

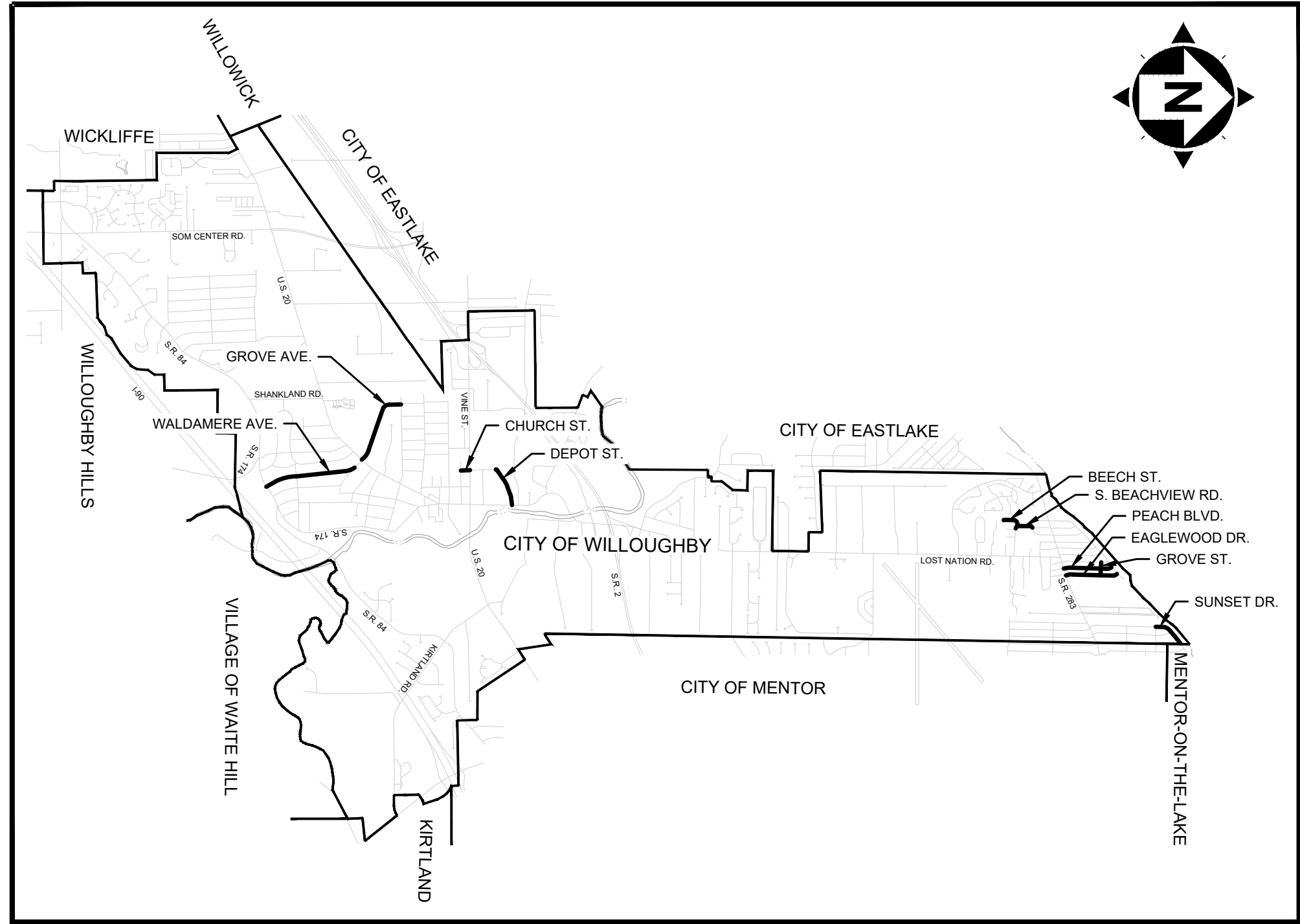
CITY OF WILLOUGHBY 2024 PAVEMENT REPAIR PROGRAM LAKE COUNTY, OHIO

JULY, 2024



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CALL TWO WORKING DAYS
BEFORE YOU DIG
CALL
1-800-362-2764
(TOLL FREE)



LOCATION MAP
NOT TO SCALE

CITY OFFICIALS:

- ROBERT A. FIALA . . . MAYOR
- RICH PALMISANO . . . SERVICE DIRECTOR
- MICHAEL LUCAS . . . LAW DIRECTOR
- CHER HOFFMAN . . . FINANCE DIRECTOR
- LARRY PUSKAS . . . BUILDING COMMISSIONER
- JUDEAN KELLER . . . PARKS & RECREATION DIRECTOR
- JAMES SCHULTZ . . . POLICE CHIEF
- TODD UNGAR . . . FIRE CHIEF
- TIM LANNON, P.E. . . CITY ENGINEER

CITY COUNCIL:

- ROBERT CARR . . . COUNCIL PRESIDENT & WARD 4
- JOHN TOMASELLI . . . VICE PRESIDENT & WARD 3
- KRISTIE SIEVERS . . . WARD 1
- KEN KARY . . . WARD 2
- MIKE MERHAR . . . WARD 5
- DANIEL GARRY . . . WARD 6
- DANIEL ANDERSON . . . COUNCIL-AT-LARGE
- ALISA NOVAK . . . CLERK OF COUNCIL



T R Lannon
7/10/24

1. THE SURVEY SHOWN ON THESE PLANS WAS OBSERVED IN THE FIELD FOR CONSTRUCTION PURPOSES ONLY AND MAY NOT BE SUITABLE FOR PROPERTY LINE SURVEYS OR ANY OTHER PURPOSE.
2. UNDERGROUND BUILDING SERVICE UTILITY LINES ARE NOT SHOWN ON THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING, MAINTAINING AND REPLACING AS NECESSARY TO ENSURE CONTINUAL SERVICE TO BUILDINGS.
3. THE CONTRACTOR IS RESPONSIBLE TO CALL OHIO UTILITIES PROTECTION SERVICE @ 1-800-362-2764, THREE WORKING DAYS PRIOR TO CONSTRUCTION.



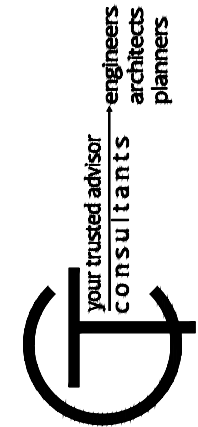
ENGINEER'S PROJECT No. 240135

**QUANTITY BREAKDOWN
FOR 2024 PAVEMENT REPAIR PROGRAM
WILLOUGHBY, OHIO
JULY, 2024**

Item No.	Item Ext.	Item Description	General / Extra	Church St.	Depot Rd.	Grove Ave.	Beech St.	Peach Blvd.	Waldamere Ave.	Sunset Dr.	S. Beachview Rd.	Grove St.	Eaglewood Dr.	Total Quantity	Unit
BASE BID															
103	s05001	BONDS & INSURANCES, AS PER PLAN	1											1	LUMP
204	e13130	EXCAVATION OF SUBGRADE AND EMBANKMENT WITH GRANULAR MATERIAL, CCS, FABRIC, AS PER PLAN, CONTINGENCY, AS DIRECTED	70											70	C.Y.
251	E01001	PARTIAL DEPTH PAVEMENT REPAIR, AS PER PLAN	60											60	S.Y.
253	E02001	PAVEMENT REPAIR, AS PER PLAN	32	7	27	61	10	28	68	16	12	7	32	300	C.Y.
254	E01001	PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN	152	759	3192	7320	1160	3300	8147	1920	1430	820	3800	32,000	S.Y.
255	e10180	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS QC MS, T=9", APP	60											60	S.Y.
407	E20205	TACK COAT, TRACKLESS TACK (.1gal/sy)	14	76	320	732	116	330	815	192	143	82	380	3,200	GAL.
422	E10001	SINGLE CHIP SEAL, TYPE A, AS PER PLAN	152	759	3192	7320	1160	3300	8147	1920	1430	820	3800	32,000	S.Y.
441	E50001	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448) PG64-22, AS PER PLAN	19	32	133	305	49	138	340	80	60	35	159	1,350	C.Y.
441	E50201	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (448), AS PER PLAN	35	22	89	204	33	92	227	54	40	23	106	925	C.Y.
452	e10121	6 INCH NON-REINFORCED CONCRETE DRIVES AND APRONS, CLASS QC MS, INCLUDING FIBER REINFORCING, INCLUDING REMOVAL, AS PER PLAN	60											60	S.Y.
609	e10005	ASPHALT CONCRETE CURB, INCLUDING REMOVAL, AS PER PLAN		180										180	FT.
609	e26211	CURB, TYPE 6, QCMS CONCRETE, INCLUDING REMOVAL, AS PER PLAN	200											200	FT.
611	e98627	CATCH BASIN ADJUSTED TO GRADE, METHOD D.1 (brick), AS PER PLAN		2	1	1	2	1	16			1		24	EA.
611	e98636	CATCH BASIN PARTIALLY RECONSTRUCTED TO GRADE, AS PER PLAN	5											5	VERT. FT.
611	e99656	MANHOLE ADJUSTED TO GRADE, METHOD D.1 (brick), AS PER PLAN		1	7	17	3	3	17	4	5	1	6	64	EA.
611	e99672	MANHOLE PARTIALLY RECONSTRUCTED TO GRADE, AS PER PLAN	5											5	VERT. FT.
611	E99820	SPECIAL - MISCELLANEOUS METAL	15	76	319	732	116	330	815	192	143	82	380	3,200	LB
614	E11001	MAINTAINING TRAFFIC, AS PER PLAN	1											1	LUMP
638	E10801	VALVE BOX ADJUSTED TO GRADE, AS PER PLAN					1	2	7	3	2		1	16	EA.
642	e00010	TRAFFIC PAINT, AS PER PLAN	1											1	LUMP
999	s99998	CONTINGENCY/DISCRETIONARY ALLOWANCE	1											1	LUMP

**PAVEMENT MARKING BREAKDOWN
FOR 2024 PAVEMENT REPAIR PROGRAM
WILLOUGHBY, OHIO**

Item Description	Church St.	Depot Rd.	Grove Ave.	Beech St.	Peach Blvd.	Waldamere Ave.	Sunset Dr.	S. Beachview Rd.	Grove St.	Eaglewood Dr.	Total Quantity	UNIT
STOP BAR (FT)	13	28	28	-	22	64	-	-	-	22	177	FT
DOUBLE YELLOW CENTERLINE (MILE)	0.02	-	0.05	-	-	-	-	-	-	-	0.07	MILE
CROSS WALK (FT)	55	90	75	-	64	122	-	-	-	64	470	FT
RAILROAD CROSSING SYMBOL (EACH)	-	1	-	-	-	-	-	-	-	-	1	EACH



ISSUED FOR:	BID SET
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SCALE:	AS SHOWN
DESIGNED BY:	GMS
DRAWN BY:	GMS
CHECKED BY:	TRL

**CITY OF WILLOUGHBY
2024 PAVEMENT REPAIR PROGRAM
- LAKE COUNTY, OHIO -
QUANTITY BREAKDOWN**

PROJECT NO.	240135
DISCIPLINE	CIVIL
SHEET NAME	
SHEET	2
OF	5

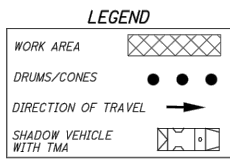
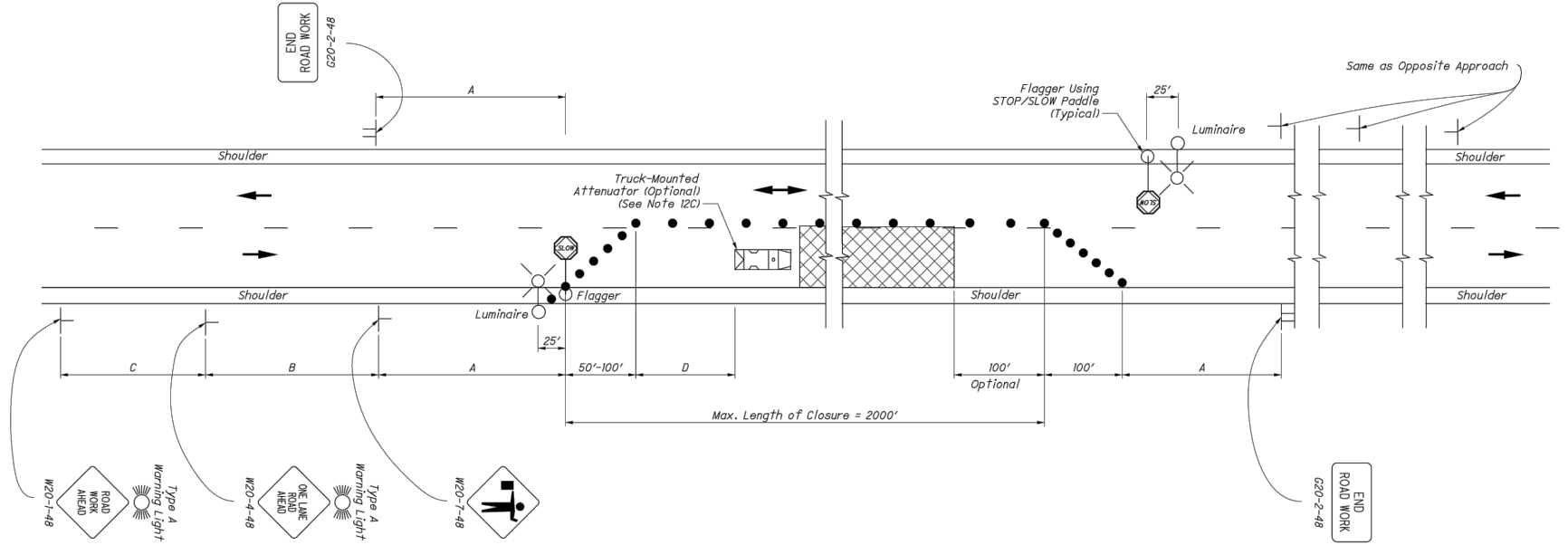


TABLE I (SIGN SPACING)

ROAD TYPE	DISTANCE BETWEEN SIGNS (FT)		
	A	B	C
Two-Lane (< 40 MPH)	100	100	100
Two-Lane (45-50 MPH)	350	350	350
Two-Lane (55-60 MPH)	500	500	500

TABLE II

SPEED LIMIT (MPH)	BUFFER (D) (FT) MIN.
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570

NOTES:

FLAGGERS

1. Flaggers, one for each direction, shall be used to control traffic continuously for as long as a one lane operation is in effect. The flaggers shall be able to communicate with each other at all times.

LENGTH OF CLOSURE

2. Several small work areas close together should be combined into one work zone. However, the closure shall not be more than 2000' long unless approved by the Engineer. The minimum length between closures shall be 2000'. Only one side of the road shall be closed in any one work zone.

SIGN LOCATION AND SPACING

- 3A. The minimum spacing between work zone signs is shown in Table I. Maximum spacing should not be greater than 1.5 times the distances shown in Table I.
- 3B. Sign spacing should be adjusted to avoid conflict with existing signs. Minimum spacing to existing signs shall be 200' for speeds of 45 mph or less and a minimum of 400' for speeds of 50 mph or greater.
- 3C. The location of the advance warning signs should be adjusted to provide for adequate sight distance for the existing vertical and horizontal roadway alignment.

ADJUSTMENTS FOR SIGHT DISTANCE

4. The location of the flagger station and the advance warning signs should be adjusted to provide for adequate sight distance for the existing vertical and horizontal roadway alignment.

BASIC SIGNING

- 5A. ROAD WORK AHEAD (W20-1) signs shall be provided on entrance ramps or roadways entering the work limits.
- 5B. END ROAD WORK (G20-2) signs are only required for lane closures of more than 1 day. If it is intended that these signs be placed on the mainline, on all exit ramps, and on roadways exiting the work limits.
- 5C. Overlapping of signing for adjacent projects should be avoided where the messages could be confusing. Any ROAD WORK AHEAD (W20-1) or END ROAD WORK (G20-2) sign which falls within the limits of another traffic control zone shall be omitted or covered during the period when both projects are active.

SIGNING DETAILS

- 6A. The Advisory Speed (W13-1P) plaque shall be used when specified in the plan.
- 6B. 36" warning signs may be used when the approach speed limit is 40 mph or less.

FLASHING WARNING LIGHTS

7. Type A flashing warning lights shown on the ROAD WORK AHEAD (W20-1) signs and on the LANE CLOSED AHEAD (W20-5) signs are required whenever a night lane closure is necessary.

DRUMS / CONES

- 8A. Drum spacing shall be as follows:
 - a) Spacing along the closure shall be 40' center-to-center.
 - b) Spacing along the approach taper shall be 10' center-to-center.
- 8B. Cones may be substituted for drums as follows:
 - a) Cones used for daytime traffic control shall have a minimum height of 28".
 - b) Cones used for nighttime traffic control shall have a minimum height of 42".
 - c) Use of cones at night shall be prohibited along tapers.
- 8C. Provisions shall be made to stabilize the cones and drums to prevent them from blowing over.
- 8D. A minimum of two drums shall be used to close the paved shoulder.

(RESERVED FOR FUTURE USE)

- 9A. (intentionally blank)

AREA ILLUMINATION

- 10A. Adequate area illumination of each flagger station shall be provided at night. Use of portable flood lighting is acceptable. Luminaires shall be located adjacent to each flagger station.
- 10B. To ensure the adequacy of floodlight placement and the elimination of glare, the Contractor and the Engineer shall drive through the worksite each night when the lighting is in place. Light placement and shielding shall be adjusted to the satisfaction of the Engineer.

INTERSECTION / DRIVEWAY ACCESS

11. Within the length of closure, provision shall be made to control traffic entering from intersecting streets and major drives as necessary to prevent wrong-way movements and to keep vehicles off of new pavement not ready for traffic. The Contractor shall:
 - a) Place across the closed lane, either three drums (cones) or barricades, and/or
 - b) Provide an additional flagger at every public street intersection and major driveway.

Drums (cones) placed across the closed lane shall be located 25' beyond the projected pavement edges of the driveway or cross highway, as shown in Standard Construction Drawings (SCDs) MT-97.11 or MT-97.12. For barricades, see SCD MT-101.60.

Existing STOP signs shall be relocated as necessary to assure proper location for the traffic conditions.

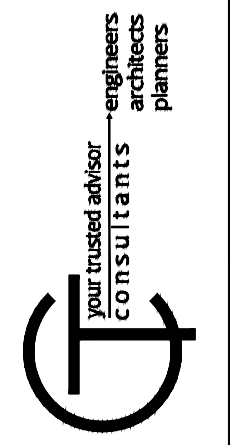
The method of control shall be subject to the approval of the Engineer.

SHADOW VEHICLE

- 12A. The shadow vehicle shall be in place and unoccupied whenever workers are in the work area. This vehicle shall be removed from the pavement whenever workers are not in the work area.
- 12B. The shadow vehicle shall be equipped with a high-intensity yellow rotating, flashing, oscillating, or strobe light(s).
- 12C. The shadow vehicle shall be equipped with a truck-mounted or trailer attenuator (TMA) in accordance with CMS 614.03 when called for in the plans.

CHIP SEAL OPERATIONS

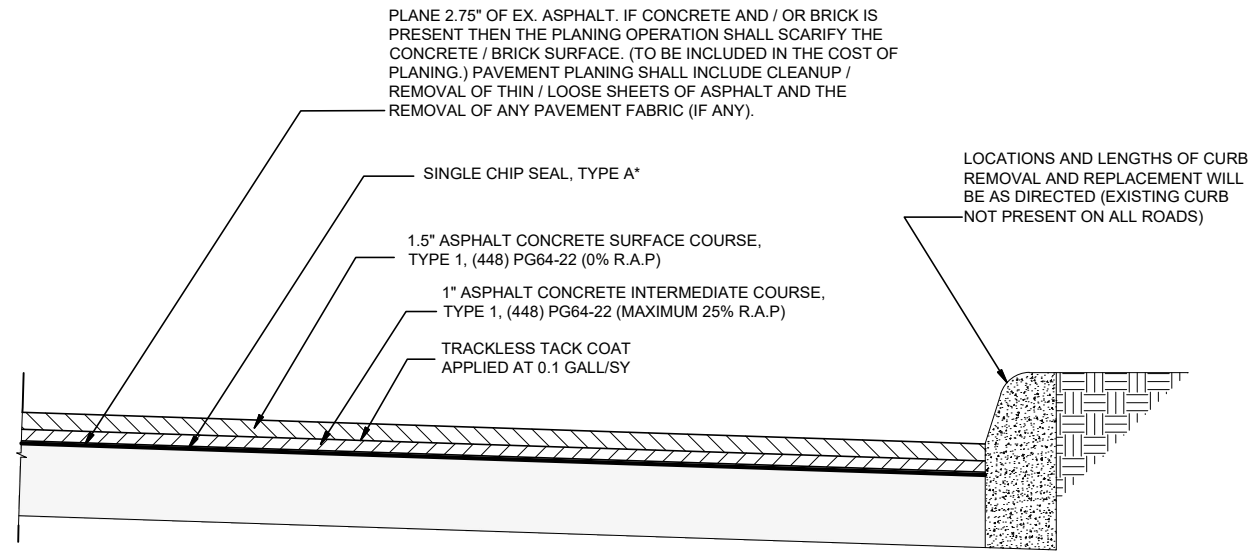
13. For chip seal operations, additional signing shall be incorporated in the advanced warning area.
 - a) The LOOSE GRAVEL (W8-7) and FRESH TAR (W21-2) signs shall both be used in advance of the chip seal operation.
 - b) Repeat the LOOSE GRAVEL sign with a 35 mph Advisory Speed (W13-1) plaque every half mile per CMS 422.09.
 - c) The FRESH TAR and the LOOSE GRAVEL signs shall both be used for signing of side roads intersecting the work area.



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CITY OF WILLOUGHBY
2024 PAVEMENT REPAIR PROGRAM
 - LAKE COUNTY, OHIO -
MAINTENANCE OF TRAFFIC

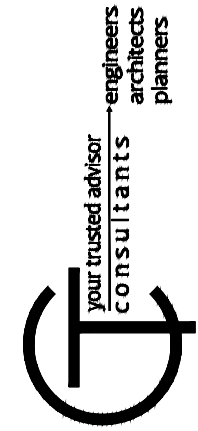
PROJECT NO.	
240135	
DISCIPLINE	
CIVIL	
SHEET NAME	
SHEET	OF
3	5



*INSTALL TACK COAT OVER CHIP SEAL LAYER AT 0.1 GAL/SY WHEN DIRECTED BY ENGINEER

TYPICAL ASPHALT RESURFACING
NTS

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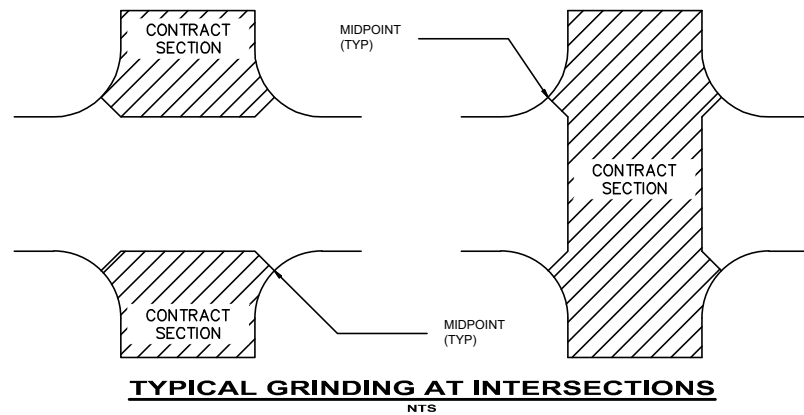


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CITY OF WILLOUGHBY
2024 PAVEMENT REPAIR PROGRAM
- LAKE COUNTY, OHIO -

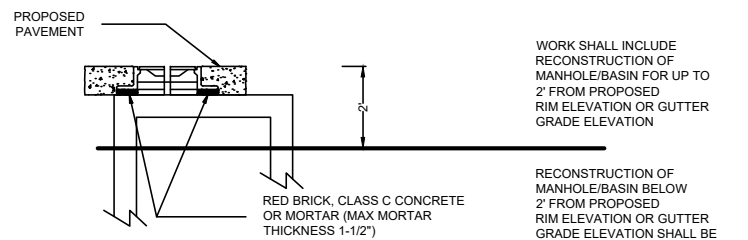
DETAILS

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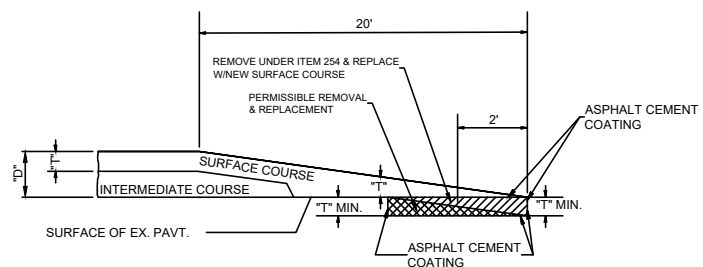


TYPICAL GRINDING AT INTERSECTIONS
NTS

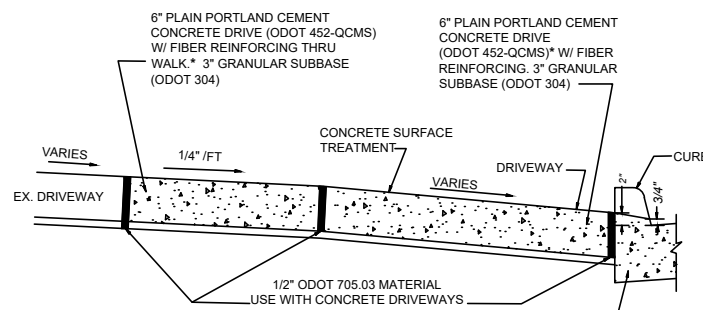
ALL SANITARY AND STORM MANHOLE COVERS WITHIN THE PROJECT LIMITS SHALL BE REPLACED WITH CUSTOM EAST JORDAN 1710A "CITY OF WILLOUGHBY" COVERS. SANITARY COVER PRODUCT NUMBER "NPR20-000117-14991". STORM COVER PRODUCT NUMBER "NPR20-000117-14974". EXISTING FRAMES SHALL BE REPLACED AS NECESSARY



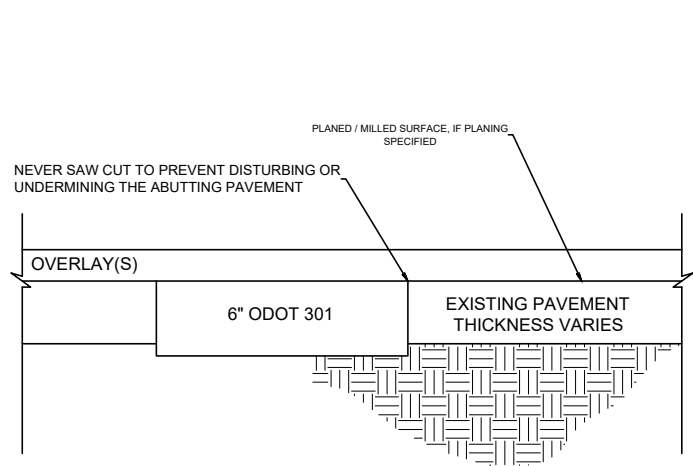
M.H./I.B. ADJUSTED TO GRADE
NTS



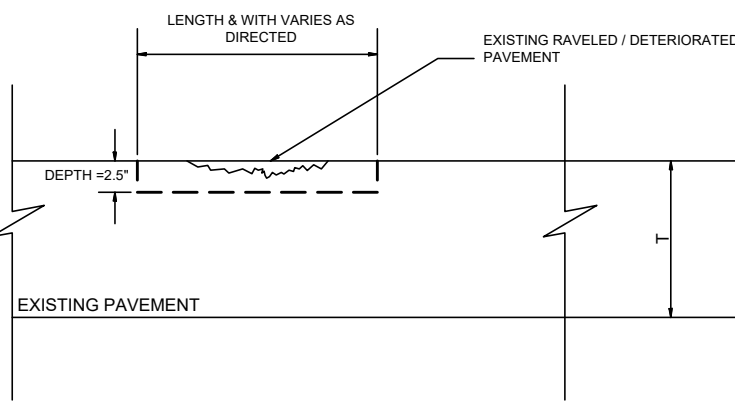
BUTT JOINT DETAIL
NTS



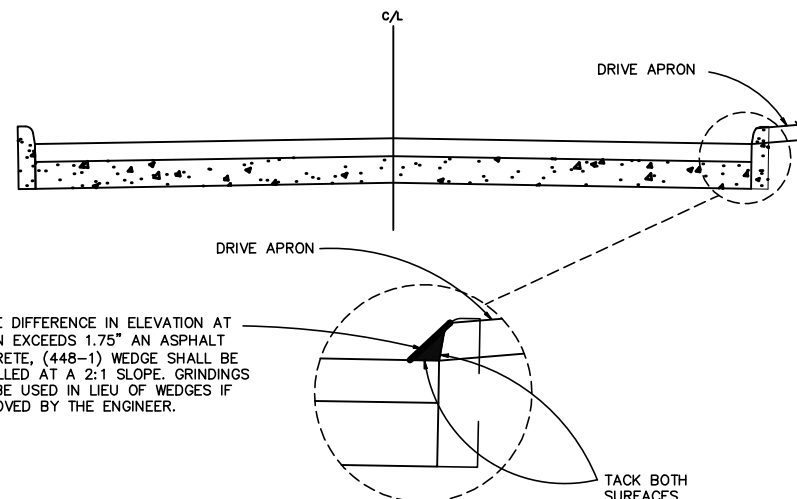
DROP CURB DETAIL AT DRIVEWAY
NTS



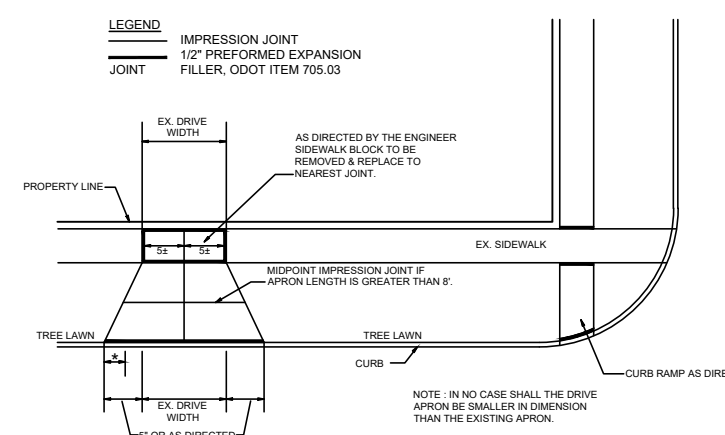
253 PAVEMENT REPAIR - 6 INCH
NTS



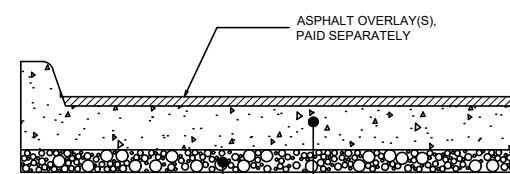
251 PARTIAL DEPTH PAVEMENT REPAIR
NTS



APRON WEDGE DETAIL
NTS

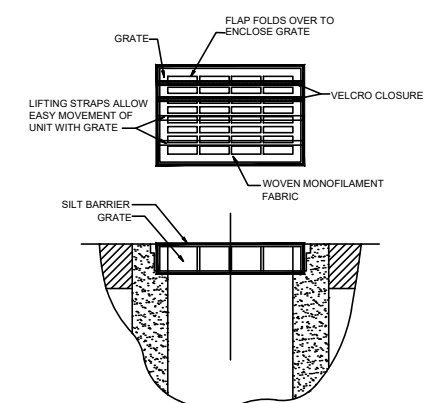


DRIVEWAY APPROACH DETAIL
NTS



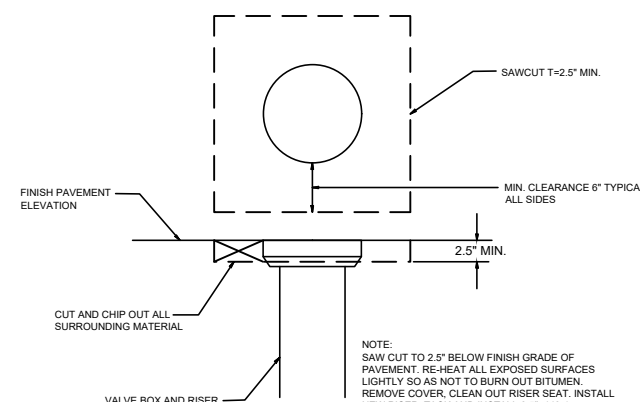
- ① 3" ODOT ITEM 304 COMPACTED LIMESTONE AGGREGATE BASE.
- ② 9" MIN. ODOT ITEM 255 INCLUDING INTEGRAL CURB, DOWEL / HOOK BOLT INSTALLATION.

JOINT/SLAB REPLACEMENT DETAIL ITEM (255)
NTS

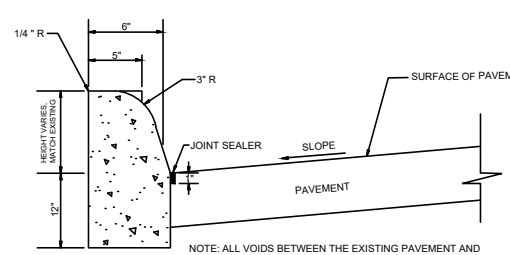


1. GEOTEXTILE FABRIC SHALL HAVE AN EQUIVALENT OPENING SIZE OF 20-40 SIEVE AND BE RESISTANT TO SUNLIGHT.
2. MAINTENANCE: REMOVE ALL ACCUMULATED SEDIMENT AND DEBRIS FROM SURFACE VICINITY OF UNIT AFTER EACH STORM EVENT. REMOVE SEDIMENT THAT HAS ACCUMULATED WITHIN THE CONTAINMENT ARE OF THE SILT BARRIER IS NEEDED.
3. TO INSTALL CATCH BASIN INLET SILT BARRIER: THE EMPTY SILT BARRIER SHOULD BE PLACED OVER THE GRATE AS THE GRATE STANDS ON END. TUCK THE ENCLOSURE FLAP INSIDE TO COMPLETELY ENCLOSE THE GRATE. HOLDING THE LIFTING DEVICES (DO NOT RELY ON LIFTING DEVICES TO SUPPORT THE ENTIRE WEIGHT OF THE GRATE), PLACE THE GRATE INTO ITS FRAME.

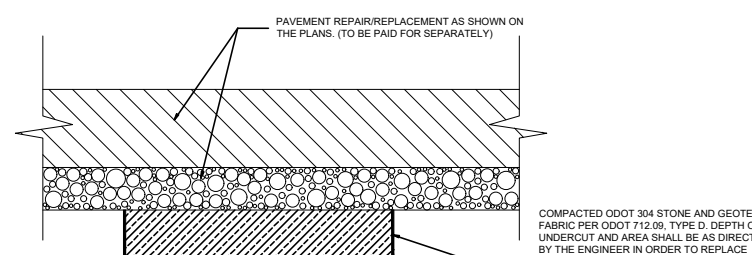
INLET PROTECTION FOR CATCH BASIN IN ROADWAY
NTS



RETRO - FIT WATER BOX VALVE RISER
NTS



CURB TYPE 6
NTS



ADDITIONAL SUBGRADE REPLACEMENT DETAIL (ITEM 204)
NTS

your trusted advisor
**engineers
architects
planners**
consultants

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- LAKE COUNTY, OHIO -

DETAILS

PROJECT NO.	240135
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SHEET NAME	
SHEET	OF
5	5

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