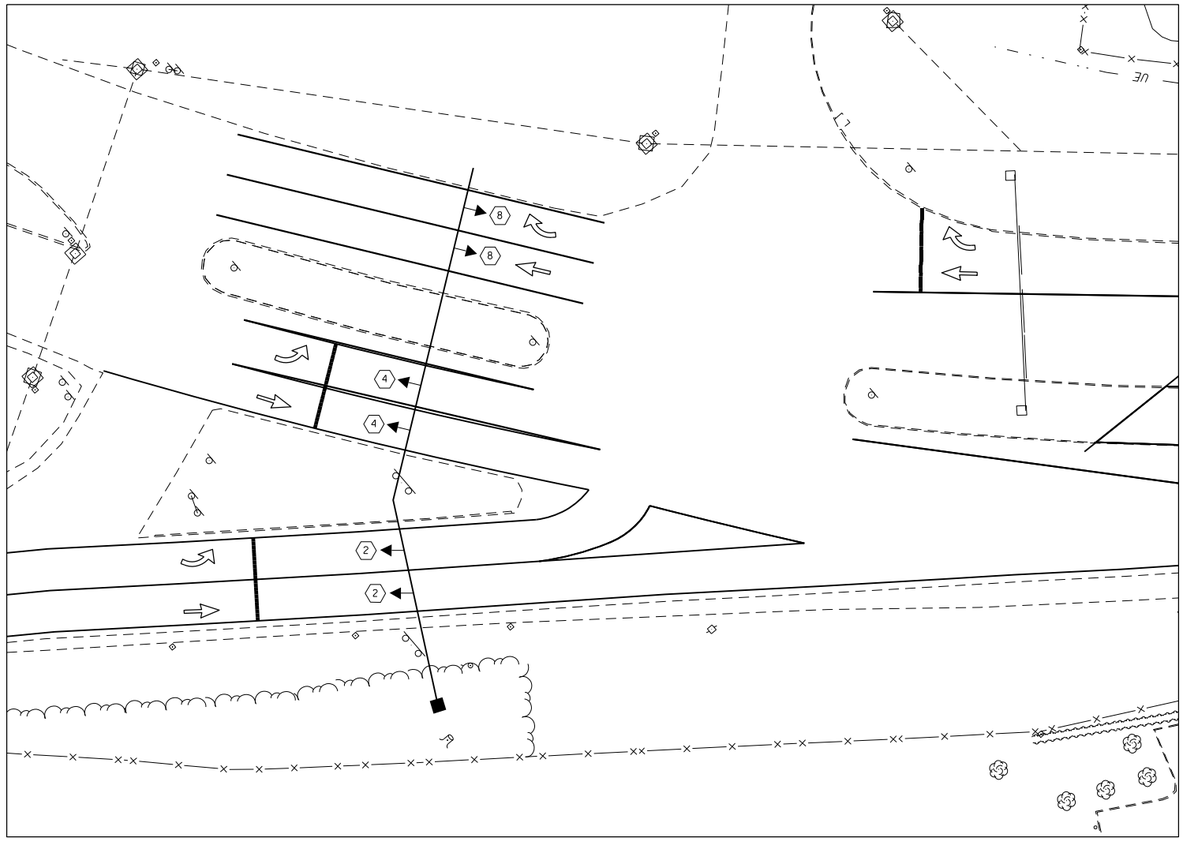
Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 1296

APPENDIX D

Temporary Signal Timings



TEMPORARY TRAFFIC SYSTEM NOTES

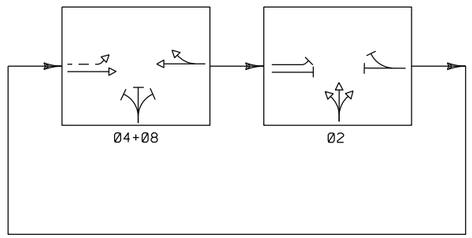
1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE STATE OF VERMONT AGENCY OF TRANSPORTATION'S (VTrans) "STANDARD SPECIFICATIONS FOR CONSTRUCTION", DATED 2018, WITH CURRENT MODIFICATIONS AND THE LATEST EDITION OF THE MUTCD.
2. TEMPORARY TRAFFIC SIGNAL SYSTEM SHALL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH CONTRACT ITEM 678.40 - TEMPORARY TRAFFIC SIGNAL SYSTEM.
3. DESIGN OF THE SIGNAL SYSTEM, INCLUDING LAYOUT, TIMINGS, SIGNAL SUPPORTS, STREET LIGHTING AND ANY REQUIRED GUYING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MAINTENANCE COSTS, INCLUDING BUT NOT LIMITED TO TIMING ADJUSTMENTS, TROUBLE CALLS, POWER BILL AND ANY ADJUSTMENTS REQUIRED TO ACCOMMODATE CONSTRUCTION PHASING.
5. SIGNAL FACES SHALL BE L.E.D AND CONSIST OF 12" LENSES (RED, YELLOW AND GREEN).
6. THE BOTTOM OF THE HOUSING OF A SIGNAL FACE SUSPENDED OVER A ROADWAY SHALL NOT BE LESS THAN 16.5 FEET NOR MORE THAN 19.0 FEET ABOVE THE PAVEMENT GRADE AT THE CENTER OF THE ROADWAY. THE BOTTOM OF A SIGNAL FACE NOT MOUNTED OVER A ROADWAY SHALL NOT BE LESS THAN 8.0 FEET NOR MORE THAN 15.0 FEET ABOVE THE GROUND.
7. SIGNAL FACES FOR ANY ONE APPROACH SHALL NOT BE LESS THAN 8 FEET APART MEASURED HORIZONTALLY BETWEEN CENTER FACES.
8. SIGNAL HEADS MAY BE HUNG ON A SPAN WIRE OR ON A CANTILEVER MAST ARM. AT LEAST ONE SIGNAL HEAD SHALL BE UNMISTAKABLY IN LINE WITH THE CENTER OF APPROACHING TRAFFIC AT ALL TIMES. CONSULT THE LATEST EDITION OF THE MUTCD FOR ADDITIONAL INFORMATION CONCERNING SIGNAL PLACEMENT.
9. SIGNAL HEAD PLACEMENT IS CRITICAL. HEADS SHALL BE ADJUSTED TO REFLECT LANE LOCATION CHANGES.
10. THE SIGNAL SYSTEM SHALL CONSIST OF POLES, SIGNS AND POSTS, WARNING SIGNS, LUMINAIRES, VEHICLE DETECTION, ASSOCIATED PAVEMENT MARKINGS AND SIGNAL EQUIPMENT TO PROVIDE FOR AN ADEQUATE DESIGN. IT ALSO INCLUDES PERMITS AND COSTS ASSOCIATED WITH PROVIDING ELECTRICAL POWER.
11. THE TEMPORARY SIGNAL SHALL BE FULLY ACTUATED. DETECTION FOR ALL APPROACHES SHALL BE NON-INTRUSIVE. CUTTING OF PAVEMENT TO INSTALL LOOPS WILL NOT BE PERMITTED.
12. INSTALL WIRING BETWEEN SIGNAL POLES TO PROVIDE FOR A SAFE INSTALLATION. ATTACHMENT TO UTILITY POLES SHALL BE COORDINATED BY THE CONTRACTOR WITH THE UTILITY COMPANY.
13. PLACE TEMPORARY POLES BEHIND GUARDRAIL OR OUTSIDE OF THE CLEAR ZONE.
14. POLES SUPPORTING SPAN WIRES AND/OR MAST ARMS SHALL BE ADEQUATELY BRACED OR GUYED AND SHALL BE PLACED SO AS NOT TO CREATE A HAZARD TO THE TRAVELING PUBLIC.
15. LUMINAIRES SHALL BE INSTALLED TO ADEQUATELY ILLUMINATE THE STOP BAR AREAS OF ALL APPROACHES. 250 WATT HIGH PRESSURE SODIUM, 150 WATT MERCURY OR AN EQUIVILANT WATTAGE L.E.D. LAMP ARE ALL ACCEPTABLE FORMS OF LUMINAIRE. THE MOUNTING HEIGHT SHALL BE 30 FEET ABOVE THE CENTERLINE OR AS REQUIRED TO PROVIDE ADEQUATE ILLUMINATION. WHILE THE INTENT IS TO ILLUMINATE THE TEMPORARY SIGNAL SYSTEM, MEASURED NIGHTTIME ILLUMINANCE AT EACH STOP BAR SHALL NOT BE LESS THAN 1.0 FOOT-CANDLE. THE ENGINEER SHALL ORDER CHANGES TO THE LIGHTING COMPONENTS IF DETERMINED TO BE INSUFFICIENT. PAYMENT FOR LUMINAIRES WILL BE CONSIDERED INCIDENTAL TO THE TEMPORARY TRAFFIC SIGNAL SYSTEM.
16. THE TEMPORARY SIGNAL SHALL BE OPERATED IN FLASH MODE FOR A MINIMUM OF 48 HOURS PRIOR TO BEING PUT INTO FULL OPERATION.
17. ALL TRAFFIC SIGNS, INCLUDING STOP SIGNS, MADE IRRELEVANT DUE TO THE TEMPORARY SIGNAL SHALL BE COMPLETELY COVERED OR REMOVED DURING OPERATION OF THE TEMPORARY SIGNAL OR AT THE DISCRETION OF THE ENGINEER.
18. CONSTRUCTION APPROACH SIGNS SHALL BE PROVIDED ON EACH APPROACH PER THE ACCEPTED TRAFFIC CONTROL PLAN. ADDITIONAL SIGNS SHALL BE INSTALLED AS REQUIRED BY THE ENGINEER PER STANDARDS T-1, T-10 AND T-11.
19. ALL TEMPORARY SIGNAL EQUIPMENT, SIGNS, ETC., SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AT THE END OF THE PROJECT AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR REMOVAL INCLUDING ANY TEMPORARY PAVEMENT MARKINGS, UTILITY POLES, WIRES, ETC.

CONTROLLER TIMING CHART									
LOCAL PROGRAMMING	*PHASES*								
	1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*
MINIMUM GREEN	--	10	--	10	--	--	--	10	--
EXTENSION	--	3	--	3	--	--	--	3	--
YELLOW CLEARANCE	--	4	--	4	--	--	--	4	--
ALL RED CLEARANCE	--	2	--	2	--	--	--	2	--
DHV	--	--	--	--	--	--	--	--	--
MAX GREEN I 6:00-9:00 AM	--	22	--	21	--	--	--	21	--
MAX GREEN II 3:00-6:00 PM	--	22	--	21	--	--	--	21	--
MAX GREEN (FREE)	--	20	--	20	--	--	--	20	--
WALK	--	--	--	--	--	--	--	--	--
FLASHING DON'T WALK	--	--	--	--	--	--	--	--	--
RECALL	--	SOFT	--	OFF	--	--	--	OFF	--

LIST OF MAJOR EQUIPMENT

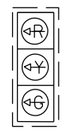
EQUIPMENT ITEM 678.40 - TEMPORARY TRAFFIC SIGNAL SYSTEM, INTERSECTION (I-91 NB OFF & US 5)	QUANTITY
NEW 12" POLYCARBONATE, 3-SECTION LED SIGNAL HEADS (ONE WAY) W/TUNNEL VISORS, LOUVERED BACKPLATES, AND MOUNTING HARDWARE	7

ALL OTHER WIRING AND INCIDENTALS REQUIRED TO PROVIDE A FULLY FUNCTIONAL TRAFFIC SIGNAL SYSTEM WILL BE CONSIDERED INCIDENTAL TO ITEM 900.645 SPECIAL PROVISION (TEMPORARY TRAFFIC SIGNAL, INTERSECTION) (I-91 NB OFF & US 5)



- — — = PERMISSIVE MOVEMENT

SIGNAL FACE ARRANGEMENT
(12" LENSES)

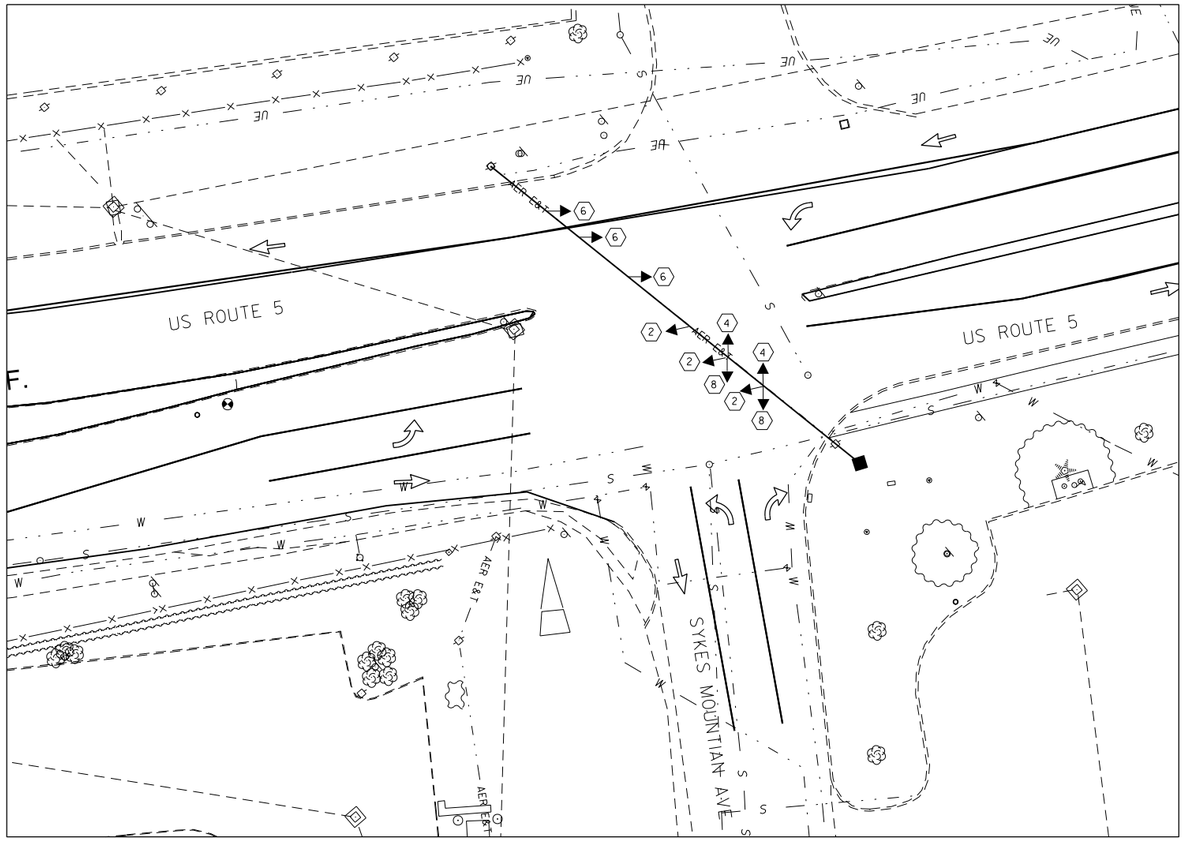


McFarland Johnson

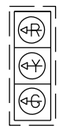
PROJECT NAME: HARTFORD
PROJECT NUMBER: STP 0113(59)S

FILE NAME: zc344sig01.dgn
PROJECT LEADER: S. IRELAND
DESIGNED BY: S. IRELAND
TRAFFIC SIGNAL LAYOUT SHEET 1

PLOT DATE: 8/8/2019
DRAWN BY: S. IRELAND
CHECKED BY: B. COLBURN
SHEET 1 OF 2



SIGNAL FACE ARRANGEMENT
(12" LENSES)



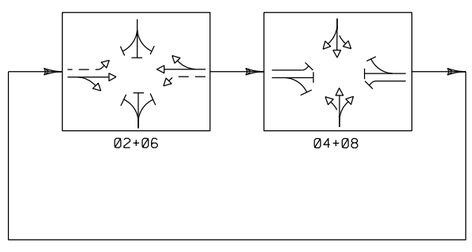
CONTROLLER TIMING CHART									
LOCAL PROGRAMMING	*PHASES*								
	1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*
MINIMUM GREEN	--	10	--	10	--	10	--	10	--
EXTENSION	--	3	--	3	--	3	--	3	--
YELLOW CLEARANCE	--	4	--	4	--	4	--	4	--
ALL RED CLEARANCE	--	2	--	2	--	2	--	2	--
DHV	--	--	--	--	--	--	--	--	--
MAX GREEN I 6:00-9:00 AM	--	45	--	25	--	45	--	25	--
MAX GREEN II 3:00-6:00 PM	--	46	--	34	--	46	--	34	--
MAX GREEN (FREE)	--	30	--	20	--	30	--	20	--
WALK	--	--	--	--	--	--	--	--	--
FLASHING DON'T WALK	--	--	--	--	--	--	--	--	--
RECALL	--	SOFT	--	OFF	--	SOFT	--	OFF	--

NOTE: Ø9 IS AN EXCLUSIVE PEDESTRIAN PHASE

LIST OF MAJOR EQUIPMENT

EQUIPMENT ITEM 900.645 SPECIAL PROVISION (MODIFY EXISTING TRAFFIC SIGNAL, INTERSECTION) (US 5 AND SYKES MTN AVE)	QUANTITY
CONTRACTOR SHALL ADJUST TEMPORARY SIGNAL WITH EACH PHASE AS NEEDED.	1

ALL OTHER WIRING AND INCIDENTALS REQUIRED TO PROVIDE A FULLY FUNCTIONAL TRAFFIC SIGNAL SYSTEM WILL BE CONSIDERED INCIDENTAL TO ITEM 900.645 SPECIAL PROVISION (MODIFY EXISTING TRAFFIC SIGNAL, INTERSECTION) (US 5 AND SYKES MTN AVE)



- — — = PERMISSIVE MOVEMENT

NOTES:

1. THE WORK AT THIS LOCATION SHALL CONSIST OF CHANGING THE EXISTING EXCLUSIVE LEFT-TURN PHASING TO PERMITTED PHASING USING GREEN BALL SIGNAL HEADS.
2. WORK WILL INCLUDE REPLACING THE EXISTING 3-SECTION LEFT-TURN SIGNAL HEADS ON THE US 5 NORTHBOUND AND SOUTHBOUND APPROACHES (PHASE 2 & 6) AND REPLACING THEM WITH NEW 3-SECTION, POLYCARBONATE SIGNAL HEADS WITH LOUVERED BACKPLATES.
3. WORK SHALL ALSO CONSIST OF MAKING CHANGES TO THE EXISTING TIMING AND SIGNAL PHASING IN THE EXISTING TRAFFIC SIGNAL CONTROLLER TO ACCOMODATE THE OPERATION AS SHOWN ON THIS SHEET.

McFarland Johnson

PROJECT NAME: HARTFORD
PROJECT NUMBER: STP 0113(59)S

FILE NAME: zc344sig02.dgn
PROJECT LEADER: S. IRELAND
DESIGNED BY: S. IRELAND
TRAFFIC SIGNAL LAYOUT SHEET 2

PLOT DATE: 8/8/2019
DRAWN BY: S. IRELAND
CHECKED BY: B. COLBURN
SHEET 2 OF 2

PERMIT ID#_____

FOR AGENCY USE ONLY

Town: _____
Route: _____
Mile Marker: _____
Log Station: _____

VERMONT AGENCY OF TRANSPORTATION

State Highway Access and Work Permit

Applicant to Complete

Owner's/Applicant's Name, Address, E-mail & Phone No. Town of Hartford
Attn. Hannah Tyler, Public Works Director 802-295-3622

Co-Applicant's Name, Address, E-mail & Phone No. (if different from above) McFarland Johnson Inc.
53 Regional drive Concord NH, 03301 Attn. Steven Ireland 603-225-2978

The location of work (town, highway route, distance to nearest mile marker or intersection & which side)
400' South of US Route 5 and Sykes Mountain Ave intersection to 500' North of the intersection

Description of work to be performed in the highway right-of-way (attach plan)
Reconstruction of signalized intersection to a roundabout.

Property Deed Reference Book:_____ Page:_____ (only required for Permit Application for access)

Fee $_____ (fees do not apply for residential or agricultural purposes)

Is a Zoning Permit required? Yes ☐ No ☑ - If Yes, #_____

Is a 30 VSA § 248 permit required? Yes ☐ No ☑ - If Yes, #_____

Is an Act 250 permit required? Yes ☐ No ☑ - If Yes, #_____

Other permit(s) required? Yes ☑ No ☐ - If Yes, name and # of each Storm Water #7824-9015

Date applicant expects work to begin Summer 20 20

Owner/Applicant: Hannah Tyler (Print name above) Position Title: Director of Public Works

Sign in Shaded area: Hannah Tyler Date:

Co-Applicant: Steven Ireland (Print name above) Position Title: Engineer

Sign in Shaded area: Steven Ireland Date: 08/07/19

INSTRUCTIONS: -Contact the Development Review and Permitting Services Section (802.636.0037) or your local area Transportation Maintenance District Office to determine your issuing authority. The issuing authority will determine what plans, fee and other documents are required to be submitted with your Vermont Statutes Annotated, Title 19, Section 1111, permit application request.
- Original signatures are required on an original Form. The Owner/Applicant and Co-Applicant (if applicable) declares under the pains and penalty of perjury that all information provided on this form and submitted attachments are to the best of their knowledge true and complete.

FEE: -See **Fee Schedule** for applicable administrative processing and application review fee.

PERMIT APPROVAL

The work is subject to the restrictions and conditions on the reverse page, plus the Special Conditions stated on the attached page(s).

Date work is to be completed

Date work accepted: _____

By _____ Issued Date
Authorized Representative for
Secretary of Transportation

By: _____
DTA or Designee

NOTICE: **This permit covers only the Vermont Agency of Transportation's jurisdiction over this highway under Vermont Statutes Annotated, Title 19, Section 1111.** It does not release the petitioner from the requirements of any other statutes, ordinances, rules or regulations. This permit addresses only access to, work within, and drainage affecting the state highway. It does not address other possible transportation issues, such as access to town highways, use of private roads, and use of railroad crossings. If relevant to the proposed development, such issues must be addressed separately.

No work shall be done under this permit until the owner/applicant has contacted the District Transportation Office at:

RESTRICTIONS AND CONDITIONS

DEFINITIONS:

"Agency" means the Vermont Agency of Transportation (a/k/a VTrans).

"Engineer" means the authorized agent of the Secretary of Transportation.

"Owner/Applicant" means the party(s) to whom the permit is to be issued.

"Co-Applicant" means the party who performs the work, if other than Owner/Applicant or a secondary Owner/Applicant under a joint permit application.

"Permit Holder" means the party who currently owns the lands abutting the highway that are the subject of the permit.

GENERAL:

By accepting this permit, or doing any work hereunder, the Owner/Applicant agrees to comply with all of the restrictions and conditions and any imposed special conditions. If the Owner/Applicant is aggrieved by the restrictions and conditions or special conditions of the permit, they shall submit a written request for consideration to the Engineer within 30-days of permit issuance and prior to starting any work. No work will be authorized by the Agency, or performed under the permit, until the dispute is fully resolved.

Vermont Statutes Annotated, Title 30, Chapter 86 ("Dig Safe") requires notice to Dig Safe before starting excavation activities. The Permit Holder or his/her contractor must telephone Dig Safe at 811 at least 48 hours (excluding Saturdays, Sundays and legal holidays) before, but not more than 30 days before, starting excavation activities at any location. In addition, please note that the Agency and many municipalities <u>are not</u> members of Dig Safe and will need to have their utility facilities investigated with due diligence prior to starting excavation activities in or on the State Highway right-of-way.

The Permit Holder is to have a supervisory representative present any time work is being done in or on the State Highway right-of-way. A copy of this permit and Special Conditions must be in the possession of the individual performing this work for the Permit Holder.

Except with the specific, written permission of the District Transportation Administrator, all work in the State Highway right-of-way shall be performed during normal daylight hours and shall cease on Sunday, on all holidays (which shall include the day before and the day following), during or after severe storms, and between December 1 and April 15. These limitations will not apply for the purposes of maintenance, emergency repairs, or proper protections of the work which includes, but not limited to, the curing of concrete and the repairing and servicing of equipment.

The Owner/Applicant shall be responsible for all damages to persons or property resulting from any work done under this permit, even if the Applicant's Contractor performs the work. All references to the Owner/Applicant also pertain to the Co-Applicant.

The Owner/Applicant must comply with all federal and state statutes or regulations and all local ordinances controlling occupancy of public highways. In the event of a conflict, the more restrictive provision shall apply.

The Owner/Applicant must, in every case where there is a possibility of injury to persons or property from blasting, use a pre-approved Blasting Plan. All existing utility facilities shall be protected from damage or injury.

The Owner/Applicant shall erect and maintain barriers needed to protect the traveling public. The barriers shall be properly lighted at night and must be MUTCD (Manual on Uniform Traffic Control Devices) compliant.

All temporary and permanent traffic control measures and devices shall be MUTCD compliant.

The Owner/Applicant shall not do any work or place any structures or obstacles within the State Highway right-of-way, except as authorized by this permit.

The Owner/Applicant may pay the entire cost of the salary, subsistence and traveling expenses of any inspector appointed by the Engineer to supervise such work.

The Engineer may modify or revoke the permit at any time for safety-related reasons, without rendering the Agency or the State of Vermont liable in any way.

In addition to any other enforcement powers that may be provided for by the law, the Engineer may suspend this permit until compliance is obtained. If there is continued use or activity after suspension, the Engineer may physically close the work area and take corrective action to protect the safety of the highway users.

The Permit Holder shall be responsible to rebuild, repair, restore and make good all injuries or damage to any portion of the highway right-of-way that has been brought about by the execution of the permitted work, for a minimum period of eighteen (18) months after final inspection by the District.

Any approved variance from the permitted plans is to be recorded on "as-builts" with copies provided to both the Chief of Permitting Services and the District Transportation Administrator.

ACCESS:

This permit (if for access) does not become effective until the owner/applicant records in the office of the appropriate municipal clerk, the attached "Notice of Permit Action"

As development occurs on land abutting the highways, the Agency may revoke a permit for access and require the construction of other access improvements such as the combination of access points by adjoining owners.

Under Vermont Statutes Annotated, Title 19, Section 1111, no deed purporting to subdivide land abutting a state highway can be recorded unless all the abutting lots so created are in accordance with the standards of Section 1111.

The Permit Holder acknowledges and agrees that neither this permit nor any prior pattern of use creates an ownership interest or other form of right in a particular configuration or number of accesses to or through the highway right-of-way, and that the right of access consists merely of a right to reasonable access the general system of streets, and is not a right to the most convenient access or any specific configuration of access.

DRAINAGE:

The Owner/Applicant shall install catch basins and outlets as may be necessary, in the opinion of the Engineer, to preclude interference with the drainage of the state highway. Direct connections shall <u>not</u> be allowed without written approval.

UTILITY WORK; CUTTING AND TRIMMING TREES:

The Owner/Applicant shall obtain the written consent of the adjoining owners or occupants or, in the alternative, an order from the State Transportation Board in accordance with, Vermont Statutes Annotated, Title 30, Section 2506, regarding cutting of or injury to trees.

In general, all utilities shall be located adjacent to the State Highway right-of-way boundary line and shall be installed without damaging the highway or the highway right-of-way. No pole, push-brace, guy wire or other aboveground facilities shall be placed closer than 10 feet to the edge of traveled-way. If the proposed utility facilities are in conflict with the above, each location is subject to the approval of the Engineer.

Poles and appurtenances shall be located out of conflict with intersection sight distance, guardrail, ditches, signs, culverts, etc.

Where the cutting or trimming of trees is authorized by permit, all debris resulting from such cutting and trimming shall be removed from the State Highway right-of-way.

Open cut excavation for highway crossings is NOT the option of the Applicant, and may be utilized only where attempted jacking, drilling, or tunneling methods fail or are impractical. The Owner/Applicant shall obtain an appropriate modification of the highway permit from the Engineer before making an open cut.

JOINT PERMITS:

A joint permit application is required when more than one party will be involved with the construction, maintenance, and/or operation of the facility being constructed under this permit. Examples include, but are not limited to, joint ownership or occupancy of a utility pole line and construction of a municipal utility line by a contractor. Both utility companies, and in the second case, the municipality and the contractor, must be joint applicants.

VERMONT

Vermont Department of Environmental Conservation
Watershed Management Division
1 National Life Drive, Main Bldg, 2nd Fl.
Montpelier, VT 05620-3522

Agency of Natural Resources

Telephone: 802-828-1535

8/14/2017

Town of Hartford
173 Airport Road
White River Junction, VT 05001

Vermont Agency of Transportation
1 National Life Drive
Montpelier, VT 05633

Dear Permittee:

Attached is your copy of an Authorization to Discharge under Permit 7824-9015, which has been signed by the Stormwater Program Manager of the Stormwater Management Section on behalf of the Commissioner of the Department of Environmental Conservation. This authorizes the discharge of treated stormwater runoff from impervious surfaces associated with your project. Please read this authorization to discharge carefully and note the inspection and reporting requirements, and other operating conditions including payment of annual operating fees.

In addition, per the authorization, the permittee shall record a one page notice of issuance of this authorization in the local land records within fourteen (14) days of issuance of this authorization on the form provided. The permittee shall then provide a copy of the recording to the Stormwater Management Program, by submitting a copy of the recording from the local land records to this office within fourteen (14) days of the permittee's receipt of the recorded copy.

Please note these important due dates associated with your permit:

- Annual Operating Fee Due- 9/14/2017 (The payor will receive a separate invoice with payment details.)
- Initial Statement of Compliance Due- 6 months following completion of construction.
- Annual Inspection Due- 7/15/2018
- Permit Renewal Due- 6/14/2022
- Permit Expiration Due- 8/14/2022

If you have any questions pertaining to this authorization, please contact the Stormwater Management Program's Environmental Analyst assigned to your district: Matt Destino at matthew.destino@vermont.gov.

Sincerely,

Stormwater Management Program

Permit Number: 7824-9015

PIN: NS17-0025

VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION
AUTHORIZATION TO DISCHARGE UNDER
GENERAL PERMIT 3-9015

A determination has been made that the applicant(s):

Town of Hartford
173 Airport Road
White River Junction, VT 05001

And

Vermont Agency of Transportation
1 National Life Drive
Montpelier, VT 05633

Impervious Area: 2.43 acres

meets the criteria necessary for inclusion under General Permit 3-9015. Hereinafter the named applicant shall be referred to as the permittee. Subject to the conditions of General Permit No. 3-9015, the permittee is authorized to discharge stormwater as described herein:

Project Name:	Hartford STP 0113(59)S
Project Location:	Intersection of US Route 5 and Sykes Mountain Avenue in Hartford, Vermont
Receiving Waters:	White River
Manner of Discharge:	S/N 001: This discharge point collects stormwater runoff from the entire proposed project via a closed drainage system and outlets to the pre-treatment area of a proposed gravel wetland. The proposed gravel wetland discharges to the same ditch as the existing closed drainage system that flows to an unnamed tributary to the White River. The proposed closed drainage system collects additional stormwater runoff flowing from the two other closed systems that did not previously discharge to the swale mentioned above. This additional flow will receive water quality treatment where it previously had no treatment.
Design:	This project shall be constructed and operated in accordance with the site plans and details designed by McFarland Johnson, (Sheets 4 & 5, Typical Section- US Route 5, both dated 6/6/2017; Sheets 6 & 7, Typical Section- Roundabouts, both dated 6/6/2017; Sheet 8, Typical Section- Sykes Mountain Avenue, dated 6/6/2017; Sheet 9, Typical Section- Side Roads, dated 6/6/2017; Sheets 13 & 14, Gravel Wetland Details, both dated 6/6/2017; Sheet 22, Layout Plan 1, dated 6/6/2017; Sheet 24, Layout Plan 2, dated 6/6/2017; Sheet 25, Layout Plan 3, dated 6/6/2017; Sheet 26, Layout Plan 4, dated 6/6/2017; Sheet 27, Layout Plan 5, dated 6/6/2017; Sheets 33-35, Profile- Sykes Mountain Avenue, all dated 6/6/2017; Sheet 36, Profile- Beswick Drive, dated 6/6/2017; Sheet 37, Profile- Ralph Lehman Drive, dated 6/6/2017; Sheets 38 & 39, Profile- US Route 5, both dated 6/6/2017; Sheet 66, Gravel Wetland Grading Plan, dated 6/6/2017; Sheet 67, Landscape Plan 1, dated 6/6/2017; Sheet 68, Landscape Plan 2, dated 6/6/2017; Sheet 69, Landscape Plan 3, dated 6/6/2017; Sheet 70, Landscape Plan 4, dated 6/6/2017; Sheet 71, Landscape Plan 5, dated 6/6/2017; Sheets 78-82, US Route 5 Cross Sections, all dated 6/6/2017; Sheets 83-87, Sykes Mountain Ave. Cross Sections, all dated 6/6/2017; Sheet 88, Ralph Lehman Cross Sections, dated 6/6/2017; Sheet 89, Beswick Drive Cross Sections, dated 6/6/2017) and all supporting information. By reference, the above noted plans are made part of this authorization.

Compliance with General Permit 3-9015 and this Authorization

The permittee shall comply with this authorization and all the terms and conditions of General Permit 3-9015, including the payment of annual operating fees to the Department. A billing statement for such fees will be sent to the permittee each year. The first year's statement is enclosed. Any permit non-compliance, including a failure to pay the annual operating fee, constitutes a violation of 10 V.S.A. Chapter 47 and may be grounds for an enforcement action or revocation of this authorization to discharge.

Transferability

This authorization to discharge is not transferable to any person except in compliance with Part VI.D. of General Permit 3-9015. A copy of General Permit 3-9015 is available from the Department via the internet at http://dec.vermont.gov/sites/dec/files/wsm/stormwater/docs/GeneralPermit9015/sw_3-9015_final_signed.pdf.

Changes to Permitted Development

In accordance with Part V.G. of General Permit 3-9015, the permittee shall notify the Department of any planned development or facility expansions or changes that may result in new or increased stormwater discharges. The Department shall determine the appropriateness of continued inclusion under General Permit 3-9015 by the modified development or facility.

Annual Inspection and Report

The stormwater collection, treatment and control system shall be properly operated. The permittee shall submit an annual inspection report on the operation, maintenance and condition of the stormwater collection, treatment and control system. The inspection report shall be submitted regardless of whether the project has been constructed. The inspection shall be conducted between the conclusion of spring snow melt and June 15th of each year and the inspection report shall be submitted to the Secretary by July 15th of each year, or by July 30th if performed by a utility or municipality pursuant to a duly adopted stormwater management ordinance. The inspection report shall note all problem areas and all measures taken to correct any problems and to prevent future problems. The online submittal system, ANR Online, can be accessed at https://anronline.vermont.gov.

Initial Statement of Compliance

An initial statement of compliance, signed by a designer, must be submitted to the Stormwater Management Program no later than 6 months following completion of construction of the stormwater management system. Failure to submit an initial statement of compliance shall constitute a violation of General Permit 3-9015 and may result in the revocation of this authorization to discharge. Forms for completing this requirement are available on the Stormwater Management Program's website. The online submittal system, ANR Online, can be accessed at https://anronline.vermont.gov.

Renewable Energy Projects – Right to Appeal to Public Utility Commission

Any appeal of this decision must be filed with the clerk of the Vermont Public Utility Commission pursuant to 10 V.S.A. §8506 within 30 days of the date of this decision. The appellant must file with the Clerk an original and six copies of its appeal. The appellant shall provide notice of the filing of an appeal in accordance with 10 V.S.A. §8504(c)(2), and shall also serve a copy of the Notice of Appeal on the Vermont Department of Public Service. For information, see the Rules and General orders of the Public Utility Commission available on line at http://puc.vermont.gov/. The address for the Public Utility Commission is 112 State Street Montpelier, Vermont 05620-2701 (Tel. #802-828-2358).

All Other Projects – Right to Appeal to the Environmental Court

Pursuant to 10 V.S.A. Chapter 220, any appeal of this decision must be filed with the clerk of the Environmental Court within 30 days of the date of the decision. The appellant must attach to the Notice of Appeal the entry fee of $250.00, payable to the state of Vermont. The Notice of Appeal must specify the parties taking the appeal and the statutory provision under which each party claims party status; must designate the act or decision appealed from; must name the Environmental Court; and must be signed by the appellant or their attorney. In addition, the appeal must give the address or location and description of the property, project or facility with which the appeal is concerned and the name of the applicant or any permit involved in the appeal. The appellant must also serve a copy of the Notice of Appeal in accordance

with Rule 5(b)(4)(B) of the Vermont Rules for Environmental Court Proceedings. For further information, see the Vermont Rules for Environmental Court Proceedings, available on line at www.vermontjudiciary.org. The address for the Environmental Court is 32 Cherry Street, 2nd Floor Suite 303 Burlington, Vermont 05401 (Tel. # 802-951-1740).

Effective Date and Expiration Date of this Authorization

This authorization to discharge shall become effective on August 14, 2017 and shall continue until August 14, 2022. The permittee shall reapply for coverage at least sixty (60) days prior to August 14, 2022.

Dated Monday, August 14, 2017

Emily Boedecker, Commissioner
Department of Environmental Conservation

By: Padraic Monks

Padraic Monks, Stormwater Program Manager
Stormwater Management Program

ATTACHMENT F
Operational Stormwater Permitting and Compliance

1. SPONSOR Responsibilities. The SPONSOR shall undertake the following responsibilities in connection with the SDP:

a. Serve with the STATE as co-permittee, co-owner, and co-operator of the SDP.

b. On an on-going, continuous basis, pursuant to 19 V.S.A. § 1111, secure, maintain, and comply with all necessary permits to work within and discharge into the STATE right-of-way, and seek section 1111 permit amendments and renewals as required.

c. Retain a qualified technical consultant to perform the following services:

   1) Design the Stormwater System and develop an administratively complete application package for the SDP;

   2) Manage the stormwater permitting process, including but not limited to any need to amend or supplement the application package in the course of VANR's review, to apply for and obtain an individual permit rather than a general permit if required by VANR, and to consult or testify in any appeal of VANR's decision on the SDP application by the parties or any third party; and

   3) Prepare the initial designer certification under the SDP.

d. Create an Operations & Maintenance Manual for the proposed Stormwater System. The Operations & Maintenance Manual shall contain a schedule of activities necessary to maintain Stormwater System function and compliance with the SDP, including but not limited to periodic removal and disposal of trash, solids, sediment, and other detritus; sweeping and general cleanout in the Spring; visual inspection and winter preparedness in the Fall; and sediment removal and disposal as needed.

e. Provide the VTrans Local Transportation Facilities Project Supervisor with the opportunity to distribute, review, and revise the proposed design elements of the Stormwater System and the Operations & Maintenance Manual (including but not limited to the proposed stormwater treatment practices and the proposed Stormwater System's ongoing operational and maintenance needs).

f. Submit a complete and signed application package for the SDP to the VTrans Local Transportation Facilities Project Supervisor for distribution, review, any revisions, and submission to VANR; include the Operations & Maintenance Manual for the proposed Stormwater System in the application package.

g. Construct the Stormwater System as authorized by the SDP.

h. Following completion of construction of the regulated impervious surfaces and permitted Stormwater System, prepare the initial designer certification (performed and completed by the original designer listed on the SDP) that the Stormwater System was built and is operating in compliance with the SDP.

i. No later than ten business days before the deadline established by the SDP or other applicable VANR requirements for filing the initial designer certification with VANR, submit the initial designer certification to the VTrans Local Transportation Facilities Project Supervisor for distribution, review, any revisions, and submission to VANR.

j. No later than sixty days after final acceptance of construction completion, provide four sets of printed as-built plans for the permitted Project plus one copy in pdf format on disk to the VTrans Operations Environmental Coordinator.

k. Amend the Operations & Maintenance Manual for the Stormwater System as may be reasonably necessary to reflect the permitted and constructed impervious surfaces and Stormwater System and any changes in applicable law, and provide the VTrans Operations Environmental Coordinator with the opportunity to amend the Operations & Maintenance Manual as may be reasonably necessary.

l. Inspect, maintain, and make physical repairs to the permitted Stormwater System (which may include emergency repairs, corrective measures, and reconstruction in the event of system failure), all as needed to maintain Stormwater System function and to comply with the SDP and any and all other applicable local, state, and federal requirements, and in keeping with the Operations & Maintenance Manual for the Stormwater System.

m. Using inspection report forms provided by VANR, prepare draft inspection reports that note problems and maintenance/corrective actions taken by the SPONSOR and/or by the STATE; submit draft inspection reports to the VTrans District Project Manager for distribution, review, and comment at least thirty days prior to the deadline for submitting the inspection reports to VANR; submit final inspection reports to VANR reflecting review and comments by the VTrans District Project Manager; and provide copies of the final inspection reports to the VTrans District Project Manager and the VTrans Operations Environmental Coordinator.

n. Retain written records of inspection reports and a time log of corrective/maintenance activities, and make these documents available to the STATE or VANR upon request.

o. Prepare designer's re-statements of compliance as required by the SDP, and submit drafts to the VTrans Operations Environmental Coordinator for distribution, review, any revisions, and submission to VANR no later than thirty

business days before the deadline established by the SDP or other applicable VANR requirements.

p. Coordinate and cooperate with the STATE in the amendment of the SDP and in the modification or replacement of the Stormwater System as may be reasonably necessary in view of changing transportation, development, regulatory, technical, or environmental considerations.

2. STATE Responsibilities. The STATE shall undertake the following responsibilities in connection with the SDP:

a. Serve with the SPONSOR as co-permittee, co-owner, and co-sponsor of the SDP.

b. Issue and renew access permits to the SPONSOR pursuant to 19 V.S.A. § 1111 for construction, operation, and maintenance of the Stormwater System, and for emergency repairs.

c. Provide timely review and revisions to the SPONSOR on the proposed design elements of the Stormwater System and proposed Operations & Maintenance Manual (including but not limited to the proposed stormwater treatment practices and the proposed Stormwater System's ongoing operational and maintenance needs).

d. Provide timely review and revisions to the SPONSOR on the SDP application package.

e. Submit the final application package for the SDP (including the Operations & Maintenance Manual for the proposed Stormwater System) to VANR and, and in coordination and cooperation with the SPONSOR, provide such additional information as VANR may reasonably require to make the application complete.

f. Review and, as may be reasonably necessary, revise the initial designer certification to be provided by the SPONSOR, and timely submit the initial designer certification to the VANR Stormwater Section as required by the SDP.

g. In coordination and cooperation with the SPONSOR, amend the Operations & Maintenance Manual for the Stormwater System as may be reasonably necessary.

h. Timely review and comment on the draft inspection reports to be provided by the SPONSOR.

i. In coordination and cooperation with the SPONSOR, timely complete and submit designer re-statements of compliance as required by the SDP.

j. In coordination and cooperation with the SPONSOR, timely prepare and submit applications for renewal as required to maintain the SDP.

k. Timely pay VANR operating fees to maintain the SDP.

3. Administrative Authority.

a. The STATE reserves the right to take maintenance or corrective actions and any other actions that may be reasonably necessary to maintain Stormwater System function and compliance with the SDP, to comply with other regulatory requirements, or to protect the environment or the STATE's infrastructure, including but not limited to the Stormwater System. The STATE shall provide reasonable notice to the SPONSOR of any such actions that the STATE intends to take and a reasonable opportunity for the SPONSOR to fulfill its responsibilities as set forth herein. Any such actions that the STATE undertakes shall not be construed as a waiver of its rights under this Agreement.

b. The STATE further reserves the right to amend the SDP or to modify or replace the Stormwater System to meet changing transportation, development, technical, or environmental considerations. The STATE shall provide reasonable notice to the SPONSOR of any such actions that the STATE intends to take.

c. The SPONSOR shall abide by all comments, revisions, notices, and amendments made by the STATE, which shall give reasonable consideration to the SPONSOR's requests.

4. Funding and Costs.

a. The SPONSOR's costs in connection with its responsibilities set forth herein shall be reimbursed within the existing provisions and limitations of the Cooperative Agreement and Cooperative Agreement Amendment #1. Nothing herein is intended, nor shall be construed, to alter or amend the funding levels or coverage set forth in the Cooperative Agreement and Cooperative Agreement Amendment #1. As provided by the Cooperative Agreement and Cooperative Agreement Amendment #1, the SPONSOR's costs of maintaining the completed project, including but not limited to permit renewals, shall be borne solely by the SPONSOR.

b. If changing transportation, development, technical, or environmental considerations lead the parties to amend the SDP or to modify or replace the Stormwater System, the SPONSOR and the STATE agree to coordinate compliance and apportion the costs of development, permitting, construction, compliance, operation, and maintenance associated with the amendment, modification, or replacement based on the extent of each party's responsibility for incurring these new costs.

c. If existing or future state or federal regulations require amendment of the SDP or modification or replacement of the Stormwater System (which may occur, for

example, if the receiving waters are listed as impaired pursuant to section 303(d) of the Clean Water Act), the SPONSOR and the STATE agree to coordinate compliance and apportion the costs of development, permitting, construction, compliance, operation, and maintenance associated with the new requirement based on their percentage share of the impervious surfaces regulated by the new requirement.

5. Staffing. The SPONSOR and the STATE each agrees to employ the staff necessary to carry out their responsibilities set forth herein.

6. Future Connections or Expansions. The Stormwater System will treat only the regulated impervious surfaces within the defined Project limits as provided by the SDP for this Project, and the SPONSOR shall not employ the Stormwater System or allow the Stormwater System to be employed to treat any additional impervious surfaces, stormwater facility connections, and/or discharges from other private or public sources unless and until the STATE, in its sole discretion, agrees to a written amendment of the Cooperative Agreement and of the SDP. Notwithstanding the foregoing, the STATE reserves the right to allow future connections to or expansions of the Stormwater System and to secure any associated amendment of the SDP as may be reasonably necessary in view of changing transportation, development, regulatory, technical, or environmental considerations.

7. Communications. Communications with the STATE officials referenced in this Agreement shall be mailed or delivered to the following addresses unless or until the STATE notifies the SPONSOR in writing of a change of address:

Joel Perrigo, Local Transportation Facilities Project Supervisor
Vermont Agency of Transportation
1 National Life Drive
Montpelier, VT 05633
Tel: 802-828-2583

Craig DiGiammarino, Operations Environmental Coordinator
Vermont Agency of Transportation
1 National Life Drive
Montpelier, VT 05633
Tel: 802-828-0435

Trevor Starr, District #4 Project Manager
Vermont Agency of Transportation - District #4
221 Beswick Drive
White River Junction, VT 05001
Tel: 802-295-8888