

STATE OF ILLINOIS

WINNEBAGO COUNTY HIGHWAY DEPARTMENT

PLANS FOR HIGHWAY SAFETY IMPROVEMENT PROGRAM

ROUTE: VARIOUS COUNTY HIGHWAYS

SECTION: 17-00637-00-GR

PROJECT NO.: NMYM (658)

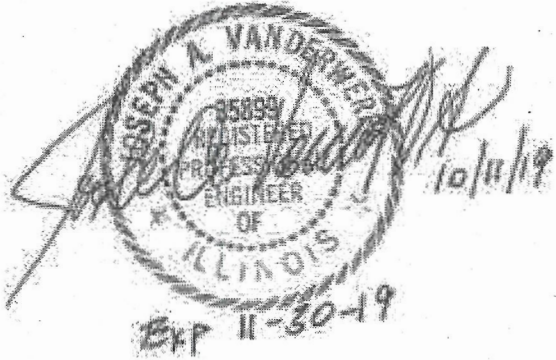
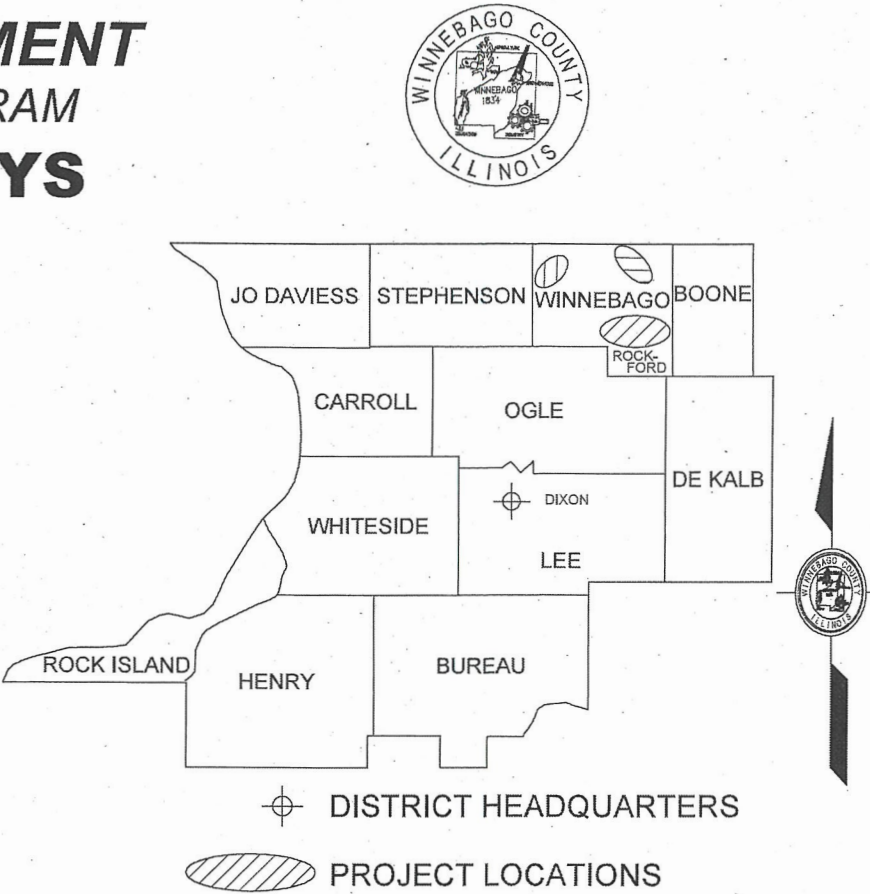
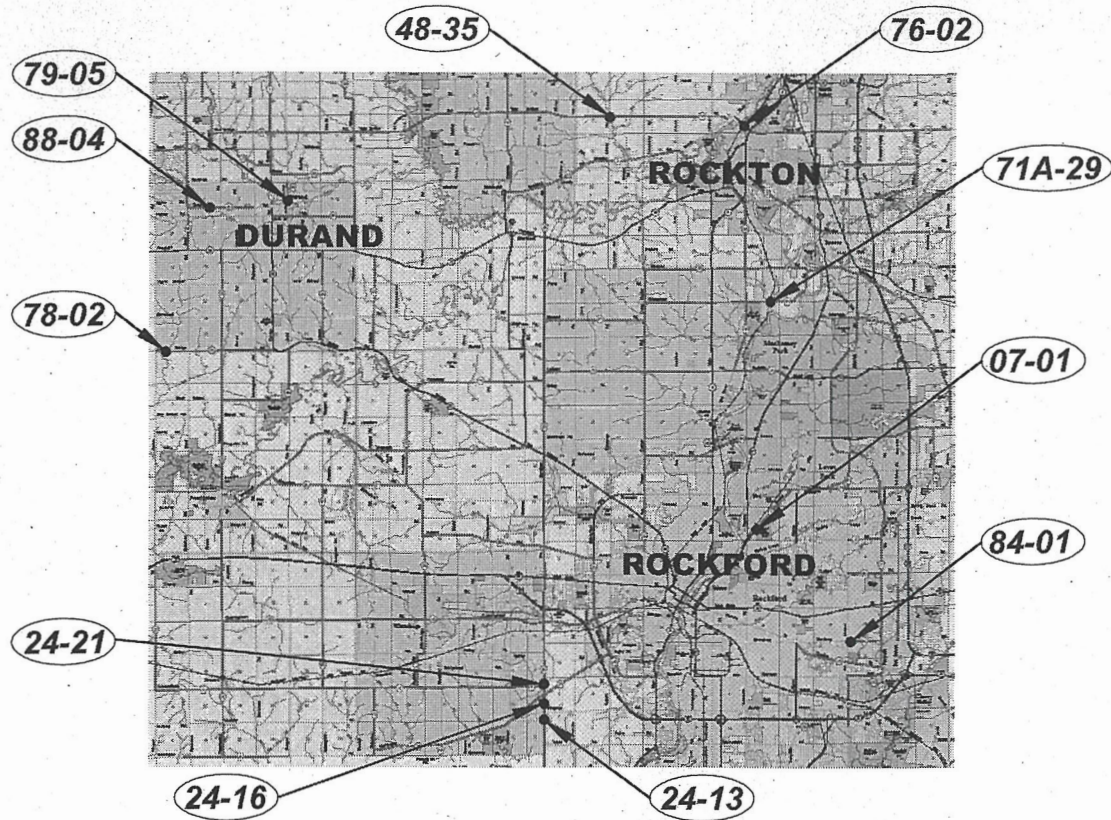
INDEX OF SHEETS

SHEET NO.	SHEET NAME
1	COVER SHEET
2	SUMMARY OF QUANTITIES & GENERAL NOTES
3	GUARDRAIL DETAIL & TYPICAL SECTIONS
4	GUARDRAIL LAYOUTS - 1
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STANDARDS

STD. NO.	STD. TITLE
630001-12	STEEL PLATE BEAM GUARDRAIL
630101-10	STRONG POST GUARDRAIL ATTACHED TO CULVERT
630201-07	STABILIZATION AT STEEL PLATE BEAM GUARDRAIL
630301-09	SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
631008-08	TRAFFIC BARRIER TERMINAL TYPE 1B
631033-07	TRAFFIC BARRIER TERMINAL TYPE 6B
701006-05	OFF-RD OPERATIONS, 2L, 2W, 15' TO 24" FROM PAVEMENT EDGE
701201-05	LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS ≥ 45 MPH
701301-04	LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
701501-06	URBAN LANE CLOSURE, 2L, 2W, UNDIVIDED
701701-10	URBAN LANE CLOSURE, MULTILANE INTERSECTION
701901-08	TRAFFIC CONTROL DEVICES
720011-01	METAL POSTS FOR SIGNS, MARKERS & DELINEATORS
725001-01	OBJECT AND TERMINAL MARKERS
728001-01	TELESCOPING STEEL SIGN SUPPORT
729001-01	APPLICATIONS OF TYPES A & B METAL POSTS (FOR SIGNS & MARKERS)
782006	GUARDRAIL AND BARRIER WALL REFLECTOR MOUNTING DETAILS

GUARDRAIL HSIP - COUNTY-WIDE
JOB NO.: C-92-071-18
CONTRACT NO.: 85687



CALL J.U.L.I.E.
BEFORE YOU DIG
1-800-892-0123

SEE
"SITE LOCATIONS"

WCHD LOCATION NO.	IDOT STR. NO.	CO. HWY.	POSTED SPEED LIMIT	TWP	P.M.	T	R	SEC.
07-01	—	7 - FOREST HILLS ROAD	40 MPH	ROCKFORD	3	44N	2E	7
24-13	101-5109	24 - MERIDIAN ROAD	55 MPH	ROCKFORD (WINNEBAGO)	3	43N	1E	7
24-16	—	24 - MERIDIAN ROAD	55 MPH	ROCKFORD (WINNEBAGO)	3	43N	1E	6
24-21	—	24 - MERIDIAN ROAD	55 MPH	ROCKFORD (WINNEBAGO)	3	43N	1E	6
48-35	101-5020	48 - YALE BRIDGE ROAD	55 MPH	ROCKTON	3	46N	1E	8
71A-29	—	71 - GLEASMAN ROAD	55 MPH	ROSCOE	3	45N	2E	6
76-02	101-9928	76 - PRAIRIE HILL ROAD	55 MPH	ROCKTON	3	46N	1E	12
78-02	101-5101	78 - TRASK BRIDGE ROAD	55 MPH	DURAND (PECATONICA)	4	28N	10E	31
79-05	101-3065	79 - CROWLEY ROAD	55 MPH	DURAND	4	28N	10E	10
84-01	—	84 - NEWBURG ROAD	45 MPH	ROCKFORD	3	44N	2E	27
88-04	101-5051	88 - DURAND ROAD	45 MPH	DURAND	4	28N	10E	8

THESE PLANS PREPARED BY:
WINNEBAGO COUNTY HIGHWAY DEPARTMENT

APPROVED: *[Signature]* 10/11/19
WINNEBAGO COUNTY ENGINEER

PASSED: *[Signature]* Oct. 16, 2019
DISTRICT ENGINEER OF LOCAL ROADS & STREETS

RELEASING FOR BID:
BASED ON LIMITED REVIEW: *[Signature]* Oct. 16, 2019
DEPUTY DIRECTOR OF HIGHWAYS, REGION 3 ENGINEER

SUMMARY OF QUANTITIES:				
CONSTRUCTION TYPE CODE: 0021				
Item	Pay Item Number	Pay Item Description	Unit of Measure	Quantity
Δ 1	35101400	AGGREGATE BASE COURSE, TY B	TON	3,600
Δ 2	48203029	HMA SHOULDERS, 8"	SY	4,800
Δ 3*	50104000	BRIDGE RAIL REMOVAL	FOOT	225
Δ 4*	60600605	CONCRETE CURB, TY B	FOOT	64
5	63000001	STEEL PLATE BEAM GUARDRAIL, TY A, 6 FT POSTS	FOOT	3,525
6	63000030	STRONG POST GUARDRAIL, ATTACH TO STRUCTURE	FOOT	775
7	63100041	TRAFFIC BARRIER TERMINAL, TY 1B	EACH	1
8	63100089	TRAFFIC BARRIER TERMINAL, TY 6B	EACH	8
9	63100167	TRAFFIC BARRIER TERMINAL, TY 1 (SP) TANGENT	EACH	39
10*	63200310	GUARDRAIL REMOVAL	FOOT	3,362.5
11	67100100	MOBILIZATION	LSUM	1
12	Z0048665	RAILROAD PROTECTIVE LIABILITY INSURANCE	LSUM	1
Δ 13*	X0327584	GRADING AND SHAPING SHOULDERS, SPECIAL	FOOT	5,900
14*	X6330725	STEEL PLATE BEAM GUARDRAIL (SHORT RADIUS)	FOOT	162.5
15*	X7010216	TRAFFIC CONTROL & PROTECTION, SPECIAL	LSUM	1

* SEE SPECIAL PROVISIONS Δ SPECIALTY ITEMS

SCHEDULE OF WORK:	WCHD SN 07-01	WCHD SN 24-13	WCHD SN 24-16	WCHD SN 24-21	WCHD SN 48-35	WCHD SN 71A-29	WCHD SN 76-02	WCHD SN 78-02	WCHD SN 79-05	WCHD SN 84-01	WCHD SN 88-04	TOTALS
1. Install ABC, TYB	---	755	335	460	155	495	505	665	85	---	145	3,600
2. Install HMA Shoulders	---	1,130	495	685	---	740	755	995	---	---	---	4,800
3. Remove Bridge Rail	---	---	---	---	225	---	---	---	---	---	---	225
4. Install Concrete Curb, TYB	---	---	---	64	---	---	---	---	---	---	---	64
5. Install SPBGR	37.5	725	287.5	312.5	362.5	212.5	225	600	50	337.5	375	3,525
6. Install SPGR-ATS	25	50	---	50	225	25	---	75	125	75	125	775
7. Install TBT-TY1B	---	---	---	---	---	1	---	---	---	---	---	1
8. Install TBT-TY6B	---	---	---	---	---	4	4	---	---	---	---	8
9. Install TBT-TY1(SP)TAN	2	4	2	4	4	3	4	4	4	4	4	39
10. Remove Guardrail	100	750	200	412.5	---	---	337.5	625	125	712.5	100	3,362.5
13. Grade & Shape Shoulder, SP	---	1,000	460	585	690	665	650	875	325	---	650	5,900
14. Install SPBGR-SR	---	---	---	---	50	37.5	---	---	---	75	---	162.5

ABC - Aggregate Base Course DEL - Delineator SPBGR-SR - Steel Plate Beam Guardrail (Short Radius)
ATS - Attached to Structure SP - Special TBT - Traffic Barrier Terminal
DA - Direct Applied SPBGR - Steel Plate Beam Guardrail WCHD - Winnebago County Highway Department



ROUTE VARIOUS	SECTION 17-00637-00-GR	SHEET 2 OF 5
GUARDRAIL HSIP - COUNTY-WIDE		

GENERAL NOTES:

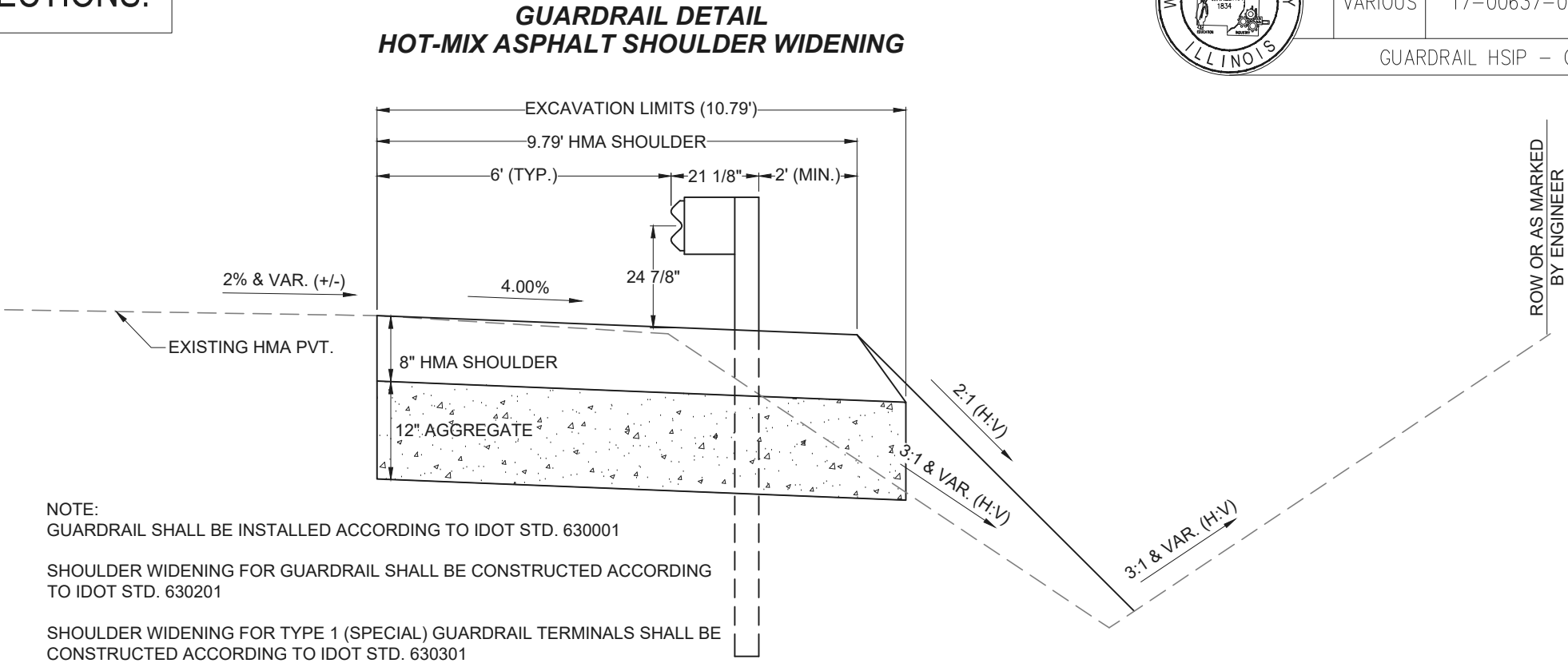
- GUARDRAIL REMOVAL SHALL INCLUDE DISMANTLING, DISPOSAL AND RESTORATION OF THE SITE IN PREPARATION FOR INSTALLATION OF NEW GUARDRAIL.
- PRIOR TO THE COMMENCEMENT OF WORK BY THE CONTRACTOR, ALL REQUIRED TREE REMOVAL AT WCHD SN 07-01 WILL BE COMPLETED BY WINNEBAGO COUNTY. TREE REMOVAL IS NOT INCLUDED IN THIS CONTRACT.
- THE COST OF REMOVING AND REPLACING EARTH AND SHOULDER MATERIAL NECESSARY FOR INSTALLATION OF STEEL PLATE BEAM GUARDRAIL, ATTACHED TO STRUCTURE, WILL NOT BE PAID FOR SEPARATELY, BUT THE COST THEREOF SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR THIS ITEM. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CHECK ALL FIELD CONDITIONS WHICH RELATE TO THIS ITEM AS WELL AS TO ALL ITEMS ASSOCIATED WITH THIS CONTRACT.
- ALL COST ASSOCIATED WITH FURNISHING AND INSTALLING SHORT RADIUS GUARDRAIL, AS INDICATED IN THE GUARDRAIL LAYOUTS AT WCHD SN 48-35, 71A-29 AND 88-04, SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR STEEL PLATE BEAM GUARDRAIL (SHORT RADIUS). THE GUARDRAIL ELEMENT PLATES SHALL BE FACTORY-FABRICATED TO THE INDICATED RADIUS OF CURVATURE OR TO THE RADIUS NECESSARY TO MATCH THE GUARDRAIL CONFIGURATION SPECIFIED BY THE ENGINEER.
- ANY COST ASSOCIATED WITH FURNISHING AND INSTALLING SHORTER OR LONGER POSTS FOR THE GUARDRAIL ATTACHED TO STRUCTURES WILL NOT BE PAID FOR SEPARATELY, BUT THE COST THEREOF SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR STRONG POST GUARDRAIL, ATTACHED TO STRUCTURES.
- WORK AREAS SHALL BE LEFT IN SAFE AND ORDERLY CONDITION. NO MATERIAL SHALL BE LEFT ON OR NEAR THE ROAD OR SHOULDERS DURING NON-WORKING HOURS.
- ALL GUARDRAIL AND TERMINAL MARKERS SHALL BE INSTALLED IN THE SAME DAY THE GUARDRAIL AND TERMINAL SECTIONS TO WHICH THEY ARE TO BE ATTACHED ARE INSTALLED. GUARDRAIL MARKERS SHALL NOT BE ATTACHED TO TERMINAL SECTIONS. ALL GUARDRAIL DELINEATORS MUST BE INSTALLED IN THE SAME DAY AS THEIR CORRESPONDING GUARDRAIL AND TERMINAL SECTIONS. GUARDRAIL MARKERS, TERMINAL MARKERS AND GUARDRAIL DELINEATORS WILL NOT BE PAID FOR SEPARATELY, BUT THE COST THEREOF SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR STEEL PLATE BEAM GUARDRAIL AND THE APPROPRIATE TRAFFIC BARRIER TERMINALS.
- WHERE GUARDRAIL IS TO BE REMOVED ON BOTH SIDES OF THE ROAD, REPLACEMENT ON ONE SIDE SHALL BE COMPLETE BEFORE REMOVAL ON THE SECOND SIDE SHALL BEGIN.
- HOLES REMAINING AT LOCATIONS WHERE GUARDRAIL POSTS ARE PULLED OR CUT OFF (AT LEAST 6 INCHES BELOW THE GROUND SURFACE) SHALL BE FILLED IN LAYERS WITH GRANULAR MATERIAL AND TAMPED. THIS WILL NOT BE PAID FOR SEPARATELY, BUT THE COST THEREOF SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR GUARDRAIL REMOVAL.
- AT BRIDGE LOCATIONS, FLAGGERS WILL NOT BE ALLOWED TO STAND ON THE BRIDGE TO PERFORM FLAGGING OPERATIONS. FLAGGERS WILL BE REQUIRED TO OPERATE AT OR NEAR THE BRIDGE APPROACHES IN ORDER TO PROVIDE AN ACCEPTABLE ESCAPE ROUTE.
- AT ALL GUARDRAIL LOCATIONS THE LIMITS FOR GRADING & SHAPING SHOULDERS, SPECIAL SHALL INCLUDE THE ENTIRE "INSTALL GUARDRAIL (ALL COMPONENTS)" LIMIT AND AN ADDITIONAL THIRTY-FIVE (35) FEET AT BOTH ENDS OF THE GUARDRAIL AS DETAILED IN THE GUARDRAIL LAYOUTS.

GUARDRAIL DETAIL & TYPICAL SECTIONS:

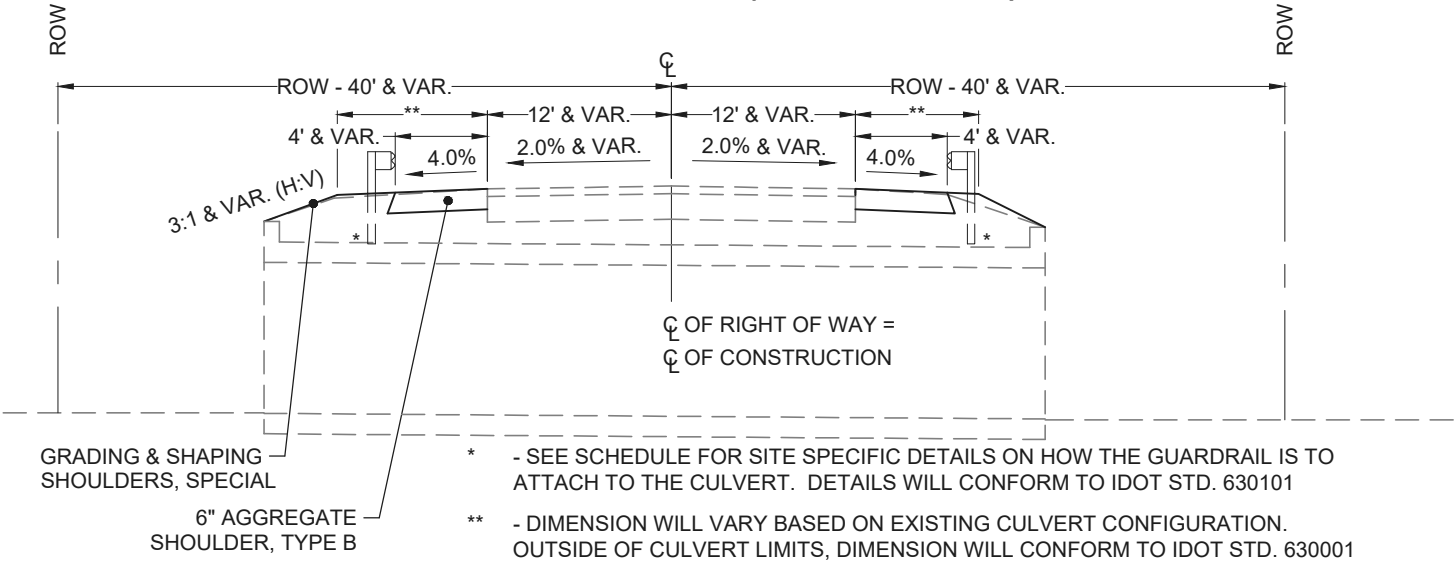


HMA MIXTURE CHART

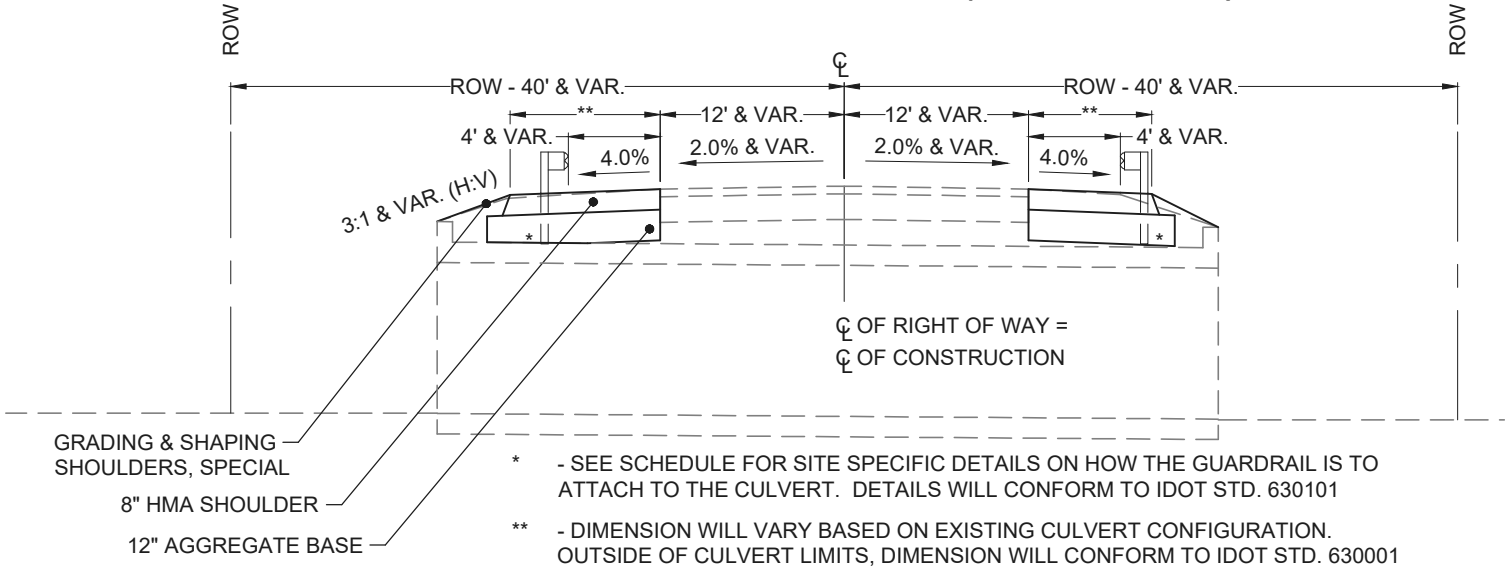
LOCATION:	VARIOUS
MIXTURE USE:	SHOULDER
PG:	PG 64-22
DESIGN AIR VOIDS:	4.0% @ N50
MIXTURE COMPOSITION (GRADTION MIXTURE):	IL 9.5 FG
FRICTION AGGREGATE:	N/A
MIX UNIT WEIGHT:	112 LBS / SY / IN
QUALITY MANAGEMENT PROGRAM:	QC / QA
SUBLOT SIZE:	N/A
NUMBER OF ROLLER PASSES:	N/A



GUARDRAIL TYPICAL SECTION
AGGREGATE SHOULDERS (AS SCHEDULED)



GUARDRAIL TYPICAL SECTION
HOT-MIX ASPHALT SHOULDERS (AS SCHEDULED)



SHOULDER WIDTH PER LOCATION

WCHD SN	IDOT SN	Facility Carried	Feature Crossed	County Highway	Location Description	Approximate Address	Existing Aggregate Shoulder Width (FT)	Proposed Aggregate Shoulder Width (FT)
07-01	-	Forest Hills Road	Unnamed	7	0.07 N of Edgewood Drive	4996 Forest Hills Road	C&G (LB=7FT)	C&G (LB=7FT)
48-35	1015020	Yale Bridge Road	Raccoon Creek	48	0.02 E of Clover Road	4990 Yale Bridge Road	2	6 (2FT at Str.)
79-05	1013065	Crowley Road	N Fk of Otter Creek	79	0.12 N of North Street	11088 Crowley Road	4	6
84-01	-	Newburg Road	Madigan Creek	84	0.04 E of Mulford Road	6035 Newburg Road	C&G (LB=10FT)	C&G (LB=10FT)
88-04	1015051	Durand Road	S Fk of Otter Creek	88	0.60 E of Best Road	17073 Durand Road	4	5

SHOULDER WIDTH PER LOCATION

WCHD SN	IDOT SN	Facility Carried	Feature Crossed	County Highway	Location Description	Approximate Address	Existing Aggregate Shoulder Width (FT)	Proposed HMA Shoulder Width (FT)
24-13	1015109	Meridian Road	Canal Creek	24	0.22 N of Gen Rich Drive	4281 S Meridian Road	9	9.75 (LB=6FT)
24-16	-	Meridian Road	Unnamed	24	0.24 N of Simpson Road	3799 S Meridian Road	7	9.75 (LB=6FT)
24-21	-	Meridian Road	Br of Canal Creek	24	0.03 N of Edwardsville Road	3295 S Meridian Road	7	9.75 (LB=6FT)
71A-29	-	Gleasant Road	Unnamed	71	0.06 E of River View Trail	729 Gleasant Road	6 (2FT at RR Str.)	9.75 (LB=6FT)
76-02	1019928	Prairie Hill Road	Under the RR	76	0.39 SE of South Bluff Road	1144 Prairie Hill Road	6	9.75 (LB=6FT)
78-02	1015101	Trask Bridge Road	Unnamed	78	0.25 E of Goeke Road	17979 Trask Bridge Road	5	9.75 (LB=6FT)

GUARDRAIL LAYOUTS

LEGEND:

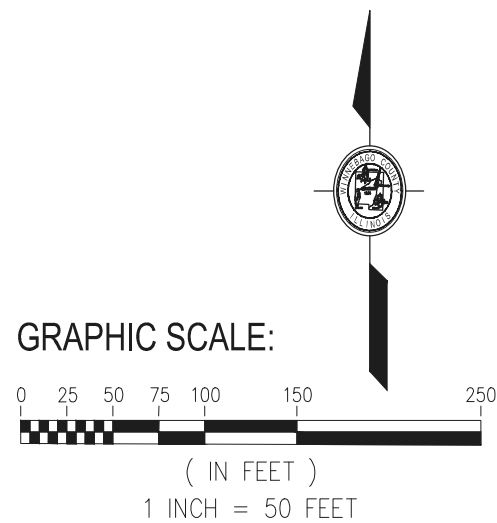
ATS – Attached to Structure
 EOP – Edge of Pavement
 FOC – Face of Curb
 GR – Guardrail
 GRMB – Guardrail Marker–Bidirectional (◆)
 GRMM – Guardrail Marker–Monodirectional (▶)
 Install Guardrail (all components)
 Remove Guardrail (all components)
 SN – Structure Number
 SPBGR – Steel Plate Beam Guardrail
 SPGR – Strong Post Guardrail
 SR – Short Radius
 TBT – Traffic Barrier Terminal
 WCHD – Winnebago County Highway Department

GUARDRAIL OFFSETS:

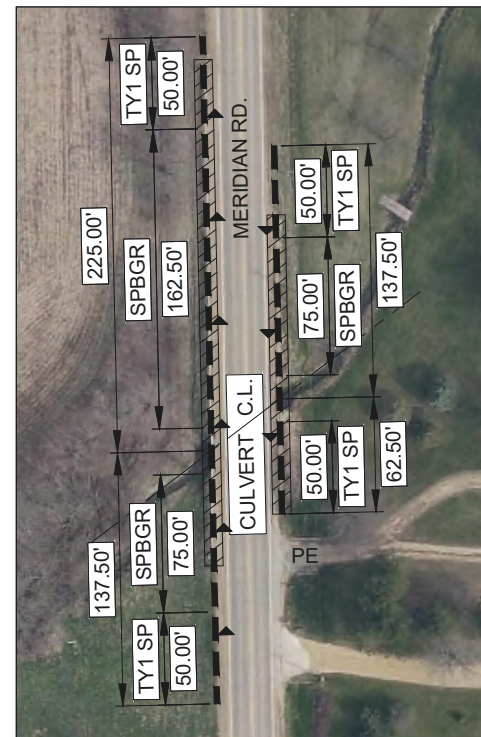
WCHD SN	DISTANCE (EOP TO GR FACE)
07-01	10' (FOC TO GR FACE: 7')
24-13	6'
24-16	6'
24-21	6'
48-35	6' (2' at Structure)
71A-29	6' (2' at Structure)
76-02	6'
78-02	6'
79-05	5'
84-01	10' (FOC TO GR FACE: 8')
88-04	5'

NOTE:

Indicated dimensions are approximate. Layout points are to be determined by the Engineer at the site locations.

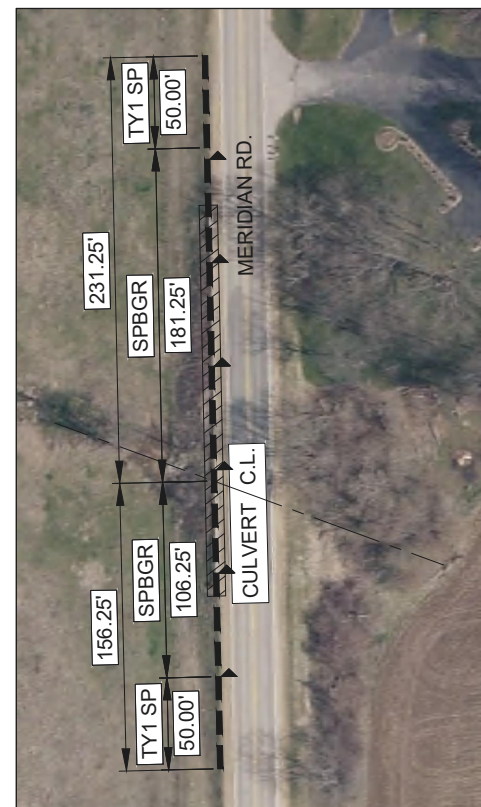


WCHD SN 24-21 - MERIDIAN ROAD
 0.03 MI N OF EDWARDSVILLE ROAD



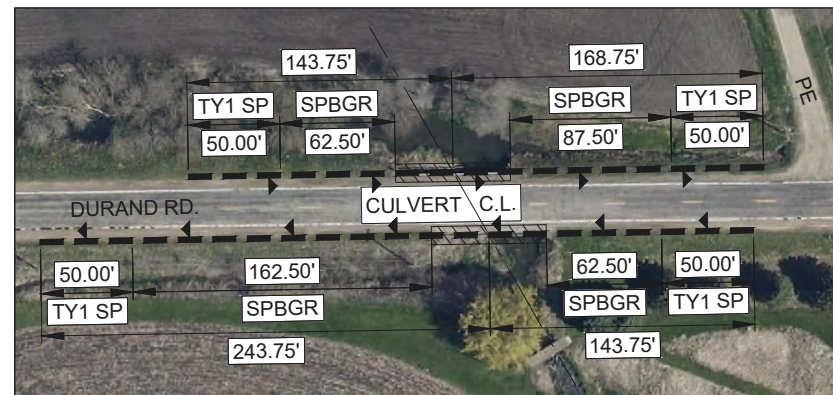
312.5' SPBGR
 50' SPGR-ATS
 4 - TBT TY1 (SP) TAN
 9 - GRMM
 SCALE: 1"=50'

WCHD SN 24-16 - MERIDIAN ROAD
 0.24 MI N OF SIMPSON ROAD



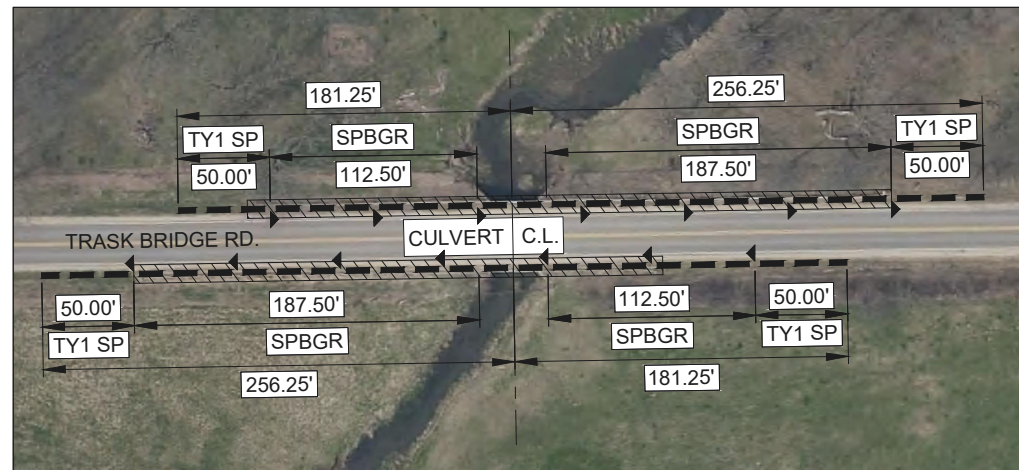
287.5' SPBGR
 2 - TBT TY1 (SP) TAN
 6 - GRMM
 SCALE: 1"=50'

WCHD SN 88-04 - DURAND ROAD
 0.6 MI E OF BEST ROAD



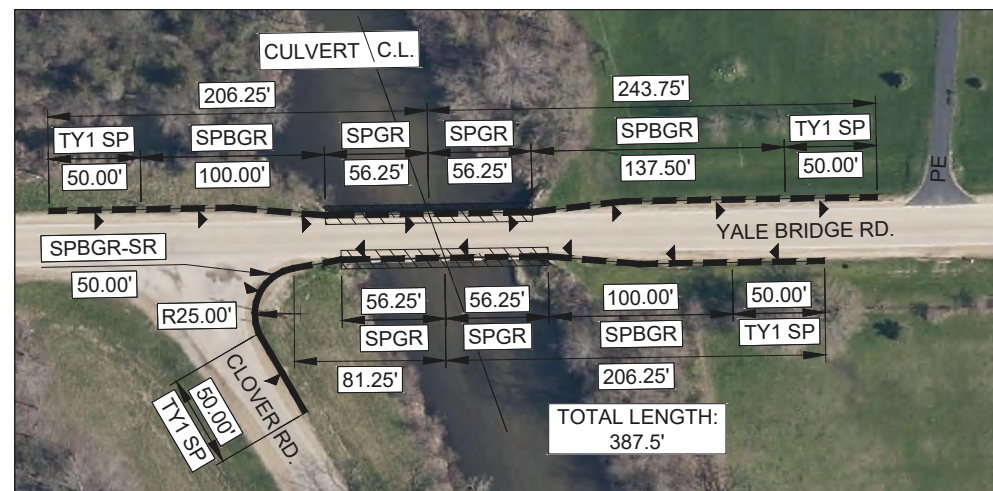
375' SPBGR
 125' SPGR-ATS
 4 - TBT TY1 (SP) TAN
 12 - GRMM
 SN 101-5051
 SCALE: 1"=50'

WCHD SN 78-02 - TRASK BRIDGE ROAD
 0.25 MI E OF GOEKE ROAD



600' SPBGR
 75' SPGR-ATS
 4 - TBT TY1 (SP) TAN
 14 - GRMM
 SN 101-5101
 SCALE: 1"=50'

WCHD SN 48-35 - YALE BRIDGE ROAD
 0.02 MI E OF CLOVER ROAD



362.5' SPBGR
 50' SPBGR-SR (25'R)
 225' SPGR-ATS
 4 - TBT TY1 (SP) TAN
 15 - GRMM
 SN 101-5020
 SCALE: 1"=50'

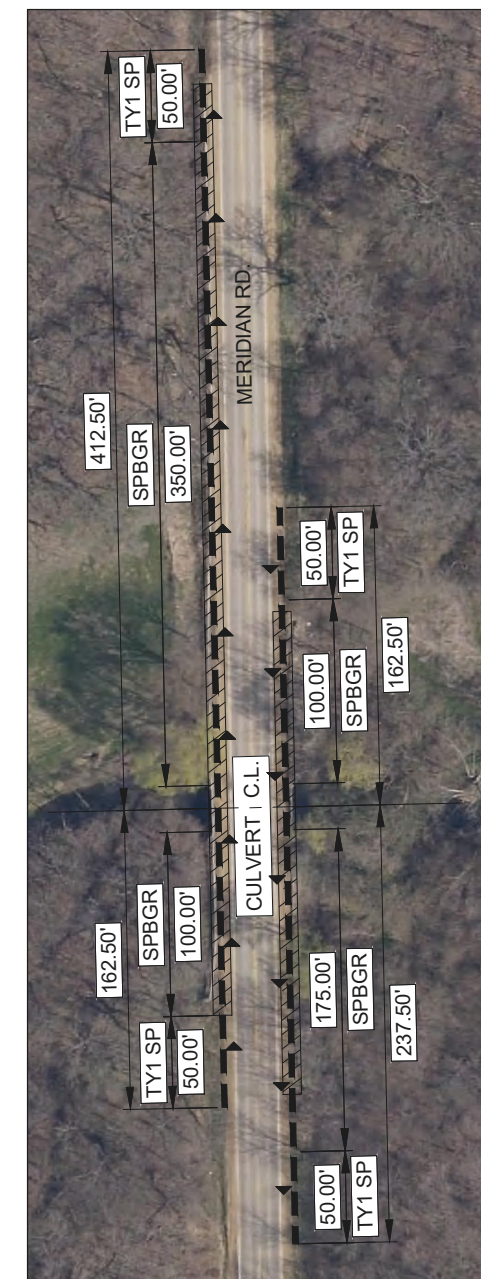
NOTE: GUARDRAIL OFFSET HAS A 50' TAPER FROM 6' TO 2' AT STRUCTURE



ROUTE	SECTION	SHEET
VARIOUS	17-00637-00-GR	4 OF 5

GUARDRAIL HSIP – COUNTY-WIDE

WCHD SN 24-13 - MERIDIAN ROAD
 0.22 MI N OF GEN RICH DRIVE



725' SPBGR
 4 - TBT TY1 (SP) TAN
 50' SPGR-ATS
 17 - GRMM
 SN 101-9928
 SCALE: 1"=50'

GUARDRAIL LAYOUTS

LEGEND:

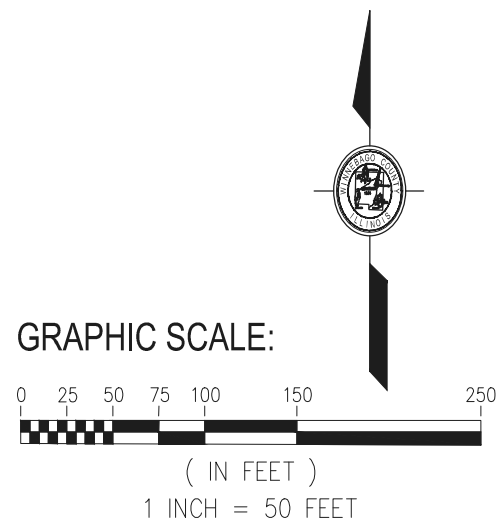
ATS – Attached to Structure
EOP – Edge of Pavement
FOC – Face of Curb
GR – Guardrail
GRMB – Guardrail Marker–Bidirectional (◆)
GRMM – Guardrail Marker–Monodirectional (▶)
Install Guardrail (all components)
Remove Guardrail (all components)
SN – Structure Number
SPBGR – Steel Plate Beam Guardrail
SPGR – Strong Post Guardrail
SR – Short Radius
TBT – Traffic Barrier Terminal
WCHD – Winnebago County Highway Department

GUARDRAIL OFFSETS:

WCHD SN	DISTANCE (EOP TO GR FACE)
07-01	10' (FOC TO GR FACE: 7')
24-13	6'
24-16	6'
24-21	6'
48-35	6' (2' at Structure)
71A-29	6' (2' at Structure)
76-02	6'
78-02	6'
79-05	5'
84-01	10' (FOC TO GR FACE: 8')
88-04	5'

NOTE:

Indicated dimensions are approximate. Layout points are to be determined by the Engineer at the site locations.



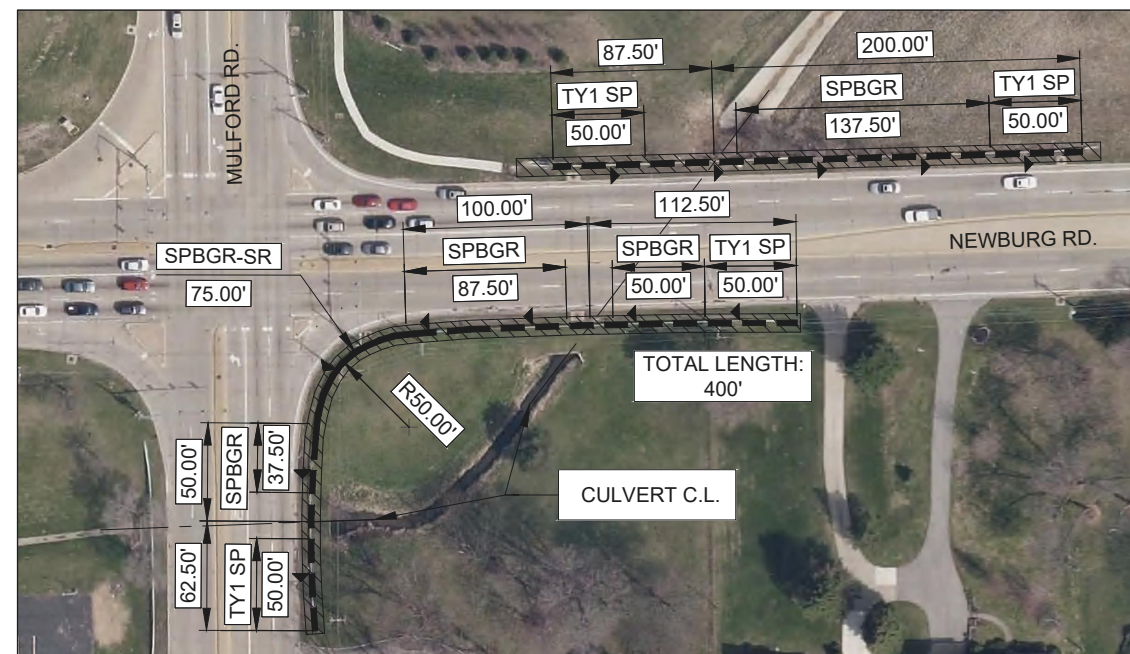
WCHD SN 07-01 - FOREST HILLS ROAD
0.7 MI N OF EDGEWOOD DRIVE



37.5' SPBGR
25' SPGR-ATS
2 - TBT TY1 (SP) TAN
3 - GRMM
SCALE: 1"=50'

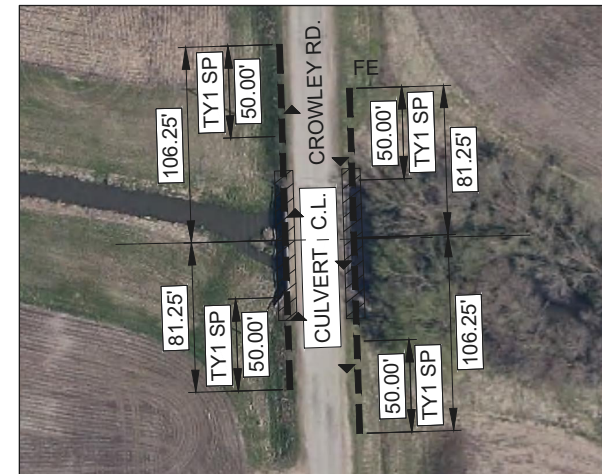
NOTE: TREE REMOVAL AT WCHD SN 07-01 WILL BE COMPLETED BY WCHD CREWS PRIOR TO COMMENCEMENT OF WORK BY THE CONTRACTOR

WCHD SN 84-01 - NEWBURG ROAD
0.04 MI E OF MULFORD ROAD



337.5' SPBGR
75' SPBGR-SR (50'R)
75' SPGR-ATS
4 - TBT TY1 (SP) TAN
12 - GRMM
SCALE: 1"=50'

WCHD SN 79-05 - CROWLEY ROAD
0.12 MI N OF NORTH STREET



50' SPBGR
125' SPBGR-ATS (STR PST)
4 - TBT TY1 (SP) TAN
6 - GRMM
SCALE: 1"=50'

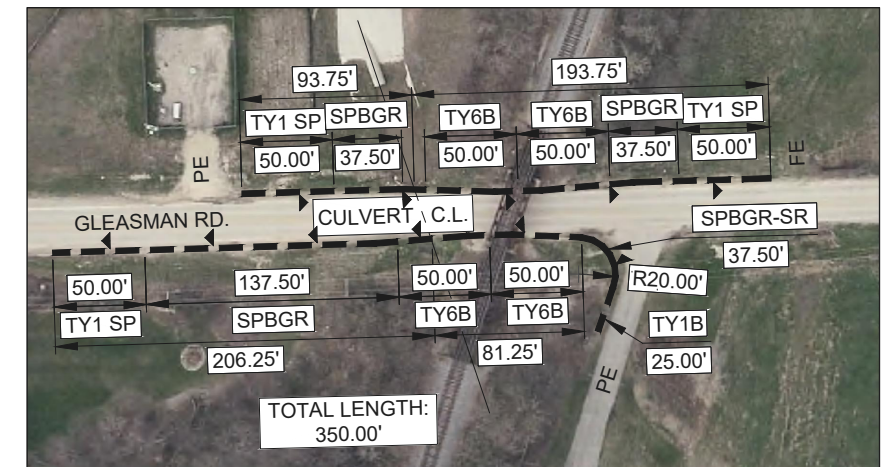
NOTE: FIELD ENTRANCE (FE) LOCATED NORTHEAST OF WCHD SN 79-05 WILL BE RELOCATED BY WCHD CREWS PRIOR TO SPBGR INSTALLATION.

WCHD SN 76-02 - PRAIRIE HILL ROAD
0.39 MI SE OF SOUTH BLUFF ROAD



225' SPBGR
4 - TBT TY1 (SP) TAN
4 - TBT TY6B*
10 - GRMM
SCALE: 1"=50'

WCHD SN 71A-29 - GLEASMAN ROAD
0.6 MI E OF RIVER VIEW TRAIL



212.5' SPBGR
25' SPGR-ATS
37.5' SPBGR-SR (20'R)
3 - TBT TY1 (SP) TAN
1 - TBT TY1B
4 - TBT TY6B*
11 - GRMM
SCALE: 1"=50'

NOTE: GUARDRAIL OFFSET HAS A 50' TAPER FROM 6' TO 2' AT RAILROAD (RR) STRUCTURE

* NOTE: TBT TY6B REQUIRES TWO (2) SECTIONS OF THRIE BEAM, ONE SET INSIDE THE OTHER, AT THE CONCRETE RR STRUCTURE. THRIE BEAM END SHOES WILL NOT BE REQUIRED AS THE TBT TY6B'S WILL CONNECT TO EACH OTHER FORMING A CONTINUOUS, EVENLY BLOCKED, DOUBLE LAYER OF THRIE BEAM THROUGHOUT THE STRUCTURE. ADDITIONAL BLOCKS AND/OR POSTS (SIMILAR TO POSTS 1-6, IDOT STD 631033-07) WILL BE REQUIRED. SPACING FOR THESE BLOCKS AND POSTS SHALL BE 1' 6 3/4" C-C.