

STATE OF OHIO DEPARTMENT OF TRANSPORTATION

GEA-87-15.93

Middlefield Village
Middlefield Township
GEAUGA COUNTY

FEDERAL PROJECT NUMBER

E191(582)

RAILROAD INVOLVEMENT

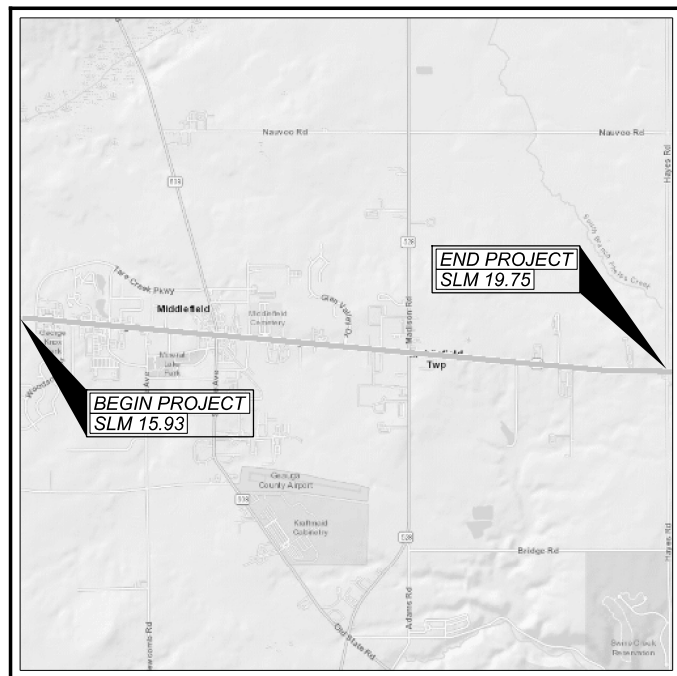
None

PROJECT DESCRIPTION

The project consists of the resurfacing of SR-87 (Kinsman Road) from the West Corporation Line to Hayes Road in the Village of Middlefield and Middlefield Township.

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA: N/A Maintenance Project
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: N/A Maintenance Project
NOTICE OF INTENT EARTH DISTURBED AREA: N/A Maintenance Project



LOCATION MAP

LATITUDE: 41°27'38" N LONGITUDE: 81°02'58" W



PORTION TO BE IMPROVED	=====
INTERSTATE HIGHWAY	=====
FEDERAL ROUTES	=====
STATE ROUTES	=====
COUNTY & TOWNSHIP ROADS	=====
OTHER ROADS	=====

DESIGN DESIGNATION

	SLM 15.34-16.62	SLM 16.62-17.08	SLM 17.08-18.20	SLM 18.20-19.75
CURRENT ADT (2021)	9,700	8,700	7,100	5,600
DESIGN YEAR ADT (2042)	11,000	9,100	7,500	6,900
DESIGN HOURLY VOLUME (2042)	1,100	900	800	700
DIRECTIONAL DISTRIBUTION	0.53	0.53	0.60	0.60
TRUCKS (24 HOUR B&C)	0.03	0.03	0.03	0.03
DESIGN SPEED	25/35	25/35	35/50	50
LEGAL SPEED	25/35	25/35	35/50	50
DESIGN FUNCTIONAL CLASSIFICATION:				
MAJOR COLLECTOR				
NHS PROJECT	No			

DESIGN EXCEPTIONS

No

ADA DESIGN WAIVERS

REQUIRED

UNDERGROUND UTILITIES
Contact Two Working Days
Before You Dig

OHIO811.org
Before You Dig

OHIO 811, 8-1-1, or 1-800-362-2764
(Non members must be called directly)

PLAN PREPARED BY:
ODOT - District 12
Planning and Engineering
5500 Transportation Blvd.
Garfield Heights, OH 44125

ENGINEER'S SEAL:

SIGNED: *E.M. Kallio*
DATE: 11-23-2021

INDEX OF SHEETS:

Title Sheet	1
Schematic Plans	2-4
Typical Sections	5-8
General Notes	7-10,9A
Maintenance of Traffic Notes	11-13
General Summary	14-15
Subsummaries	
Pavement Subsummaries	16
Pavement Marking Subsummary	17-18
Curb Ramp Subsummary	19
General Plans	20-27
Pavement Details	28

2019 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PLANS AND CHANGES LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

STANDARD CONSTRUCTION DRAWINGS						SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS
BP-3.1	1/17/20	MT-95.10	7/21/17	TC-41.20	10/18/13	800-2019 01/21/22	
BP-3.2	1/18/19	MT-95.50	7/21/17	TC-65.10	1/17/14	821 4/20/12	
BP-7.1	7/17/20	MT-95.60	4/19/19	TC-65.11	7/21/17	832 10/19/18	
		MT-95.61	4/19/19	TC-71.10	7/16/21	875 1/18/19	
		MT-97.10	4/19/19	TC-74.10	7/16/21	921 4/20/12	
		MT-97.12	1/20/17	TC-82.10	7/19/19		
		MT-99.20	4/19/19				
		MT-101.90	7/17/20				
		MT-105.10	1/17/20				
		MT-110.10	7/19/13				

APPROVED _____
DATE 11/17/21 DISTRICT DEPUTY DIRECTOR

APPROVED _____
DATE _____ DIRECTOR, DEPARTMENT OF TRANSPORTATION

Title Sheet

DESIGN AGENCY



DESIGNER
JDA

REVIEWER
EMK 11/01/21

PROJECT ID
108104

SHEET TOTAL
1 | 28

GEA-87-15.93

MODEL: Sheet PAPER: 17x11 (in.) DATE: 1/25/2022 TIME: 9:26:50 AM USER: jalbrfg1 pwc:\ohio\dot-pw-bentley.com\shdot\pwr-02\Documents\01 Active Projects\District 12\Gaugau\108104\400-Engineering\Roadway\Sheets\108104_GT001.dgn

Digital Data for Material Ticketing Utilizing e-Ticketing Portal

Description:
 This work consists of providing digital data for piloting digital information transfer for material weight ticket information for the following:

- Item 441 - Asphalt Concrete Surface course, Type 1, (446), As Per Plan, 1.5"
- Item 441 - Asphalt Concrete Surface course, Type 1, (448), As Per Plan, PG64-22, 1.5"
- Item 441 - Asphalt Concrete Intermediate course, Type 1, (448), As Per Plan, PG64-22, 1.0"
- Item 441 - Asphalt Concrete Surface course, Type 1, (448), (Driveways), 1.5"

Provide material ticket information in a digital format directly recorded from the material loading source.

This note in no way supersedes any other commercial regulations or any other legal requirements regulating the transportation of commercial materials. This does not preclude or dismiss any requirement for paper tickets required by other rules and regulations.

Requirements:
 Send digital ticket information to the Department's Digital Ticketing Portal as the individual material loads are generated and shipped to the Project. The digital material ticket shall contain information as required per the applicable material specification for weight measurement and other material characteristics.

The Department will reject any load that does not have a corresponding eTicket unless the cause is beyond the Contractor's control. In such circumstances, paper tickets may be permitted.

Setup, Calibration, and Data Integration:
 Suppliers shall cooperate with the Department and the Department's eTicketing vendor to establish digital information transfer from the suppliers ticketing system to the Department's eTicketing portal. No earlier than 14 days after project execution but not later than 30 days prior to initiating Work, identify in writing the material source load read-out weighing system the supplier utilizes.

The material supplier shall cooperate with ODOT's eTicketing Portal vendor in the creation of an Application Programming Interface (API) to integrate material source load read-out data with the Department's eTicketing Portal. The Department's eTicketing portal vendor shall be responsible for leading the API creation. Upon API creation, utilize the API to provide digital material source load read-out data from the material source load read-out weighing system to the Department's eTicketing Portal.

Conduct a test of each supplier's integration with the Department's eTicketing Portal prior to shipping material to the Project. Complete test at least 14 days prior to shipping material unless otherwise approved by the Engineer. The test must involve at least four test eTickets from each supplier approved for used on the project for materials to be used on the Project. The test eTickets must accurately reflect the proper nomenclature and accuracy defined; all other categories shall be marked "TEST". After the Engineer confirms the test eTickets have been entered into the Department's eTicket Portal, void the test eTickets with the reason "Setup Testing". If any load read-out weighing system changes are intended by the supplier after the creation of the supplier specific API, coordinate with the ODOT to ensure API compatibility.

Ensure continued internet connectivity during the API usage to maintain connection the Department's eTicketing Portal During material production and delivery to the Project. Ensure delivery of eTicket prior to the material arriving on the Project, but not prior to the loading of material at the source.

Upon successful testing of the data integration, physical material tickets for the Department will not be required.

Payment:
 For initial setup of the API Integration, the material vendors shall assume approximately 16 person hours and shall be considered incidental to the cost of the material. For extreme situations involving excessive establishment of the API and digital information transfer, notify the Engineer per CMS 104.02.

The cost associated with creating and maintaining an API and providing digital ticketing data is incidental to the cost of the item utilizing the material being placed.

Item 608 - Curb Ramp, As Per Plan

Under this pay item The Contractor shall be responsible for laying out and constructing American With Disabilities Act (ADA) compliant curb ramps and landing that conform to the Ohio Department of Transportation Curb Ramp Standard Drawings and Special Provisions. O.D.O.T. Standard Drawing BP-7.1 shall be used as a base for the construction of the curb ramps.

The curb ramp type is subject to adjustment and/or change due to field conditions and shall be determined in the field based on best fit to field conditions. Contractor shall be responsible for verifying type of curb ramp proposed in the plans. No additional payment shall be made if the curb ramp type is changed or for field adjustments necessary for the complete installation of the curb ramp.

Any newly constructed curb ramp not meeting ADA requirements will be removed and replaced by the Contractor, at their cost, to the satisfaction of the O.D.O.T. Project Engineer.

Payment shall be measured in Square Feet for curb ramp areas as indicated on the O.D.O.T. Standard Drawing BP-7.1. Payment shall include all labor, equipment, and materials necessary to construct the new curb ramp, complete in place.

Payment includes existing ramp/sidewalk removals, surveying, construction layout, form work, replacement of bedding, placement of sidewalk and curb concrete for new ramps, and placement of new detectable warning within the proposed ramp areas.

All saw cutting, appurtenances, and other work necessary for the complete installation of the ramp is considered incidental to this item.

All topsoil, seeding, and mulching required adjacent to the curb ramp shall be considered incidental to this item.

Seeding Mix shall conform to ODOT CMS 659.08 High Quality Seeds, Class I.

Curb Ramps at intersection corners are shown on the plans for estimating purposes. Work beyond the limits of the curb ramp area shall be paid under separate pay items.

Truncated Domes are included with the cost of Item 608 - Curb Ramps, As Per Plan.

As Directed by the Engineer, Additional walk needed beyond the curb ramp area, will be paid for under Item 608 – 4" Concrete Walk, As Per Plan.

ADA Waiver

An approved ADA Design Waiver is required on this project. The following features listed below cannot feasibly be constructed to meet ADA guidelines.

ADA Design Waiver

ADA Feature	Approval Date
RMP 0007947	11/17/2021
RMP 0007948	11/17/2021
RMP 0007949	11/17/2021
RMP 0007950	11/17/2021

DESIGN AGENCY



DESIGNER
 JDA

REVIEWER
 EMK 11/01/21

PROJECT ID
 108104

SHEET	TOTAL
9A	28

Traffic Control

Item 621 – Raised Pavement Marker Removed

This item shall include the removal and disposal of RPMs.

The following estimated quantity has been carried to the General Summary:
 Item 621 – Raised Pavement Marker Removed **111 Each**

Item 632 – Detector Loop, As Per Plan

All stop line inductance detector loops shown in the plans shall be the powerhead configuration shown on TC-82.10. The width shall be as specified on TC-82.10 and the length shall match the existing detector loop length, with a maximum length of 35'. The stop line detector loops shall not be wired to any other loops and shall have their own detector channel. The location of these loops shall be such that the powerhead is located at the stop line, not past it.

All dilemma zone inductance detector loops called for in the plans shall be the Angular Design Detection (A.D.D.) loop as shown on TC-82.10. Dimensions shall be as specified on TC-82.10.

System loops shall be as depicted in the plans.
 All stop line detection shall be tested for a bicycle target and all dilemma detection zones shall be tested for a motorcycle target.
 Install detector loops in the surface course within 72 hours of its placement.

When replacing the loop detectors, the loop detector wire shall be replaced to the pull box or pole, whichever is applicable, under Item 632 and TC-82.10. The new cable splice kits shall be included in this pay item.

The Contractor shall contact the Project Engineer and Keith Hamilton, (216) 584-2220, District 12 Traffic Engineer, seven (7) days prior to planing through an intersection to adjust signal operation as needed.

The District 12 Traffic Engineer shall concur with the location of the replacement loops. The following estimated quantity has been carried to the General Summary for use as described above:

Item 632 – Detector Loop, As Per Plan **18 Each**

Detection Maintenance

If vehicle detection becomes unexpectedly disabled, requires modification, or is scheduled to be temporarily removed during the construction project, the Contractor shall immediately notify the Project Engineer and District Traffic Engineer.

If the loss of vehicle detection is known prior to the start of construction, it shall be discussed at the preconstruction meeting. At such time, the District Traffic Engineer shall advise the Project Engineer and Contractor on the appropriate action to rectify any loss of vehicle detection. This may include placing the traffic signal on minimum or maximum recall, modifying the minimum green times, and removing the malfunctioning detection from service. Where non-intrusive detection (i.e. video, radar) already exists, the Contractor shall insure that detection is operating and maintained by reconfiguring the detection units accordingly during all construction phases. This is to avoid the signal from maxing out the effected signal phase and creating unnecessary delays.

Locations where non-intrusive detection is proposed and the existing vehicle detection is to be abandon, the non-intrusive vehicle detection shall be installed, configured and made fully functional prior to the existing detection being disabled. The Contractor shall continue to maintain and modify the detection until final acceptance of the traffic signal. This is to ensure vehicle detection remains fully functional throughout construction.

REFERENCE NO.	LOCATION	632	632
		6' X 35' POWERHEAD DETECTOR LOOP	4.5' X 9' ANGULAR DESIGN DETECTION LOOP
		EACH	EACH
L-1	SR-87 EB near Ames Plaza/Market Square Through Lane, 200' West of Stop Line		1
L-2	SR-87 EB at Ames Plaza/Market Square Left Turn Lane at Stop Line	1	
L-3	SR-87 WB at Ames Plaza/Market Square Left Turn Lane at Stop Line	1	
L-4	SR-87 WB near Ames Plaza/Market Square Through Lane, 200' East of Stop Line		1
L-5	SR-87 EB at Springdale Avenue Left Turn Lane at Stop Line	1	
L-6	SR-87 EB at Springdale Avenue Through Lane at Stop Line	1	
L-7	SR-87 WB at Springdale Avenue Through Lane at Stop Line	1	
L-8	SR-87 WB at Springdale Avenue Left Turn Lane at Stop Line	1	
L-9	SR-87 WB near Springdale Avenue Through Lane, 150' East of Stop Line		1
L-10	SR-87 WB at Lake Avenue Left Turn Lane at Stop Line	1	
L-11	SR-87 EB near SR-528 Through Lane, 250' West of Stop Line		1
L-12	SR-87 WB near SR-528 Through Lane, 350' East of Stop Line		1
L-13	SR-528 NB at SR-87 Through Lane at Stop Line	2	
L-14	SR-528 SB at SR-87 Through Lane at Stop Line	2	
	Extra for Damaged Apron Loops, Use As Directed by the Engineer	2	
SUBTOTALS		13	5
TOTAL CARRIED TO GEN. SUMMARY		18	

DESIGN AGENCY




DESIGNER
JDA
 REVIEWER
EMK 03/03/22
 PROJECT ID
108104
 SHEET TOTAL
10 | 28

SHEET NUM.										PART.		ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEET NO.
7-10	11-13		16-17	18						01/STR/PV		EXT	TOTAL				
ROADWAY																	
										430		202	30000	430	SF	WALK REMOVED	
			3.86							3.86		209	60500	3.86	MILE	LINEAR GRADING	
			3.86							3.86		209	72050	3.86	MILE	PREPARING SUBGRADE FOR SHOULDER PAVING	
										430		608	10000	430	SF	4" CONCRETE WALK	
										846		608	52001	846	SF	CURB RAMP, AS PER PLAN	
8										8		623	39501	8	EACH	MONUMENT BOX ADJUSTED TO GRADE, AS PER PLAN	8
1										1		623	39600	1	EACH	MONUMENT BOX RECONSTRUCTED TO GRADE	
EROSION CONTROL																	
										1,000		832	30000	1,000	EACH	EROSION CONTROL	
DRAINAGE																	
7										7		611	98630	7	EACH	CATCH BASIN ADJUSTED TO GRADE	
65										65		611	98631	65	EACH	CATCH BASIN ADJUSTED TO GRADE, AS PER PLAN	8
20										20		611	99655	20	EACH	MANHOLE ADJUSTED TO GRADE, AS PER PLAN	8
2										2		611	99660	2	EACH	MANHOLE RECONSTRUCTED TO GRADE	
15,000										15,000		SPECIAL	61199820	15,000	LB	MISCELLANEOUS METAL	8
20										20		638	10801	20	EACH	VALVE BOX ADJUSTED TO GRADE, AS PER PLAN	8
PAVEMENT																	
1,600										1,600		251	01001	1,600	SY	PARTIAL DEPTH PAVEMENT REPAIR (441), AS PER PLAN	9
560										564		253	02000	564	CY	PAVEMENT REPAIR	
			30,082							30,082		254	01001	30,082	SY	PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN, 1.5"	9
			35,692							35,692		254	01001	35,692	SY	PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN, 2.5"	9
			9,699							9,699		407	20000	9,699	GAL	NON-TRACKING TACK COAT	
			2,784							2,784		441	10101	2,784	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (446), AS PER PLAN, 1.5"	9
			110							110		441	50101	110	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), AS PER PLAN, PG64-22, 1.5"	9
			1,821							1,821		441	50201	1,821	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (448), AS PER PLAN, PG64-22, 1.0"	9
			9							9		441	50400	9	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), (DRIVEWAYS), 1.5"	
			252							252		617	10101	252	CY	COMPACTED AGGREGATE, AS PER PLAN	8
			6,517							6,517		875	10000	6,517	LB	LONGITUDINAL JOINT ADHESIVE	
TRAFFIC CONTROL																	
				147						147		621	00100	147	EACH	RPM (YELLOW/YELLOW)	
111										111		621	54000	111	EACH	RAISED PAVEMENT MARKER REMOVED	
			0.09	4.36						4.45		646	10010	4.45	MILE	EDGE LINE, 6"	
			1.2	2.46						3.66		646	10200	3.66	MILE	CENTER LINE	
			1,152	43						1,195		646	10300	1,195	FT	CHANNELIZING LINE, 8"	
			98	91						189		646	10400	189	FT	STOP LINE	
			292	1,153						1,445		646	10510	1,445	FT	CROSSWALK LINE, 12"	
			585	32						617		646	10600	617	FT	TRANSVERSE/DIAGONAL LINE	
			242							242		646	10800	242	SF	ISLAND MARKING	
			58	210						268		646	20200	268	FT	PARKING LOT STALL MARKING	
			33	1						34		646	20300	34	EACH	LANE ARROW	
TRAFFIC SIGNALS																	
18										18		632	26501	18	EACH	DETECTOR LOOP, AS PER PLAN	11

General Summary

DESIGN AGENCY



DESIGNER
JDA


REVIEWER
EMK 11/01/21

PROJECT ID
108104

SHEET TOTAL
14 28

REF. NO.	SHEET NO.	PLAN SPLIT NO.	STATION TO STATION	LENGTH	BEGIN WIDTH	ENDING WIDTH	AVERAGE WIDTH	AREA	254	254	441	441	407	441	441	209	209	617	875
									PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN, 2.5"	PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN, 1.5"	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (448), AS PER PLAN, PG64-22, 1.0"	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (446), AS PER PLAN, 1.5"	NON-TRACKING TACK COAT	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), AS PER PLAN, PG64-22, 1.5"	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), (DRIVEWAYS), 1.5"	LINEAR GRADING	PREPARING SUBGRADE FOR SHOULDER PAVING	COMPACTED AGGREGATE, AS PER PLAN	LONGITUDINAL JOINT ADHESIVE
				FT.	FT.	FT.	FT.	SQ. YD.	SY	SY	CY	CY	GAL	CY	CY	MILE	MILE	CY	LB
S.R. 87 - Curbed Section																			
	1		0+00.00 4+48.87	449	24	34	29.0	1446	1446		41	61	217			0.09			113
	1		4+48.87 5+05.00	56	34	36	35.0	218	218		7	10	33						29
	1		5+05.00 44+07.00	3902	36	36	36.0	15608	15608		434	651	2341						1951
	1		44+07.00 45+51.43	144	36	26	31.0	497	497		14	21	75						73
	1		45+51.43 54+11.50	860	26	24	25.0	2389	2389		67	100	358						216
	1		54+11.50 55+04.38	93	24.0	24.0	24.0	248	248		7	11	37						24
	1		55+04.38 55+94.33	90	34.5	45	39.8	397	397		12	17	60						23
	1		55+94.33 56+14.16	20	45	45	45.0	99	99		3	5	15						5
Bridge No. GEA-87-1703																			
	1		56+35.69 58+15.12	179	45	46.5	45.8	912	912		26	38	137						90
Suspend Resurfacing																			
	1		62+10.01 63+53.25	143	45	48	46.5	740	740		21	31	111						72
	1		63+53.25 66+73.28	320	45	48	46.5	1653	1653		46	69	248						161
	1		66+73.28 67+21.21	48	38	38	38.0	202	202		6	9	30						24
	1		67+21.21 67+34.84	14	38	28	33.0	50	50		2	3	8						7
	1		67+34.84 80+07.81	1273	28	28	28.0	3960	3960		110	165	594						319
	1		80+07.81 86+50.00	642	28	26	27.0	1927	1927		54	81	289						161
	1		86+50.00 100+59.11	1409	26	26	26.0	4071	4071		114	170	611						353
Transition Section																			
	1		100+59.11 100+89.11	30	26	26	26.0	87	87		3	4	13						8
S.R. 87 - Non-Curbed Section																			
	1		100+89.11 200+23.48	9934	26	26	26.0	28699	28699		798	1196	4305			3.77			2484
Safety Edge																			
	1		0+00.00 4+48.87	449			0.5	25				4					0.09	6	
	1		100+89.11 200+23.48	9934			1.0	1104				138					3.77	246	
Intersection Extra Areas																			
	1		Tare Creek Parkway, 4+49 LT.	15		136	CAD AREA	157	157		7		13	7					34
	1		Ames Plaza, 9+00 RT.	10		106	CAD AREA	103	103		5		9	5					27
	1		Market Square, 9+00 LT.	15		98	CAD AREA	84	84		4		7	4					25
	1		Crestwood Drive, 15+13 RT.	24		61	CAD AREA	52	52		3		4	3					16
	1		Northview Drive, 20+91 LT.	15		84	CAD AREA	85	85		4		7	4					21
	1		Springdale Avenue, 26+79 LT & RT.	15 (x2)		200	CAD AREA	205	205		9		17	9					50
	1		Elmwood Street, 30+48 LT.	15		65	CAD AREA	64	64		3		5	3					17
	1		Lake Avenue, 38+38 RT.	15		96	CAD AREA	94	94		4		8	4					24
	1		Standish Avenue, 44+07 LT.	15		54	CAD AREA	55	55		3		5	3					14
	1		Linda Avenue, 45+53 RT.	18		47	CAD AREA	53	53		3		5	3					12
	1		Thompson Avenue, 69+93 LT. & RT.	15 (x2)		170	CAD AREA	157	157		7		13	7					43
	1		Lenny Avenue, 85+91 RT.	22		70	CAD AREA	79	79		4		7	4					18
	1		SR-528, 119+54 LT. & RT.	90 (x2)		250	CAD AREA	1115	1115				95	47					63
	1		Hayes Road, 199+86 LT. & RT.	15 (x2)		160	CAD AREA	146	146				12	7					40
	1		Driveways - Asphalt	5' Avg				122	122				10						9
SUBTOTALS									35692	30082	1821	2784	9699	110	9	3.86	3.86	252	6517
TOTALS CARRIED TO GENERAL SUMMARY									35692	30082	1821	2784	9699	110	9	3.86	3.86	252	6517

Pavement Subsummary

DESIGN AGENCY

 DESIGNER
 JDA
 REVIEWER
 EMK 11/01/21
 PROJECT ID
 108104
 SHEET TOTAL
 16 28