Bidder:_____

RESURFACING BID FORM: Group 1 Spring 2024 - County

Oldham County Fiscal Court
Attn: Patrick Meador, County Treasurer
100 West Jefferson Street, Suite 4
La Grange, Kentucky 40031

Contractor: _____

Address: _____

City, State, Zip: _____

Phone Number: _____

Total Not to Exceed Bid Price: $ _____

Printed Name	Title	Date
Signature	Email Address	

Requirements for bidding (These requirements become part of the contract for the successful bidder):

Project Scope:

Item #	Item Description	Quantity	Unit	Unit Price	Total
1	1.5" CL2 Surface Asphalt 0.38D [1, 2]	5923	Tons	x	=
2	Asphalt Wedge CL2 (30%) 0.38D [1, 2]	1031	Tons	x	=
3	5.0" Modified HMA Base, Patch 0.75D [1, 2]	2063	Tons	x	=
4	3.5" Modified HMA Base, Patch 0.75D [1, 2]	841	Tons	x	=
5	9.0" DGA Base, Patch 1.00D [2]	209	Tons	x	=
6	1.5" Mill	3399	Sq.Yd	x	=
7	Transition Mill	340	Sq.Yd	x	=
8	Keyway - Road	31	Ea	x	=
9	Keyway - Driveway	221	Ea	x	=
10	Adjust Catch Basin Casting to Grade	2	Ea	x	=
11	Pvmt Marking, line, Thermosplatic - 4in Yellow	15800	LFT	x	=
12	Pvmt Marking, line, Thermoplastic - 4in White	15800	LFT	x	=
13	Pvmt Marking, line, Thermoplastic - 4in Yellow Cross Hatching	398	LFT	x	=
14	Pvmt Marking, Lane Indicating Arrow, Thermoplastic, White	24	Ea	x	=
15	Pvmt Marking, 24-inch Stop Bar, Thermoplastic, White	50	LFT	x	=
16	15" Culvert Replacement	225	LFT	x	=
17	18" Culvert Extension	8	LFT	x	=
18	Ditch Grading	2292	LFT	x	=
19	Erosion Control Blanket & Seed	6876	Sq.Ft	x	=
20	Sheet Sign, 0.080" Aluminium	197	Sq.Ft	x	=
21	Shouldering (DGA or Asphalt Millings)	3081	LFT	x	=
22	Tree Removal	1	Ea	x	=
23	Saw Cut and Remove Concrete Patch	10	LFT	x	=
24	Install Driveway Trench Drain	95	LFT	x	=
25	Mailbox Remove and Reset	4	Ea	x	=

Note: See attached sheets for a street-by-street listing of item descriptions and locations.

o Quantities included in this and following sheets are provided as a courtesy to clarify scope. It is the responsibility of the bidder to verify quantities in determining their lump sum not-to-exceed bid amount.

o By making a bid, the applicant stipulates that they have visited the site and have an understanding of the scope of work and have field verified the scope.

o All gravel driveways shall be tapered in with asphalt as needed for a smooth vertical transition. All asphalt driveways shall be keyed a minimum of three (3) feet from the edge of the road being overlaid for a smooth transition. If needed for a smooth vertical transition, the road being overlaid shall be keyed for all concrete driveways. The key shall extend two (2) feet from the edge of the road being overlaid and three (3) feet from both edges of the concrete driveway. Where a road being overlaid intersects a road not being overlaid, the road being overlaid shall be keyed and milled a minimum of 26 feet for a smooth transition. Cost of asphalt surface and tack fcor asphalt driveways shall be included in the keyway for driveways. Cost of asphalt surface and tack for roadway keys are included in item #1.

o All water valves, gas valves, manholes, etc. shall be raised to the level of the new pavement. Water and gas valves are not listed as a payout item. Manholes are listed as a payout item.

o Where existing pavement is to be widened, the existing pavement will be saw cut completely through to ensure a good, clean and stable joint.

o All roadway area shall be thoroughly cleaned before applying tack coat and laying the overlay. Tack coat shall be applied so that it results in complete coverage of the pavement to be overlaid without pooling.

o Roads may be closed to through traffic from 9 am to 3 pm if approved by Oldham County.

o Oldham County reserves the right to make adjustments in the field. Examples include, but are not limited to, avoiding high rock, adding culvert(s), changing the size of culvert(s) and widening or deepening dig-outs. Change orders must be used and approved in advance if any price difference is incurred.

o Oldham County reserves the right to delete road segments or portions of road segments based on available funding.

o All asphalt loads must be weighted on Kentucky Transportation Cabinet Department of Highways certified scales and load tickets will be delivered to the County Inspector to verify tonnage used for payment. Payment will not be made for asphalt without load tickets.

o All successful bidders must adhere to the most current editions of the Kentucky Transportation Cabinet, Department of Highways Standard Specifications for Road and Bridge Construction when performing the work.

o All paving (overlay) shall include courses required to crown the centerline of the road for positive drainage. **The cross slope to each side of the crown shall be 2%.** All overlays must be at least 1.5" thick surface.

o All new pavements must be to the Oldham County Road Specifications of 1.5" surface over 3.5" Base and 9" Dense Graded Aggregate (DGA) unless stated otherwise.

o All patches ("remove and replace" and " full digout") shall be replaced with Modified HMA Base. Where the thickness exceeds 4", the Modified HMA Base shall be layed in 2 lifts. Remove and Replace and Full Digout shall be completed at a minimum 1-week prior to any surface asphalt in order to allow adequate time for compaction/settling.

o When not being overlaid, the perimeter of all patches shall be tar sealed where the new asphalt meets the old asphalt. The cost of this seal shall be included in the cost of the patch.

o Any questions or differences of opinion relative to quantities or aspects of work shall be brought to the attention of the County Engineer prior to the deadline for bid submission.

o All bidders must carry a warranty for work performed in this bid package for one calendar year from the last day of performing said work.

o The start date for the project must be approved by the Oldham County Engineer. All work must be **completed and invoiced to Oldham County by Friday, June 21, 2024**.

o Should the price of asphalt increase more than 5 percent between the bid due date and the work completion date (per the KYTC Method Average Asphalt Price Index (AAPI)), the successful bidder may adjust the invoice with the amount greater than the 5 percent fluctuation. For purposes of an adjustment calculation, the liquid asphalt content is assumed to be 5.3 percent and the bid quantities shall be used.

o Signage providing advanced notice of paving shall be posted a minimum of 72-hours in advance of paving operations. Signage shall be posted along the extents of the road being paved. While MUTCD compliant signage is not required, signage must be clearly visible.

o Where removal & replacement of 5-inches of asphalt and 9-inches of DGA is specified, this may be substituted by removal of 5-inches of asphalt and 3-inches of DGA and replaced with 8" Modified Base (0.75D). Payment will be made based on quantities and materials bid.

Administrative Procedures:

o To be considered for this project, the Office of the County Treasurer must receive a complete bid package using this form by **Friday, March 15, 2024, 12:00 pm (noon).**

o Bids must be submitted in a sealed envelope with the company name, street address, bid due date and project name: **"Group 1 Spring 2024 – County"** clearly marked. Bids must be mailed or delivered to Patrick Meador, County Treasurer at the above address. Bids sent via email will not be accepted.

o All bidders and their employees, assigns, subcontractors, etc. must be fully covered by Workers Compensation. A certificate of liability insurance with workers compensation coverage must be included in the bid package.

o All bids must be signed.

o Successful bidders must be in good standing with the Kentucky Secretary of State, the Kentucky Revenue Cabinet, and must not be debarred or excluded from Federal work. IRS Form W-9 must be included with bid.

o Bids will be opened on **Tuesday, March 19, 2024** during the scheduled public Fiscal Court Meeting. Oldham County Fiscal Court intends to award to the lowest responsible, responsive bidder at the **Tuesday, March 19, 2024** Fiscal Court meeting contingent on review of bids received.

o Bid proposal shall remain unaltered unless bidders are directed otherwise by amendment.

o It is the bidder's responsibility to receive and respond to any and all amendments.

o All items/components of the project must be included in the bid.

Oldham County Fiscal Court reserves the right to waive any irregularities and/or reject any or all bids based on predetermined criteria of past performance, cost, comprehensiveness of bid proposal, etc.

Please contact Jim Silliman, P.E., Oldham County Engineer with any questions via email or telephone. jsilliman@oldhamcountyky.gov; (502)222-3216.

Material Notes:

1. Aramid Fibers shall be included in all asphalt surface overlay and asphalt base courses (not wedge & level course). Aramid fibers shall be either 1) ACE fibers installed at the rate of 3.0 ounces +/- 1.0 ounces aramid fiber per 1.0 ton of asphalt or 2) FORTA-FI fibers installed at the rate of 1.0 pound per 1.0 ton of asphalt or 3) approved equal approved by Oldham County Engineering Department prior to bid opening. The contractor shall provide documentation comparing fiber feed to asphalt mix production. A log of the total amount of aramid fibers applied certified by fiber manufacturer/supplier shall be required daily. Fiber material shall be uniformly distributed with no clumping (visual inspection).

2. Estimated at 110 lbs per sq.yd per inch of depth

Road: Commerce Parkway; From Ky Hwy 393 to County End (prior to 2206 Commerce Pkwy)

Note (Station 0+00 is 280-feet east of Ky Hwy 393 (asphalt cut in pavement)

1.5" CL2 Surface Asphalt 0.38D [1, 2]

Location / Stationing	Length (ft)	Avg Width (ft)	Area (SqFt)	Area (SqYd)	Surf. Asphalt (Ton)
0+00 - 77+00	-	-	185,067	20563.0	1696.45
	0	0	0	0.0	0.00
				Total (Tons):	1696.45

2.0" CL2 Surface Asphalt 0.38D [1, 2]

Location / Stationing	Length (ft)	Avg Width (ft)	Area (SqFt)	Area (SqYd)	Surf. Asphalt (Ton)
	0	0	0	0.0	0.00
				Total (Tons):	0.00

Asphalt Wedge (30%) 0.38D [1, 2]

		Surf. Asphalt (Ton)
	Total (Tons):	508.93

Remove Surface (1.0") and Base Asphalt (4.0") and Replace with Modified HMA Base (5")

Location / Stationing	Length (ft)	Width (ft)	Area (SqFt)	Area (SqYd)		Base Asphalt, Patch
6+00 West Ln	80	12	960	106.7		29.33
8+50 East Ln	105	12	1260	140.0		38.50
9+00 West Ln	80	12	960	106.7		29.33
9+50 East Ln	60	12	720	80.0		22.00
12+00 West Ln	27	8	216	24.0		6.60
15+30 West Ln	36	12	432	48.0		13.20
16+00 West Ln	35	12	420	46.7		12.83
19+30 West Ln	35	12	420	46.7		12.83
25+00 East Ln	54	12	648	72.0		19.80
26+30 East Ln	78	12	936	104.0		28.60
28+00 East Ln	15	8	120	13.3		3.67
32+25 West Ln	15	12	180	20.0		5.50
44+00 East Ln	45	12	540	60.0		16.50
53+00 West Ln	56	12	672	74.7		20.53
54+00 West Ln	90	12	1080	120.0		33.00
57+74 West Ln	12	12	144	16.0		4.40
59+00 West Ln	24	12	288	32.0		8.80
60+00 West Ln	12	4	48	5.3		1.47
61+00 West Ln	86	12	1032	114.7		31.53
63+30 West Ln	45	12	540	60.0		16.50
67+00 West Ln	104	12	1248	138.7		38.13
67+00 East Ln	64	12	768	85.3		23.47
71+00 West Ln	110	12	1320	146.7		40.33
71+00 East Ln	24	6	144	16.0		4.40
72+00 East Ln	80	12	960	106.7		29.33
74+00 Full Width	20	24	480	53.3		14.67
74+70 West Ln	36	8	288	32.0		8.80
75+50 East Ln	45	12	540	60.0		16.50
					Total (Tons):	530.57

Full Digout (Remove Surface (1.0"), Base Asphalt (4.0"), DGA (9.0"); Replace with Modified HMA Base (5") and DGA (9.0"))

Location / Stationing	Length (ft)	Width (ft)	Area (SqFt)	Area (SqYd)	Base Asphalt, Patch	DGA Base, Patch
	0	0	0	0.0	0.00	0.00
				Total (Tons):	0.00	0.00

Road: Commerce Parkway; From Ky Hwy 393 to County End (prior to 2206 Commerce Pkwy)

Note (Station 0+00 is 280-feet east of Ky Hwy 393 (asphalt cut in pavement)

1.5" Mill

Location / Stationing	Length (ft)	Avg Width (ft)	Area (SqFt)	Area (SqYd)
0+00 - 7+00	-	-	28980	3220.0
			Total (Sq.Yd):	3220.0

2.0" Mill

Location / Stationing	Length (ft)	Avg Width (ft)	Area (SqFt)	Area (SqYd)
	0	0	0	0.0
			Total (Sq.Yd):	0.0

Transition Mill

Location / Stationing	Length (ft)	Avg Width (ft)	Area (SqFt)	Area (SqYd)
7+00 - 7+45	45	22	990	110.0
			Total (Sq.Yd):	110.0

Remove and Replace Culvert

Location / Stationing	Length (ft)	Notes
	0	

Pavement Markings - Thermoplastic

Location / Stationing	Amount	Units	Notes
Pvmt Marking, line, Thermosplatic - 4in Yellow	15800	LFT	
Pvmt Marking, line, Thermoplastic - 4in White	15800	LFT	
Pvmt Marking, line, Thermoplastic - 4in Yellow Cross Hatching	398	LFT	
Pavement Marking, Lane Indicating Arrow, Thermoplastic, White	24	Ea	
Pavement Marking, 24-inch Stop Bar, Thermoplastic, White	50	LFT	

Keyway

Location / Stationing	Total (Ea)	Notes
Road Keyway (Ea)	3	Interior Way, D.W.Griffith Ln, Commerce Pkwy
Driveway Keyway (Ea)	6	

Adjust Manhole Casting to Grade

Total (Ea)

Shoulder/Ditch Grading and Stabilization

Location / Stationing	Length (ft)	Notes
	0	
Total (LFT)	0	

State Permitting Requirements Yes [ ] No [X]

Road: Old Zaring Rd; From Cedar Point Rd to Glenarm Dr

1.5" CL2 Surface Asphalt 0.38D [1, 2]

Location / Stationing	Length (ft)	Avg Width (ft)	Area (SqFt)	Area (SqYd)	Surf. Asphalt (Ton)
0+00 - 110+92	-	-	138,928	15436.4	1273.51
"Y" (Cedar Pt Rd)	-	-	1214	134.9	11.13
				Total (Tons):	1284.64

2.0" CL2 Surface Asphalt 0.38D [1, 2]

Location / Stationing	Length (ft)	Avg Width (ft)	Area (SqFt)	Area (SqYd)	Surf. Asphalt (Ton)
	0	0	0	0.0	0.00
				Total (Tons):	0.00

Asphalt Wedge (30%) 0.38D [1, 2]

					Surf. Asphalt (Ton)
				Total (Tons):	0.00

Remove Surface (1.0") and Base Asphalt (4.0") and Replace with Modified HMA Base (5")

Location / Stationing	Length (ft)	Width (ft)	Area (SqFt)	Area (SqYd)		Base Asphalt, Patch
3+44	26	12	312	34.7		9.53
7+30	30	12	360	40.0		11.00
9+48	28	12	336	37.3		10.27
10+00	60	6	360	40.0		11.00
10+00	200	6	1200	133.3		36.67
11+50	18	12	216	24.0		6.60
13+13 - 16+00	287	12	3444	382.7		105.23
16+42	116	6	696	77.3		21.27
21+38	50	12	600	66.7		18.33
29+50 - 46+26	1,676	12	20112	2234.7		614.53
47+00	78	14	1092	121.3		33.37
50+00	18	12	216	24.0		6.60
54+00	75	6	450	50.0		13.75
56+25	65	12	780	86.7		23.83
57+19	85	12	1020	113.3		31.17
58+24	24	12	288	32.0		8.80
61+30	70	12	840	93.3		25.67
63+20	90	12	1080	120.0		33.00
66+31	24	12	288	32.0		8.80
69+93	100	12	1200	133.3		36.67
71+93	65	12	780	86.7		23.83
74+47 - 76+45	220	12	2640	293.3		80.67
83+00	50	12	600	66.7		18.33
89+30	26	12	312	34.7		9.53
94+28	40	12	480	53.3		14.67
96+07	70	12	840	93.3		25.67
97+00	50	12	600	66.7		18.33
101+44	56	12	672	74.7		20.53
107+59	35	12	420	46.7		12.83
					Total (Tons):	1290.48

Road: Old Zaring Rd; From Cedar Point Rd to Glenarm Dr

Full Digout (Remove Surface (1.0"), Base Asphalt (4.0"), DGA (9.0"); Replace with Modified HMA Base (5") and DGA (9.0"))

Location / Stationing	Length (ft)	Width (ft)	Area (SqFt)	Area (SqYd)	Base Asphalt, Patch	DGA Base, Patch
52+30	40	12	480	53.3	14.67	26.40
78+25	125	12	1500	166.7	45.83	86.25
97+70	60	12	720	80.0	22.00	41.40
102+87	28	12	336	37.3	10.27	19.32
				Total (Tons):	92.77	173.37

1.5" Mill

Location / Stationing	Length (ft)	Avg Width (ft)	Area (SqFt)	Area (SqYd)
	0	0	0	0.0
			Total (Sq.Yd):	0.0

2.0" Mill

Location / Stationing	Length (ft)	Avg Width (ft)	Area (SqFt)	Area (SqYd)
	0	0	0	0.0
			Total (Sq.Yd):	0.0

Transition Mill

Location / Stationing	Length (ft)	Avg Width (ft)	Area (SqFt)	Area (SqYd)
	0	0	0	0.0
			Total (Sq.Yd):	0.0

Remove and Replace Culvert

Location / Stationing	Length (ft)	Notes
0+10	40	Remove and Replace 15-inch CMP with HDPE or Equivalent
62+75	40	Remove and Replace 15-inch CMP with HDPE or Equivalent
83+00	40	Remove and Replace 15-inch CMP with HDPE or Equivalent
91+12	40	Remove and Replace 15-inch CMP with HDPE or Equivalent

Pavement Striping - Permanent Paint

Location / Stationing	Length (ft)	Notes
	0	
	0	

Keyway

Location / Stationing	Total (Ea)	Notes
Road Keyway (Ea)	7	Glenarm Rd (1), Cedar Point Rd (2), Bridge (2)
Driveway Keyway (Ea)	36	

Adjust Manhole Casting to Grade

Total (Ea)

Ditch Grading and Stabilization

Location / Stationing	Length (ft)	Notes
	0	
Total (LFT)	0	

State Permitting Requirements Yes [ ] No [X]

Road: Centerfield Drive; From Ky Hwy 393 to Ky Hwy 22

1.5" CL2 Surface Asphalt 0.38D [1, 2]

Location / Stationing	Length (ft)	Avg Width (ft)	Area (SqFt)	Area (SqYd)	Surf. Asphalt (Ton)
0+00 - 10+00	-	-	41,717	4635.2	382.41
10+00 - 75+82	6,582	21	138222	15358.0	1267.04
				Total (Tons):	1649.44

2.0" CL2 Surface Asphalt 0.38D [1, 2]

Location / Stationing	Length (ft)	Avg Width (ft)	Area (SqFt)	Area (SqYd)	Surf. Asphalt (Ton)
	0	0	0	0.0	0.00
				Total (Tons):	0.00

Asphalt Wedge (30%) 0.38D [1, 2]

					Surf. Asphalt (Ton)
				Total (Tons):	494.83

Remove Surface (1.0") and Base Asphalt (4.0") and Replace with Modified HMA Base (5")

Location / Stationing	Length (ft)	Width (ft)	Area (SqFt)	Area (SqYd)		Base Asphalt, Patch
	0	0	0	0.0		0.00
					Total (Tons):	0.00

Full Digout (Remove Surface (1.0"), Base Asphalt (4.0"), DGA (9.0"); Replace with Modified HMA Base (5") and DGA (9.0"))

Location / Stationing	Length (ft)	Width (ft)	Area (SqFt)	Area (SqYd)	Base Asphalt, Patch	DGA Base, Patch
	0	0	0	0.0	0.00	0.00
				Total (Tons):	0.00	0.00

1.5" Mill

Location / Stationing	Length (ft)	Avg Width (ft)	Area (SqFt)	Area (SqYd)
Bridge	70	23	1610	178.9
			Total (Sq.Yd):	178.9

2.0" Mill

Location / Stationing	Length (ft)	Avg Width (ft)	Area (SqFt)	Area (SqYd)
	0	0	0	0.0
			Total (Sq.Yd):	0.0

Transition Mill

Location / Stationing	Length (ft)	Avg Width (ft)	Area (SqFt)	Area (SqYd)
Bridge Approach	45	23	1035	115.0
Bridge Approach	45	23	1035	115.0
			Total (Sq.Yd):	230.0

Remove and Replace Culvert

Location / Stationing	Length (ft)	Notes
2521 W Hwy 22	8	Extend 18-inch crossculvert in conjunction with shouldering

Pavement Striping - Permanent Paint

Location / Stationing	Length (ft)	Notes
	0	
	0	

Keyway

Location / Stationing	Total (Ea)	Notes
Road Keyway (Ea)	9	Ky Hwy 393, Ky Hwy 22, Fox Run Rd, Deer Run Rd, Elder Park Cutoff, Curry Dr, Evergreen Rd, Worth Rd, Centerfield School
Driveway Keyway (Ea)	34	

Adjust Manhole Casting to Grade

Total (Ea)

Road: Centerfield Drive; From Ky Hwy 393 to Ky Hwy 22

Ditch Grading and Stabilization

Location / Stationing	Length (ft)	Notes
4405 Centerfield	105	Grade roadside ditch, both sides of driveway culvert to remove standing water.
4403 Centerfield	92	Grade roadside ditch to crossroad culvert remove standing water.
4306 Centerfield	225	Construct new roadside ditch with 4-foot shoulder to catch basin.
Total (LFT)	422	

Shouldering (DGA or Asphalt Millings)

Location / Stationing	Length (ft)	Notes
4306 Centerfield	225	Construct new roadside ditch with 4-foot shoulder to catch basin.
2521 W Hwy 22	60	Starting at Ky Hwy 22 along Centerfield Dr

Signage: Remove and Replace Existing Signs

Description	Code	Size	Number	Area (Sqft)
Right Curve	W1-2R	36"x36"	2	18
Chevron	W1-8	18"x24"	20	60
Left Curve	W1-2L	36"x36"	1	9
No Passing	W14-3	48"x48"x36"	4	24
Object Marker Left	OM3-L	12"x36"	2	6
Object Marker Right	OM3-R	12"x36"	2	6
Stop Ahead	W3-1	30"x30"	1	6.25
Stop	R1-1	36"x36"	2	18
End School Zone	S5-2	24"x36"	2	12
School Bus Stop Ahead	S3-1	36"x36"	2	18
State Route 393	M1-5	30"x24"	1	5
State Route 22	M1-5	24"x24"	2	8
Directional Arrow (plaque)	M6-4	21"x15"	1	2.1875
Directional Arrow (plaque)	M6-1	21"x15"	1	2.1875
Junction (plaque)	M2-1P	21"x15"	1	2.1875
Total (SQFT)	196.8			

State Permitting Requirements Yes [ ] No [X]

Road: Kavanaugh Ln; From Floydsburg Rd to County End

1.5" CL2 Surface Asphalt 0.38D [1, 2]

Location / Stationing	Length (ft)	Avg Width (ft)	Area (SqFt)	Area (SqYd)	Surf. Asphalt (Ton)
0+00 - 10+14	-	-	13,834	1537.1	126.81
				Total (Tons):	126.81

2.0" CL2 Surface Asphalt 0.38D [1, 2]

Location / Stationing	Length (ft)	Avg Width (ft)	Area (SqFt)	Area (SqYd)	Surf. Asphalt (Ton)
	0	0	0	0.0	0.00
				Total (Tons):	0.00

Asphalt Wedge (30%) 0.38D [1, 2]

		Surf. Asphalt (Ton)
	Total (Tons):	0.00

Remove Surface (1.0") and Base Asphalt (4.0") and Replace with Modified HMA Base (5")

Location / Stationing	Length (ft)	Width (ft)	Area (SqFt)	Area (SqYd)		Base Asphalt, Patch
2+66	64	8	512	56.9		15.64
3+00	18	6	108	12.0		3.30
7+60	75	3	225	25.0		6.88
8+00	60	3	180	20.0		5.50
8+60 - 10+14	154	12	1848	205.3		56.47
					Total (Tons):	87.79

Full Digout (Remove Surface (1.0"), Base Asphalt (4.0"), DGA (9.0"); Replace with Modified HMA Base (5") and DGA (9.0"))

Location / Stationing	Length (ft)	Width (ft)	Area (SqFt)	Area (SqYd)	Base Asphalt, Patch	DGA Base, Patch
	0	0	0	0.0	0.00	0.00
	0	0	0	0.0	0.00	0.00
				Total (Tons):	0.00	0.00

1.5" Mill

Location / Stationing	Length (ft)	Avg Width (ft)	Area (SqFt)	Area (SqYd)
	0	0	0	0.0
			Total (Sq.Yd):	0.0

2.0" Mill

Location / Stationing	Length (ft)	Avg Width (ft)	Area (SqFt)	Area (SqYd)
	0	0	0	0.0
			Total (Sq.Yd):	0.0

Transition Mill

Location / Stationing	Length (ft)	Avg Width (ft)	Area (SqFt)	Area (SqYd)
	0	0	0	0.0
			Total (Sq.Yd):	0.0

Remove and Replace Culvert

Location / Stationing	Length (ft)	Notes
	0	

Pavement Striping - Permanent Paint

Location / Stationing	Length (ft)	Notes
	0	
	0	

Keyway

Location / Stationing	Total (Ea)	Notes
Road Keyway (Ea)	3	Floydsburg Rd; Box Culvert Approaches
Driveway Keyway (Ea)	15	

Adjust Manhole Casting to Grade

Total (Ea)

Shoulder/Ditch Grading and Stabilization

Location / Stationing	Length (ft)	Notes
	0	
Total (LFT)	0	

State Permitting Requirements Yes [ ] No [X]

Road: Cherry Ln; From Floydsburg to County End (before Cherry Grove Ln)

1.5" CL2 Surface Asphalt 0.38D [1, 2]

Location / Stationing	Length (ft)	Avg Width (ft)	Area (SqFt)	Area (SqYd)	Surf. Asphalt (Ton)
0+00 - 33+20	-	-	50,442	5604.7	462.39
				Total (Tons):	462.39

2.0" CL2 Surface Asphalt 0.38D [1, 2]

Location / Stationing	Length (ft)	Avg Width (ft)	Area (SqFt)	Area (SqYd)	Surf. Asphalt (Ton)
	0	0	0	0.0	0.00
				Total (Tons):	0.00

Asphalt Wedge (30%) 0.38D [1, 2]

					Surf. Asphalt (Ton)
				Total (Tons):	0.00

Remove Surface (1.0") and Base Asphalt (4.0") and Replace with Modified HMA Base (5")

Location / Stationing	Length (ft)	Width (ft)	Area (SqFt)	Area (SqYd)		Base Asphalt, Patch
13+24	48	20	960	106.7		29.33
	0	0	0	0.0		0.00
					Total (Tons):	29.33

Full Digout (Remove Surface (1.0"), Base Asphalt (4.0"), DGA (9.0"); Replace with Modified HMA Base (5") and DGA (9.0"))

Location / Stationing	Length (ft)	Width (ft)	Area (SqFt)	Area (SqYd)	Base Asphalt, Patch	DGA Base, Patch
29+46 (Includes Radius Repair)	32	20	640	71.1	19.56	35.20
	0	0	0	0.0	0.00	0.00
				Total (Tons):	19.56	35.20

1.5" Mill

Location / Stationing	Length (ft)	Avg Width (ft)	Area (SqFt)	Area (SqYd)
	0	0	0	0.0
			Total (Sq.Yd):	0.0

2.0" Mill

Location / Stationing	Length (ft)	Avg Width (ft)	Area (SqFt)	Area (SqYd)
	0	0	0	0.0
			Total (Sq.Yd):	0.0

Transition Mill

Location / Stationing	Length (ft)	Avg Width (ft)	Area (SqFt)	Area (SqYd)
	0	0	0	0.0
			Total (Sq.Yd):	0.0

Remove and Replace Culvert

Location / Stationing	Length (ft)	Notes
27+46	20	Remove and Replace 15-inch CMP with HDPE or Equivalent
Sumac Ln	45	Install New 15-inch CMP with HDPE or Equivalent

Tree Removal

Location / Stationing	Number	Notes
Between 6104 and 6108 Cherry Ln	1	

Keyway

Location / Stationing	Total (Ea)	Notes
Road Keyway (Ea)	8	Floydsburg Rd, Sumac Ln, Beechdale Rd, 4 Box Culvert Approaches, Key at 33+20 at new pavement joint
Driveway Keyway (Ea)	40	**See Trench Drain Section for 6011, 6014, and 6021 Cherry Ln

Adjust Manhole Casting to Grade

		Notes
Total (Ea)	2	Station 31+33; Station 32+97

Road: Cherry Ln; From Floydsburg to County End (before Cherry Grove Ln)

Ditch Grading and Stabilization

Location / Stationing	Length (ft)	Notes
6011 Cherry Ln	192	Right side; ditch from crossroad culvert to driveway
6011 Cherry Ln	60	Right side; ditch from driveway to stream
6012-6014 Cherry Ln	150	Left side; ditch from driveway at 6012 Cherry Ln to driveway at 6014 Cherry Ln
6021 Cherry Ln to Stream	140	Right side; ditch from drivewayat 6021 Cherry Ln to stream
6020 - 6024 Cherry Ln	260	Left side;
6021 - 6027 Cherry Ln	164	Right side;
6104 - 6108 Cherry Ln	180	Left side; maintain shoulder
Stream to 6105 Cherry Ln	70	Right side; ditch from existing driveway culvert at 6105 Cherry Ln to stream
6107 Cherrry Ln	75	Right side; obtain positive grade from driveway to existing cross road culvert at 27+46
6115 Cherry Ln	67	Right side; grade new cross culvert invert to existing driveway invert
Sumac Ln 0+00 - 0+30	30	Right side; 6115 Cherry Ln
Sumac Ln 0+00 - 0+30	30	Left side; 6203 Cherry Ln
Sumac - 30+70 Cherry Ln	115	Right side; address 6203 Cherry Ln; grade to new cross culvert (Sumac Ln) invert
6209 Cherry Ln	60	Right side of road; maintain shoulder
Beechdale 0+00- 0+30	30	Right side of road; maintain shoulder
Beechdale 0+00- 0+30	30	Right side of road; maintain shoulder.
Beechdale - 35+00 Cherry Lr	167	Right side of road; maintain shoulder.
36+00 - 37+00	50	Right side; 450 Cherry Ln, 6311 Cherry Ln (Grade driveway invert to driveway invert; don't disturb roots)
Total (LFT)	1870	

Shouldering (DGA or Asphalt Millings)

Location / Stationing	Length (ft)	Notes
6011 Cherry Ln	192	Right side; Shoulder from crossroad culvert to driveway
6012-6014	150	Left side; Shoulder from driveway at 6012 Cherry Ln to driveway at 6014 Cherry Ln
6020-6024 Cherry Ln	260	Left side; shoulder between driveway at 6020 Cherry Ln to driveway at 6024 Cherry Ln
6021-6027 Cherry Ln	164	Right side; shoulder between driveway at 6021 Cherry Ln to driveway at 6027 Cherry Ln
6024-6032 Cherry Ln	196	Left side; shoulder between driveway at 6024 Cherry Ln to driveway at 6032 Cherry Ln
6037 Cherry Ln	420	Right side;
6032 Cherry Ln to Bridge	265	Left side;
6104 - 6108 Cherry Ln	180	Left side;
6108 - 6112 Cherry Ln	153	Left side; shoulder from driveway at 6108 Cherry Ln toward 6112 Cherry Ln
6105 - 6107 Cherry Ln	160	Right side; shoulder between 6107 and 6105 driveways
6107 - 6115 Cherry Ln	136	Right side; shoulder between 6115 and 6107 driveways
6112 - 6200 Cherry Ln	50	Left Side; shoulder between 6112 Cherry Ln and 6200 Cherry Ln
Sumac Ln - 31+33	125	Right side; address 6203
35+00 - 36+70	110	Right side addresses 6311
34+00 - 37+25	235	Left side addresses 6310, 6312, 6314
Total (LFT)	2796	

Saw Cut and Remove Concrete

Location / Stationing	Length (ft)	Notes
6104-6108 Cherry Ln	10	Saw cut concrete at EOP; remove concrete in roadside ditch

Install Driveway Trench Drain

Location / Stationing	Length (ft)	Notes
6021 Cherry Ln	40	Extend asphalt key to edge of trench drain. See attached drawing and cut sheets for details
6014 Cherry Ln	35	Extend asphalt key to edge of trench drain. See attached drawing and cut sheets for details
6011 Cherry Ln	20	Extend asphalt key to edge of trench drain. See attached drawing and cut sheets for details

Road: Cherry Ln; From Floydsburg to County End (before Cherry Grove Ln)

Mailbox Remove and Reset

Location / Stationing	Number	Notes
Various (see notes)	4	6011, 6014, 6020, and 6021 Cherry Ln

State Permitting Requirements Yes [ ] No [X]

Road: Belknap Beach Rd; From County End to County End (Dream Harbor Subdivision)

1.5" CL2 Surface Asphalt 0.38D [1, 2]

Location / Stationing	Length (ft)	Avg Width (ft)	Area (SqFt)	Area (SqYd)	Surf. Asphalt (Ton)
North Cul-de-sac	-	-	706.9	78.5	6.48
North 0+00 - 14+00	1,400	12	16800	1866.7	154.00
South 0+00 - 10+00	1,000	12	12000	1333.3	110.00
South 10+00 - 15+00	500	14	7000	777.8	64.17
South 15+00 - 28+56	1,356	15	20340	2260.0	186.45
	-	-	0.0	0.0	0.00
				Total (Tons):	521.10

2.0" CL2 Surface Asphalt 0.38D [1, 2]

Location / Stationing	Length (ft)	Avg Width (ft)	Area (SqFt)	Area (SqYd)	Surf. Asphalt (Ton)
	0	0	0	0.0	0.00
				Total (Tons):	0.00

Asphalt Wedge (30%) 0.38D [1, 2]

		Surf. Asphalt (Ton)
	Total (Tons):	0.00

Remove Surface (1.0") and Base Asphalt (4.0") and Replace with Modified HMA Base (3.5")

Location / Stationing	Length (ft)	Width (ft)	Area (SqFt)	Area (SqYd)		Base Asphalt, Patch
South 0+00 - 28+56	2,856	13.8	39340	4371.1		841.44
	0	0	0	0.0		0.00
					Total (Tons):	841.44

Full Digout (Remove Surface (1.0"), Base Asphalt (4.0"), DGA (9.0"); Replace with Modified HMA Base (5") and DGA (9.0"))

Location / Stationing	Length (ft)	Width (ft)	Area (SqFt)	Area (SqYd)	Base Asphalt, Patch	DGA Base, Patch
	0	0	0	0.0	0.00	0.00
	0	0	0	0.0	0.00	0.00
				Total (Tons):	0.00	0.00

1.5" Mill

Location / Stationing	Length (ft)	Avg Width (ft)	Area (SqFt)	Area (SqYd)
	0	0	0	0.0
			Total (Sq.Yd):	0.0

2.0" Mill

Location / Stationing	Length (ft)	Avg Width (ft)	Area (SqFt)	Area (SqYd)
	0	0	0	0.0
			Total (Sq.Yd):	0.0

Transition Mill

Location / Stationing	Length (ft)	Avg Width (ft)	Area (SqFt)	Area (SqYd)
	0	0	0	0.0
			Total (Sq.Yd):	0.0

Remove and Replace Culvert

Location / Stationing	Length (ft)	Notes
	0	

Pavement Striping - Permanent Paint

Location / Stationing	Length (ft)	Notes
	0	
	0	

Keyway

Location / Stationing	Total (Ea)	Notes
Road Keyway (Ea)	0	
Driveway Keyway (Ea)	86	

Adjust Manhole Casting to Grade

Total (Ea)

Shoulder/Ditch Grading and Stabilization

Location / Stationing	Length (ft)	Notes
	0	
Total (LFT)	0	

State Permitting Requirements Yes [ ] No [X]

Road: Spring Dr; From S Rose Island Rd to Belknap Beach (Dream Harbor Subdivision)

1.5" CL2 Surface Asphalt 0.38D [1, 2]

Location / Stationing	Length (ft)	Avg Width (ft)	Area (SqFt)	Area (SqYd)	Surf. Asphalt (Ton)
0+00 - 10+96	-	-	19,922	2213.6	182.62
				Total (Tons):	182.62

2.0" CL2 Surface Asphalt 0.38D [1, 2]

Location / Stationing	Length (ft)	Avg Width (ft)	Area (SqFt)	Area (SqYd)	Surf. Asphalt (Ton)
	0	0	0	0.0	0.00
				Total (Tons):	0.00

Asphalt Wedge (30%) 0.38D [1, 2]

					Surf. Asphalt (Ton)
				Total (Tons):	27.39

Remove Surface (1.0") and Base Asphalt (4.0") and Replace with Modified HMA Base (5")

Location / Stationing	Length (ft)	Width (ft)	Area (SqFt)	Area (SqYd)		Base Asphalt, Patch
0+21	20	20	400	44.4		12.22
					Total (Tons):	12.22

Full Digout (Remove Surface (1.0"), Base Asphalt (4.0"), DGA (9.0"); Replace with Modified HMA Base (5") and DGA (9.0"))

Location / Stationing	Length (ft)	Width (ft)	Area (SqFt)	Area (SqYd)	Base Asphalt, Patch	DGA Base, Patch
	0	0	0	0.0	0.00	0.00
				Total (Tons):	0.00	0.00

1.5" Mill

Location / Stationing	Length (ft)	Avg Width (ft)	Area (SqFt)	Area (SqYd)
	0	0	0	0.0
			Total (Sq.Yd):	0.0

2.0" Mill

Location / Stationing	Length (ft)	Avg Width (ft)	Area (SqFt)	Area (SqYd)
	0	0	0	0.0
			Total (Sq.Yd):	0.0

Transition Mill

Location / Stationing	Length (ft)	Avg Width (ft)	Area (SqFt)	Area (SqYd)
	0	0	0	0.0
			Total (Sq.Yd):	0.0

Remove and Replace Culvert

Location / Stationing	Length (ft)	Notes
	0	

Pavement Striping - Permanent Paint

Location / Stationing	Length (ft)	Notes
	0	
	0	

Keyway

Location / Stationing	Total (Ea)	Notes
Road Keyway (Ea)	1	S Rose Island Rd (Ky Hwy 3228)
Driveway Keyway (Ea)	4	

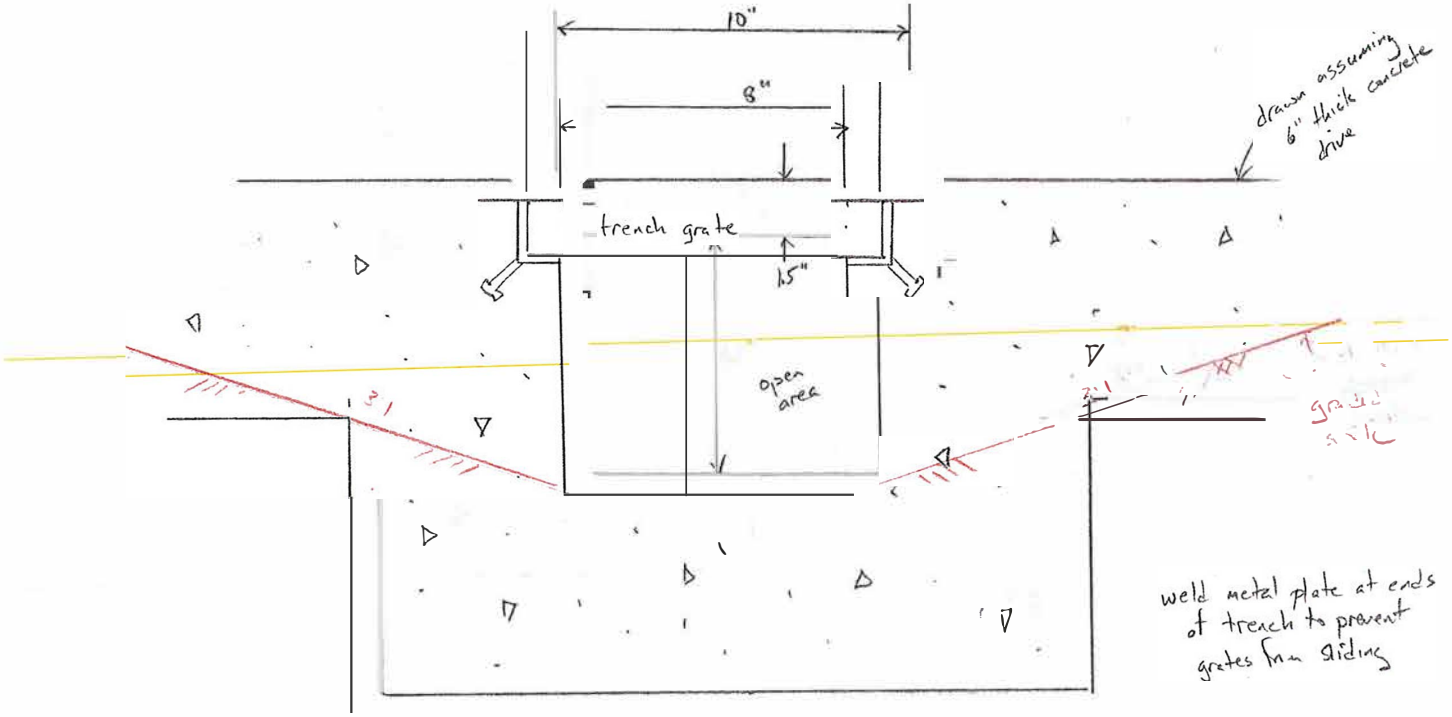
Adjust Manhole Casting to Grade

Total (Ea)

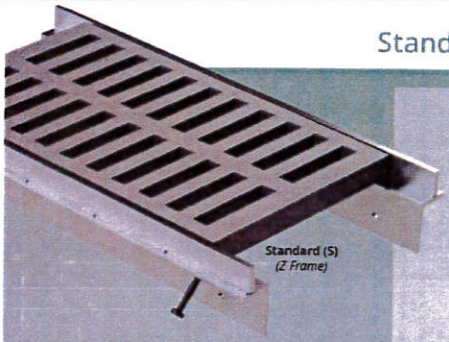
Shoulder/Ditch Grading and Stabilization

Location / Stationing	Length (ft)	Notes
	0	
Total (LFT)	0	

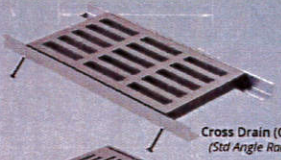
State Permitting Requirements Yes [ ] No [X]


10"
8"
drawn assuming 6" thick concrete drive
trench grate
1.5"
open area
3:1
2:1
weld metal plate at ends of trench to prevent grates from sliding

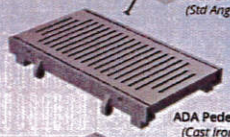
5/21/19 JGS



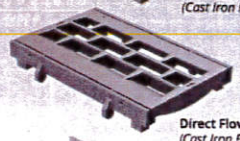
Standard (S)
(Z Frame)



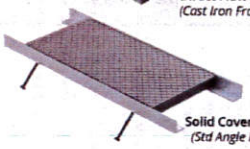
Cross Drain (CD)
(Std Angle Rail)



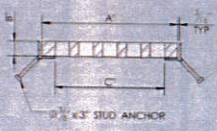
ADA Pedestrian (P)
(Cast Iron Frame)



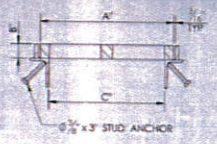
Direct Flow (DF)
(Cast Iron Frame)



Solid Cover (SC)
(Std Angle Rail)



Standard Frame



Z Frame

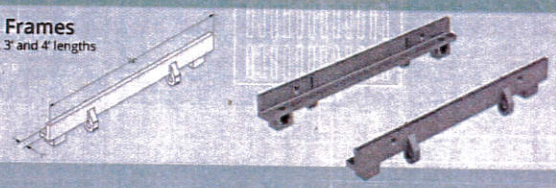
- Designed for H-20 traffic loading
- Three frame options: Standard, Z or cast iron
- Options: Bolted or security bolted to cast iron frame only; locking Solid
- Recommend installing frame for all trench applications

Standard Trench Grates

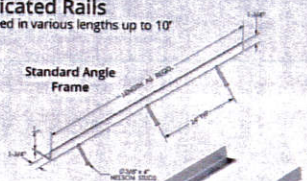
A Width	B Height	C Cast / Z Frames	C Standard Angle Rails	Open Area In Sq Feet	Grate Type
8	1-1/2	6	5-1/4	.20	S, CD, SC, P
10	1-1/2	8	7-1/4	.24	S, CD, SC, P
12	1-1/2	10	9-1/4	.31	S, CD, SC, P
14	1-1/2	12	11-1/4	.39	S, CD, SC, P, DF
17	1-1/2	15	14-1/4	.51	S, CD, SC, P
20	1-1/2	18	17-1/4	.62	S, CD, SC, P
23	1-1/2	21	20-1/4	.74	S, CD, SC
26	1-1/2	24	23-1/4	.85	S, CD, SC
30	2-1/2	27	n/a	1.26	S, CD, SC
33	2-1/2	30	n/a	1.32	S, CD, SC
36	2-1/2	33	n/a	1.47	S, CD, SC
39	2-1/2	36	n/a	1.61	S, CD, SC
45	2-1/2	42	n/a	1.85	S, CD, SC

Grates are furnished in 2' lengths

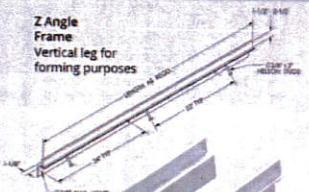
Cast Iron Frames
Furnished in 2', 3' and 4' lengths



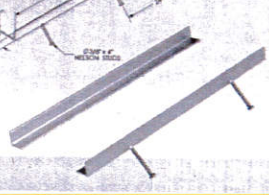
Fabricated Rails
Furnished in various lengths up to 10'

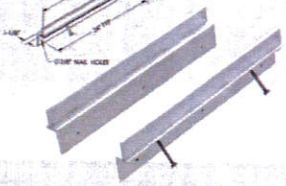


Standard Angle Frame



Z Angle Frame
Vertical leg for forming purposes





Bolted Grating or Covers
All trench grates/covers listed may be security bolted to cast frame. Theft-proof bolts available upon request.

R-4990
HEAVY DUTY TRENCH

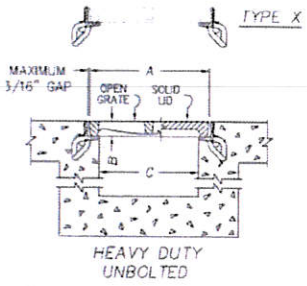
Neenah Foundry Catalog

Materials: All frames and grates/lids are furnished standard in gray iron, meeting ASTM-A48 Class 35-B for heavy-duty use. For extra heavy-duty use or superior durability requirements, see our ductile iron Airport and Port Grating Series on page 286.

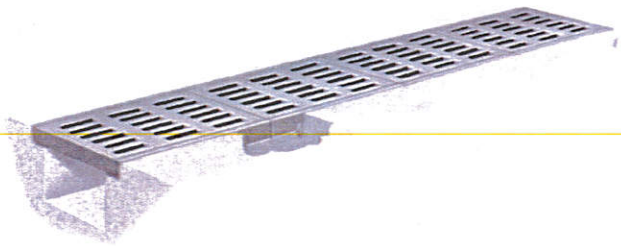
Neenah recommends project designers avoid the use of light duty trench installations because it is likely that applications will be subjected to heavy delivery vehicle traffic at some time. Furthermore, the use of a site could be changed to heavy duty use patterns at some unanticipated future date.

	Dimensions in inches								
Un-Bolted Catalog No.	**A**	**B**	**C**	**Type A**	**Type C**	**Type D**	**Type E**	**Type P**	**Type Q**
R-4990-AX	8	1 1/2	6	x	x	x	x	x	
R-4990-BX	10	1 1/2	8	x	x	x	x	x	
R-4990-CX	12	1 1/2	10	x	x	x	x	x	x
R-4990-DX	14	1 1/2	12	x	x	x	x	x	x
R-4990-EX	17	1 1/2	15	x	x	x	x	x	
R-4990-FX	20	1 1/2	18	x	x	x	x	x	
R-4990-GX	23	1 1/2	21	x	x*	x			
R-4990-HX	26	1 1/2	24	x	x*	x	x		x
R-4990-JX	30	2	27	x	x	x			
R-4990-KX	33	2	30	x	x	x*	x		
R-4990-LX	36	2	33	x	x	x*			
R-4990-MX	39	2	36	x	x*	x			
R-4990-NX	45	2	42	x	x*	x			
R-4990-OX	51	2	48	x		x*			

x - Indicates availability.
* Deep Ribs (consult shop drawing for dimensions).
Deep Ribs = "B" dimension times 2 or greater.

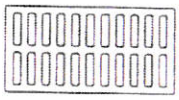


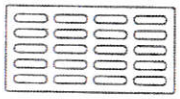
General schematic shown may not apply to all designs. Bar and rib depths, plate thicknesses and seating widths vary on different sizes and styles. If your project has design restrictions, contact your sales representative or product engineering.

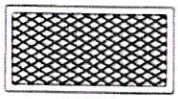


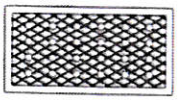
Illustrating Type C trench. Trench sections are furnished in 24" standard lengths.

Note: In Type A and P grates the slots are perpendicular to the trench run. In Type C and Q grates the slots are parallel with the trench run.

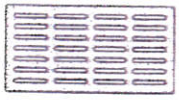

TYPE A
GRATE OPENINGS

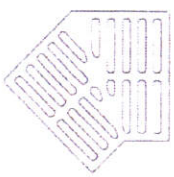

TYPE C
GRATE OPENINGS

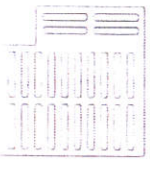

TYPE D
SOLID LID

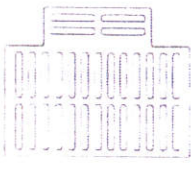

TYPE E
VENTED LID


TYPE P
GRATE OPENINGS


TYPE Q
GRATE OPENINGS


TYPE A
45 DEGREE
INTERSECTION PC.


TYPE A
90 DEGREE
INTERSECTION PC.


TYPE A
"T" INTERSECTION PC.

Note: 45°, 90° and "T" available in limited sizes and types.

Read Carefully Before Ordering

The various standard trench drains are available with a number of alternatives. It is important to examine all of the variables carefully and specify your requirements fully. Your order will be entered correctly and promptly if it includes the following information:

- Complete catalog number
- Frame end pieces, when required
- Type of Lid or Grate: A, C, D, E, P or Q
- Length of trench sections
- Angles and intersections *
- Load requirements

*Trenches with angles, intersections, size changes or other special requirements require detail drawings prior to ordering. Contact your sales representative or product engineering for assistance.
800-558-5075

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Neenah Foundry catalog

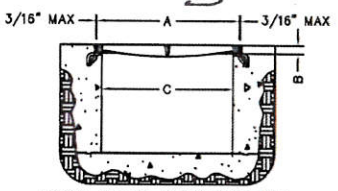
Suggested Forming Instructions for R-4990 Frame and Grate/Lid

Unbolted Units

A typical installation is shown in Figure 1. Details and suggestions are based on using the Neenah Foundry Type X Frame.

Materials

Under normal situations, use ¾ inch plywood for forming walls. 2x4s are suitable for studs, plates, bracing and spreaders.



PARTIAL SECTION VIEW OF COMPLETED TRENCH INSTALLATION
FIGURE 1

Forming Procedures

Pour the floor slab of the trench according to the plans and specifications. The width of the forming, (see Figure 2) measured from the outside edges of the forms, corresponds to the "C" dimension on Figure 1. During the entire forming procedure, verify that the forms are plumb, straight, solid and level.

The height of the form corresponds to the final grade elevation. Extend the spreaders beyond the edge of the forms (see Figure 3 and 4) to provide a stop for the frame and seat form.

To attach the cast iron frame to the forming, the use of a "seat form" is recommended to assure that the frame is at the proper elevation and true. The seat form has the same dimensions as the frame, with the height corresponding to the frame height (the "B" dimension), and the width the same as the seat width of the frame. The seat width should be field measured to assure as proper fit. All Neenah frames have a slight radius at the corner of the seat and vertical face so the seat form should be beveled to accommodate the radius. Most 2x4's have this radius.

Nail the seat form to the frame using the holes in the frame. (Figures 3 & 4)

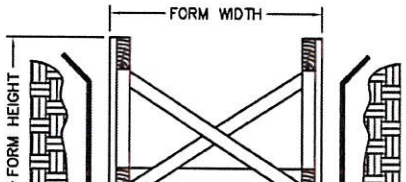


FIGURE 2

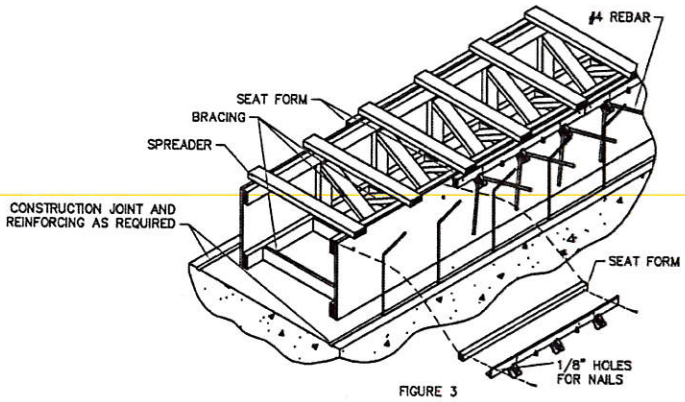


FIGURE 3

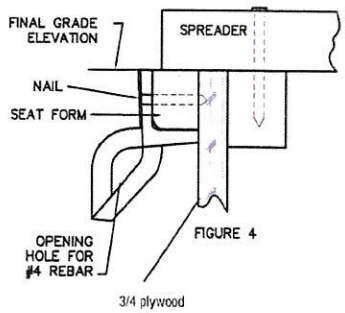


FIGURE 4

(The rebar shown in the vertical walls of the trench is for illustrative purposes only. Proper sizing and placement is the responsibility of the engineering firm providing the project design.)

Frames should butt together snugly, leaving as little gap as possible. Place a 90 degree bent #4 rebar through the holes in the anchor lugs to provide anchorage in the concrete. Verify the space between the edges of the grate and frame so grates will fit properly. There should be a gap but no greater than 3/16" (see Figure 1).

Pour concrete and use the top edge of the frame as a screed point.