

550

OHIO DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

550 (86)
666

SECTION	STATE	FEDERAL PROJECT
5	OHIO	

1
26

PLAN NO. 3P-16-86

ASD/MED/RIC/WAY - VARIOUS

PART	COUNTY	ROUTE	SECTIONS	PROJECT TERMINI		NET LENGTH MILES	TOWNSHIP	CITY	VILLAGE
				BEGIN	END				
1	ASD	71	0230						
2-6	MED	71	0993 - 1529						
8-9	RIC	30	1215 - 1404						
10-14	RIC	71	1455 - 1753						
15	WAY	30	0946						
7	Deleted								

The Standard 1985 Specifications of the State of Ohio, Department of Transportation, including changes and Supplemental Specifications listed in the plans and proposal shall govern these improvements.

I hereby approve these plans and declare that the making of these improvements will require the closing of the highways to traffic on Parts No. NONE and that detours will be provided by State forces. The closing to traffic of the highways will not be required on Parts No. 1-15 and provisions for the maintenance and safety of traffic will be as indicated in the proposal.

Approved
Date 4/3/86

Harry W. Prim
District Deputy Director of Transportation

Approved
Date _____

Engineer of Bridges

Approved
Date _____

Engineer of Maintenance

Approved
Date 4-21-86

James R. Longenecker
Deputy Director, Operations

Approved
Date _____

Assistant Deputy Director, Program Development

Approved
Date _____

Chief Engineer, Construction

Approved
Date _____

Chief Engineer, Design

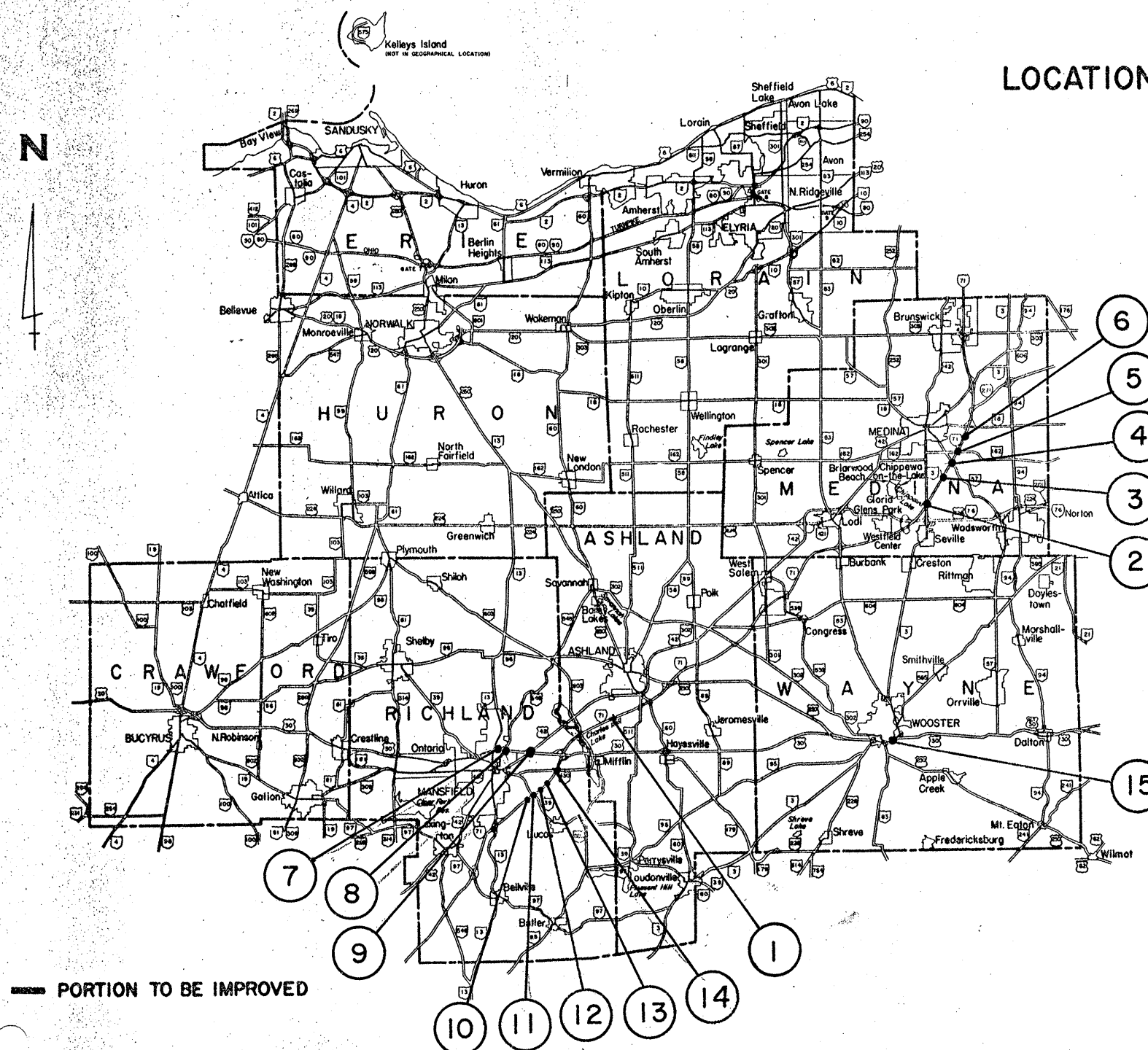
Approved
Date _____

Assistant Director, Department of Transportation

Approved
Date 4/21/86

Warren J. Smith
Director, Department of Transportation

LOCATION MAP



--- PORTION TO BE IMPROVED

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED:

DIVISION ADMINISTRATOR

DATE

STANDARD DRAWINGS	SUPPLEMENTAL SPECIFICATIONS
TC-35.10 8-29-84	

7-1-86

GENERAL NOTES

ASD / MED / RIC / WAY - VARIOUS

FHWA REGION	STATE	PROJECT
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PLAN NO. BP-16-86

SURFACE PREPARATION

ALL SURFACES TO BE PAINTED SHALL BE WASHED WITH WATER HAVING A NOZZLE PRESSURE OF AT LEAST 1,000 PSI AND A DELIVERY RATE OF NOT LESS THAN 4 GALLONS PER MINUTE. THE CONTRACTOR, SHALL PROVIDE EQUIPMENT SPECIFICATIONS TO VERIFY THE ABOVE. THE EQUIPMENT SHALL ALSO BE EQUIPPED WITH GAGES TO VERIFY THE PRESSURE. THE WATER SHALL CONTAIN A DETERGENT AT THE RATE SPECIFIED BY THE MANUFACTURER, TO REMOVE OIL, GREASE, SALT AND DIRT TO THE ENGINEER'S SATISFACTION. BEFORE THE SURFACES DRY, ONE RINSE SHALL BE USED TO REMOVE ALL REMAINING DETERGENT. THE NOZZLE SHALL BE HELD A MAXIMUM OF TWELVE (12) INCHES FROM THE SURFACE BEING WASHED OR RINSED. THE FINISH COAT SHALL BE APPLIED WITHIN ONE (1) MONTH OF WASHING THE STRUCTURE.

ALL DIRT, SAND, AND DEBRIS SHALL BE COMPLETELY REMOVED FROM THE STRUCTURE SCUPPERS, BULB ANGLES AND ALL OTHER SECTIONS OF THE BRIDGE AS DIRECTED BY THE ENGINEER. ALL DIRT, SAND AND DEBRIS FROM THE ABOVE AREAS SHALL BE REMOVED FROM THE BRIDGE.

TO AVOID A TRAFFIC HAZARD THE CONTRACTOR SHALL REMOVE ALL SAND FROM THE ROADWAY AND SHOULDER AREAS EACH DAY. THE SAND SHALL BE DISPOSED OF OUTSIDE THE HIGHWAY RIGHT-OF-WAY. WHEN DISPOSING OF THE SAND, THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO COMPLY WITH POLLUTION CONTROL LAWS, RULES OR REGULATIONS OR FEDERAL, STATE OR LOCAL AGENCIES.

ALL STEEL TO BE PAINTED SHALL BE BLAST CLEANED TO GRADE SA 2 1/2 ACCORDING TO SSPC-SP10 (SSPC VIS 1). THE MINIMUM SURFACE PROFILE SHALL BE TWO (2) MILS. SILICA SAND OF A SIZE SUITABLE TO DEVELOP THE REQUIRED SURFACE PROFILE SHALL BE USED. BLASTING SHALL NOT PROCEED WHEN THE STEEL TEMPERATURE IS WITHIN FIVE (5) DEGREES OF THE DEW POINT TO PREVENT RUST BACK. ALL FINS, TEARS, SLIVERS, AND BURRED OR SHARP EDGES THAT ARE PRESENT ON ANY STEEL MEMBER AFTER BLASTING SHALL BE REMOVED BY GRINDING AND THE AREA REBLASTED.

THE FOLLOWING TESTS SHALL BE DONE TO INSURE THAT THE AIR AND ABRASIVES ARE NOT CONTAMINATED. OPEN THE AIR VALVE FOR THIRTY (30) SECONDS AND TEST THE AIR CLEANLINESS WITH A WHITE BLOTTER. ANY OIL OR CONTAMINANTS ON THE BLOTTER REQUIRES CORRECTIVE ACTION. THIS TEST SHALL BE DONE AT THE START OF THE SHIFT AND AT FOUR (4) HOUR INTERVALS. CONDUCT THE TEST ON EACH BATCH OR LOAD OF ABRASIVES DELIVERED.

BEFORE ANY SANDBLASTING IS DONE THE CONTRACTOR WILL PREPARE A TEST SECTION ON THE FIRST BRIDGE TO BE PAINTED. THE TEST SECTION WILL BE A REPRESENTATIVE AREA TO BE SANDBLASTED. THE PROJECT ENGINEER AND THE CONTRACTOR WILL PHOTOGRAPH THE TEST SECTION AREA AFTER THEY AGREE THAT THE AREA HAS BEEN SANDBLASTED ACCORDING TO PLAN REQUIREMENTS. ONLY AFTER A TEST SECTION AREA HAS BEEN APPROVED AND DOCUMENTED BY PHOTOGRAPHS MAY THE CONTRACTOR PROCEED WITH HIS SANDBLASTING OPERATION. THE PHOTOGRAPHS SHALL BE USED IN ADDITION TO PLAN SPECIFICATIONS TO DETERMINE ACCEPTANCE OF SANDBLASTING PROCEDURES.

CAMERA

THE CONTRACTOR SHALL PROVIDE TWO (2) CAMERAS IN WORKING ORDER AT ALL TIMES AND AT LEAST 50 ROLLS OF COLOR FILM FOR USE BY THE PROJECT INSPECTOR FOR THE DURATION OF THE PROJECT. THE CAMERAS SHALL BE: POLAROID SLR 680 SE

PAYMENT FOR ALL OF THE ABOVE WILL BE MADE AT THE CONTRACT BID PRICE FOR:

ITEM	UNIT	DESCRIPTION
SPECIAL	LUMP SUM	SURFACE PREPARATION
SPECIAL	LUMP SUM	TEST SECTION, SANDBLASTING

BRIDGE PAINTING, COMPLETE SYSTEM:

THIS ITEM SHALL CONSIST OF FURNISHING ALL PAINT AND INCIDENTAL MATERIAL, AND APPLYING THE PAINT AS SPECIFIED.

ALL STRUCTURAL STEEL, SCUPPERS, BULB ANGLES, STEEL RAILING AND OTHER AREAS AS INDICATED IN THE PLANS SHALL BE PAINTED.

THE FOLLOWING MANUFACTURERS AND PAINT SYSTEMS SHALL BE USED ON THIS PROJECT. ALL MIL THICKNESSES ARE DRY.

SYSTEM I

MAUFACTURER: KOPPERS COMPANY, INC.
ORGANIC MATERIALS GROUP
ELMHURST, ILLINOIS 60126
TELEPHONE: (312)-530-6300

MATERIAL:
PRIME COAT: KOPPERS ORGANIC ZINC 3.0 MILS
INTERMEDIATE COAT: KOPPERS 200 HB EPOXY 5.0 MILS
COLOR: DIFFERENT THAN PRIME AND FINISH COAT
FINISH COAT: KOPPERS 1122BRS LINEAR POLYURETHANE 2.0 MILS
COLOR: LIGHT GRAY 306

THE FOLLOWING DATA SHALL BE STENCILED IN A CONTRASTING COLOR ON THE BRIDGE AS DIRECTED BY THE ENGINEER:
KOPPERS
OZ/HBEP/U
3/5/2 MILS
MONTH/YEAR

SYSTEM II

MANUFACTURER: AMERON
PROTECTIVE COATING DIVISION
P.O. BOX 349
AKRON, OHIO 44809
TELEPHONE: (216)-896-3602

MATERIAL:
PRIME COAT: AMERCOAT 68A ZINC RICH EPOXY PRIMER 3.0 MILS
INTERMEDIATE COAT: AMERCOAT 383HS POLYAMIDE EPOXY 5.0 MILS
COLOR: DIFFERENT THAN PRIME AND FINISH COAT
FINISH COAT: AMERCOAT 450GL ALIPHATIC POLYURETHANE 2.0 MILS
COLOR: GR-3 PEARL GRAY

THE FOLLOWING DATA SHALL BE STENCILED IN A CONTRASTING COLOR ON THE BRIDGE AS DIRECTED BY THE ENGINEER:
AMERON
OZ/HBEP/U
3/5/2 MILS
MONTH/YEAR

SYSTEM III

MANUFACTURER: VALSPAR CORPORATION
MAINTENANCE, TRANSPORTATION, AND STEEL CONTAINER
COATINGS DEPARTMENT
901 NORTH GREENWOOD AVENUE
KANKAKEE, ILLINOIS 60901
TELEPHONE: (815)-933-5561

MATERIAL:
PRIME COAT: MOBILZINC 4 EPOXY ZINC RICH 3.0 MILS
INTERMEDIATE COAT: VAL-CHEM HI-BUILD EPOXY 89 SERIES 5.0 MILS
COLOR: DIFFERENT THAN PRIME AND FINISH COAT
FINISH COAT: MOBILTHANE ENAMEL 40 SERIES 2.0 MILS
COLOR: F-46 LIGHT GRAY

THE FOLLOWING DATA SHALL BE STENCILED IN A CONTRASTING COLOR ON THE BRIDGE AS DIRECTED BY THE ENGINEER:

VALSPAR
OZ/HBEP/U
3/5/2 MILS
MONTH/YEAR

SYSTEM IV

MANUFACTURER: CARBOLINE
1401 S. HANLEY RD.
ST. LOUIS, MISSOURI 63144
TELEPHONE: (314)-644-1000

MATERIAL:
PRIME COAT: CARBOLINE 658 ORGANIC ZINC FILLED EPOXY POLYAMIDE 3.0 MILS
INTERMEDIATE COAT: CARBOLINE 190 HB HI-BUILD EPOXY 5.0 MILS
COLOR: DIFFERENT THAN PRIME AND FINISH COAT
FINISH COAT: CARBOLINE 134 ALIPHATIC ACRYLIC POLYURETHANE 2.0 MILS
COLOR: LIGHT GRAY

THE FOLLOWING DATA SHALL BE STENCILED IN A CONTRASTING COLOR ON THE BRIDGE AS DIRECTED BY THE ENGINEER:
CARBOLINE
OZ/HBEP/U
3/5/2 MILS
MONTH/YEAR

SYSTEM V

MANUFACTURER: AMERON
PROTECTIVE COATING DIVISION
P.O. BOX 349
AKRON, OHIO 44809
TELEPHONE: (216)-895-3602

MATERIAL:
PRIME COAT: DIMETCOTE E-Z 16 3.0 MILS
COLOR: DIFFERENT THAN FINISH COAT
FINISH COAT: AMERCOAT 455 ALIPHATIC POLYURETHANE 5.0 MILS
COLOR: GN-5 HAZE GREEN

THE FOLLOWING DATA SHALL BE STENCILED IN A CONTRASTING COLOR ON THE BRIDGE AS DIRECTED BY THE ENGINEER:
AMERON
OZ/HBU
3/5
MONTH YEAR

SYSTEM VI

THE CONTRACTOR HAS THE OPTION OF USING EITHER SYSTEM I,II,III, OR IV

PERFORMANCE REQUIREMENTS:

THE COATING SYSTEM REQUIRING PERFORMANCE TESTING SHALL CONSIST OF THE ORGANIC ZINC PRIME COAT, HIGH BUILD EPOXY INTERMEDIATE COAT, AND URETHANE TOP COAT.

GENERAL NOTES

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ONE PANEL FOR EACH OF THE TESTS SHALL BE PREPARED TO THE REQUIREMENTS OF ASTM D 609 EXCEPT THAT THE THICKNESS OF THE PANEL SHALL BE 1/8 INCH MINIMUM. THE SURFACE SHALL BE BLAST CLEANED TO EQUAL, AS NEARLY AS IS PRACTICAL, THE STANDARD SA 2 1/2 OF ASTM D 2200 (STEEL STRUCTURE PAINTING COUNCIL SSPC-SP10 MEETS THIS REQUIREMENT), AND THE SURFACE SHALL HAVE A NOMINAL HEIGHT OF PROFILE OF 1.5 MILS.

THE PANELS SHALL BE COATED WITH THE MIL THICKNESSES IN THE PLANS AND CURED IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS.

THE COATING SYSTEM SHALL PASS EACH OF THE FOLLOWING TESTS:

(A) FRESH WATER RESISTANCE. THE PANEL SHALL BE SCRIBED TO THE DEPTH OF THE BASE METAL IN THE FORM OF AN "X" HAVING AT LEAST 2 INCH LEGS AND THEN IMMERSSED IN FRESH TAP WATER AT 75 DEGREES F PLUS OR MINUS 5 DEGREES. AFTER 30 DAYS OF IMMERSION, THE PANEL SHALL SHOW NO RUSTING NOR SHALL THE COATING SHOW ANY BLISTERING OR SOFTENING.

(B) SALT WATER RESISTANCE. THE PANEL SHALL BE SCRIBED AS SPECIFIED IN "A" ABOVE AND THEN IMMERSSED IN A WATER SOLUTION OF 5% SODIUM CHLORIDE AT 75 PLUS OR MINUS 5 DEGREES F. THE PANELS SHALL SHOW NO RUSTING NOR SHALL THE COATING EXHIBIT ANY BLISTERING OR SOFTENING AFTER 7, 14 AND 30 DAYS. THE SODIUM CHLORIDE SOLUTION SHALL BE REPLACED WITH A FRESH SOLUTION AFTER THE EXAMINATION AT 7 AND 14 DAYS.

(C) WEATHERING RESISTANCE. THE PANEL SHALL BE TESTED IN ACCORDANCE WITH ASTM G-23 TYPE D. THE PANEL SHALL BE PLACED ON TEST AT THE BEGINNING OF A WET CYCLE. AFTER 1000 HOURS CONTINUOUS EXPOSURE, THE COATING SHALL SHOW NO BLISTERING OR LOSS OF ADHESION, NOR SHALL THE PANEL SHOW ANY RUSTING.

(D) SALT FOG RESISTANCE. THE PANEL SHALL BE SCRIBED AS SPECIFIED IN "A" ABOVE, AND THEN TESTED IN ACCORDANCE WITH ASTM B 117. AFTER 1000 HOURS OF CONTINUOUS EXPOSURE THE COATING SHALL SHOW NO LOSS OF BOND NOR SHALL IT SHOW RUSTING OR BLISTERING BEYOND 1/16 INCH FROM THE CENTER OF THE SCRIBE MARK.

PREQUALIFICATION: PRIOR TO USE, THE CONTRACTOR SHALL SUBMIT TO THE DIRECTOR FOR APPROVAL COPIES OF THE MANUFACTURER'S CERTIFIED TEST DATA SHOWING THAT THE MATERIAL COMPLIES WITH THE PERFORMANCE REQUIREMENTS OF THIS SECTION. THE TEST DATA SHALL BE DEVELOPED BY AN INDEPENDENT APPROVED TESTING LABORATORY, AND SHALL INCLUDE THE BRAND NAME OF THE PAINT, NAME OF MANUFACTURER, NUMBER OF THE LOT TESTED AND DATE OF MANUFACTURE. ONCE THE PAINT HAS BEEN APPROVED BY THE DIRECTOR, FURTHER PERFORMANCE TESTING BY THE MANUFACTURER WILL NOT BE REQUIRED UNLESS THE FORMULATION OR MANUFACTURING PROCESS HAS BEEN CHANGED.

ACCEPTANCE: THE MANUFACTURER SHALL CERTIFY THAT THE FORMULATION IS THE SAME AS THAT FOR WHICH PERFORMANCE DATA HAS BEEN SUBMITTED. THE STATE RESERVES THE RIGHT TO SAMPLE AND TEST DELIVERED LOTS FOR COMPLIANCE.

CERTIFIED TEST DATA:

THE MANUFACTURER SHALL SUBMIT CERTIFIED TEST DATA FOR EACH LOT SHOWING COMPLIANCE WITH THE MANUFACTURER'S SPECIFICATIONS. DATA SHALL BE SUBMITTED FOR THE FOLLOWING CHARACTERISTICS:

CHARACTERISTIC	ASTM STANDARD
TOTAL SOLIDS, % BY WEIGHT OF PAINT	D 2369
PIGMENT, % BY WEIGHT OF TOTAL SOLIDS	D 2371
TOTAL ZINC DUST, % BY WEIGHT OF PIGMENT	D 521
TOTAL ZINC DUST, % BY WEIGHT OF TOTAL SOLIDS	----
VISCOSITY	D 562
WEIGHT PER GALLON	D 1475

MANUFACTURER:

SUFFICIENT IDENTIFIABLE CHARACTERISTICS OTHER THAN TRADE OR BRAND NAME OR DESIGNATED NUMBER OR SYMBOL SHALL BE PROVIDED TO PERMIT LABORATORY TEST VERIFICATION OF COATING IDENTITY. THESE CHARACTERISTICS SHALL INCLUDE FORMULATION INFORMATION READILY DERIVABLE IN A LABORATORY, INCLUDING THE GENERAL NATURE OF THE VEHICLE, PIGMENT AND VOLATILE PORTIONS, THE WEIGHT PER GALLON, THE PERCENT SOLIDS BY VOLUME, THE ZINC CONTENT AND OTHER PROCEDURES USED FOR QUALITY CONTROL DURING MANUFACTURE OF THE COATING.

MATERIALS HANDLING AND USE:

ALL PAINT AND THINNER SHALL BE DELIVERED TO THE SHOP OR JOB SITE IN ORIGINAL, UNOPENED CONTAINERS WITH LABELS INTACT. MINOR DAMAGE TO CONTAINERS IS ACCEPTABLE PROVIDED THE CONTAINER HAS NOT BEEN PUNCTURED OR THE LID SEAL BROKEN.

EACH CONTAINER OF PAINT AND THINNER SHALL BE CLEARLY MARKED OR LABELLED TO SHOW PAINT IDENTIFICATION, COMPONENT, COLOR, LOT NUMBER, STOCK NUMBER, DATE OF MANUFACTURE, AND INFORMATION AND WARNINGS AS MAY BE REQUIRED BY FEDERAL AND STATE LAWS.

ALL CONTAINERS OF PAINT AND THINNER SHALL REMAIN UNOPENED UNTIL REQUIRED FOR USE. THOSE CONTAINERS WHICH HAVE BEEN PREVIOUSLY OPENED SHALL BE USED FIRST. THE LABEL INFORMATION SHALL BE LEGIBLE AND SHALL BE CHECKED AT THE TIME OF USE.

PAINT WHICH HAS LIVERED, GELLED OR OTHERWISE DETERIORATED DURING STORAGE SHALL NOT BE USED; HOWEVER, THIXOTROPIC MATERIALS WHICH CAN BE STIRRED TO ATTAIN NORMAL CONSISTENCY MAY BE USED.

THE OLDEST PAINT OF EACH KIND SHALL BE USED FIRST. IN EVERY CASE, PAINT IS TO BE USED BEFORE ITS SHELF LIFE HAS EXPIRED. IN ORDER TO USE PAINTS WHICH HAVE NO STATED SHELF LIFE AND ARE MORE THAN ONE YEAR OLD, THE SPECIFIER OR MANUFACTURER MUST CERTIFY THAT THE PAINT IS STILL SUITABLE FOR USE.

MIXING AND THINNING:

ALL INGREDIENTS IN ANY CONTAINER OF PAINT SHALL BE THOROUGHLY MIXED BEFORE USE AND SHALL BE AGITATED OFTEN ENOUGH DURING APPLICATION TO KEEP THE PAINT UNIFORM. THE PAINT SHALL BE MIXED IN A MANNER WHICH WILL INSURE THE BREAK-UP OF ALL LUMPS, COMPLETE DISPERSION OF PIGMENT AND A UNIFORM COMPOSITION. PAINT SHALL BE CAREFULLY EXAMINED AFTER MIXING FOR UNIFORMITY AND TO VERIFY THAT NO UNMIXED PIGMENT REMAINS ON THE BOTTOM OF THE CONTAINER. THE PAINT SHALL BE MIXED WITH A HIGH SHEAR MIXER (SUCH AS JIFFY MIXER). PADDLE MIXERS OR PAINT SHAKERS ARE NOT ALLOWED.

ALL PIGMENTED PAINT SHALL BE STRAINED AFTER MIXING EXCEPT WHERE APPLICATION EQUIPMENT IS PROVIDED WITH STRAINERS. STRAINERS SHALL BE OF A TYPE TO REMOVE ONLY SKINS AND UNDESIRABLE MATTER BUT NOT TO REMOVE THE PIGMENT.

WHERE A SKIN HAS FORMED IN THE CONTAINER, THE SKIN SHALL BE CUT LOOSE FROM THE SIDES OF THE CONTAINER, REMOVED AND DISCARDED. IF THE VOLUME OF SUCH SKINS ARE MORE THAN 2% OF THE REMAINING PAINT, THE PAINT SHALL NOT BE USED.

MIXING IN OPEN CONTAINERS SHALL BE DONE IN A WELL VENTILATED AREA AWAY FROM SPARKS OR FLAMES.

PAINT SHALL NOT BE MIXED OR KEPT IN SUSPENSION BY MEANS OF AN AIR STREAM BUBBLING UNDER THE PAINT SURFACE.

PAINT WHICH DOES NOT HAVE A LIMITED POT LIFE (TIME INTERVAL) OR DOES NOT DETERIORATE ON STANDING MAY BE MIXED AT ANY TIME BEFORE USING. BUT IF SETTLING HAS OCCURRED IT MUST BE REMIXED IMMEDIATELY BEFORE USE.

PAINT SHALL NOT REMAIN IN SPRAY POTS, PAINTERS BUCKETS, ETC. OVERNIGHT, BUT SHALL BE STORED IN A COVERED CONTAINER AND REMIXED BEFORE USE.

NO THINNER SHALL BE ADDED TO THE PAINT WITHOUT THE ENGINEER'S APPROVAL, AND ONLY IF NECESSARY FOR PROPER SPRAY APPLICATION AS RECOMMENDED BY THE MANUFACTURER. PAINTS TO BE APPLIED BY BRUSH WILL USUALLY REQUIRE NO THINNING. WHEN THE USE OF THINNER IS PERMISSIBLE, THINNER SHALL BE ADDED SLOWLY TO PAINT DURING THE MIXING PROCESS. THE TYPE OF THINNER SHALL COMPLY WITH THE MANUFACTURER'S INSTRUCTIONS. ALL THINNING SHALL BE DONE UNDER SUPERVISION OF THE ENGINEER. IN NO CASE SHALL MORE THINNER BE ADDED THAN THAT RECOMMENDED BY THE MANUFACTURER'S INSTRUCTIONS. ONLY THINNERS SUPPLIED BY THE PAINT MANUFACTURER MAY BE ADDED TO THE PAINT.

APPLICATION:

BEFORE ANY PAINTING IS DONE, THE CONTRACTOR SHALL PREPARE A TEST SECTION. THERE WILL BE ONE TEST SECTION FOR EACH PAINT SYSTEM AND THE TEST SECTION WILL INCLUDE EACH DIFFERENT COAT OF PAINT TO BE APPLIED. EACH COAT OF PAINT MUST BE APPROVED BY THE PROJECT ENGINEER AND THE CONTRACTOR FOR METHOD OF APPLICATION, QUALITY OF APPLICATION, AND DRY MIL THICKNESS IN ACCORDANCE WITH THE PLAN REQUIREMENTS. AFTER A TEST SECTION FOR EACH COAT HAS BEEN APPROVED, THAT COAT MAY BE APPLIED TO THE BRIDGE BEFORE THE NEXT COAT MAY BE APPROVED.

IF THE SURFACE IS DEGRADED OR CONTAMINATED AFTER SURFACE PREPARATION AND BEFORE PAINTING, THE SURFACE SHALL BE RESTORED BEFORE PAINTING APPLICATION. ALL SURFACE CLEANING SHALL BE APPROVED BY THE ENGINEER PRIOR TO PAINTING. IN ORDER TO PREVENT THE DEGRADATION OR CONTAMINATION OF CLEANED SURFACES, THE PRIME COAT OF PAINT SHALL BE APPLIED WITHIN EIGHT (8) HOURS AFTER BLAST CLEANING AS REQUIRED IN SURFACE PREPARATION ABOVE. SUCCEEDING COATS SHALL BE APPLIED BEFORE CONTAMINATION OF THE UNDER SURFACE OCCURS.

CLEANING AND PAINTING SHALL BE SO PROGRAMMED THAT DETRIMENTAL AMOUNTS OF DUST OR OTHER CONTAMINANTS DO NOT FALL ON WET, NEWLY-PAINTED SURFACES. SURFACES NOT INTENDED TO BE PAINTED SHALL BE SUITABLY PROTECTED FROM THE EFFECTS OF CLEANING AND PAINTING OPERATIONS. OVERSPRAY OF THE ZINC RICH PRIMER WILL RESULT IN IMPROPER ADHESION OF THE TOPCOAT. OVERSPRAY SHALL BE REMOVED WITH A STIFF BRISTLE BRUSH OR WIRE SCREEN.

TEMPERATURE:

PAINT SHALL NOT BE APPLIED WHEN THE TEMPERATURE OF THE AIR, STEEL, OR PAINT IS BELOW 45 DEGREES F (7 DEGREES C). PAINT SHALL NOT BE APPLIED WHEN THE SURFACE TEMPERATURE IS EXPECTED TO DROP TO 45 DEGREES F (7 DEGREES C) BEFORE THE PAINT HAS DRIED. PAINT SHALL NOT BE APPLIED TO STEEL WHICH IS AT A TEMPERATURE THAT WILL CAUSE BLISTERING OR POROSITY OR OTHERWISE WILL BE DETRIMENTAL TO THE LIFE OF THE PAINT. WHEN PAINT IS APPLIED IN HOT WEATHER, OR THINNED IN COLD WEATHER, PRECAUTIONS MUST BE TAKEN TO INSURE THAT THE SPECIFIED THICKNESS OF PAINT IS OBTAINED.

MOISTURE:

PAINT SHALL NOT BE APPLIED IN RAIN, WIND, SNOW, FOG OR MIST, OR WHEN THE STEEL SURFACE TEMPERATURE IS LESS THAN 5 DEGREES F (3 DEGREES C) ABOVE THE DEW POINT. PAINT SHALL NOT BE APPLIED TO WET OR DAMP SURFACES UNLESS THE PAINT IS OF THE WATER-THINNED TYPE. PAINT SHALL NOT BE APPLIED ON FROSTED OR ICE-COATED SURFACES. PAINT SHALL NOT BE APPLIED WHEN THE RELATIVE HUMIDITY IS GREATER THAN 85%.

GENERAL NOTES

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DAMAGE :

DAMAGED AREAS OF PAINT WHICH ARE DETRIMENTAL TO THE SERVICE LIFE SHALL BE REMOVED, THE SURFACE SHALL AGAIN BE PREPARED TO THE ORIGINAL SPECIFICATIONS AND REPAINTED WITH THE SAME NUMBER OF COATS OF PAINT OF THE SAME KIND AS THE UNDAMAGED AREAS.

CONTINUITY :

TO THE MAXIMUM EXTENT PRACTICAL, EACH COAT OF PAINT SHALL BE APPLIED AS A CONTINUOUS FILM OF UNIFORM THICKNESS FREE OF PORES. ALL THIN SPOTS OR AREAS MISSED IN THE APPLICATION SHALL BE REPAINTED AND PERMITTED TO DRY BEFORE THE NEXT COAT OF PAINT IS APPLIED.

THICKNESS :

EACH COAT OF PAINT MUST HAVE THE REQUIRED MIL THICKNESS AS REQUIRED BY THE PLANS.

THE CONTRACTOR SHALL PROVIDE THE ENGINEER OR INSPECTOR WITH A POSITIVE TO CHECK THE REQUIRED MIL THICKNESS. FOR TECHNICAL OR DEALER INFORMATION CALL 1-800-448-3835.

WHEN THE AVERAGE TOTAL DRY FILM THICKNESS OF ANY COAT IS LESS THAN PLAN REQUIREMENTS, THE WORK SHALL BE CONSIDERED UNSATISFACTORY AND SHALL BE RECOATED AT THE FULL EXPENSE OF THE CONTRACTOR INCLUDING ALL LABOR, EQUIPMENT, AND MATERIALS TO OBTAIN THE DESIRED MIL THICKNESS. THE AVERAGE TOTAL DRY FILM THICKNESS SHALL BE CONSIDERED THE AVERAGE OF THREE (3) SEPARATE READINGS IN 2000 SQ. FT.

RECOATING :

EACH COAT OF PAINT SHALL BE IN A PROPER STATE OF CURE OR DRYNESS BEFORE THE APPLICATION OF THE SUCCEEDING COAT. PAINT SHALL BE CONSIDERED DRY FOR RECOATING WHEN AN ADDITIONAL COAT CAN BE APPLIED WITHOUT THE DEVELOPMENT OF ANY DETRIMENTAL FILM IRREGULARITIES, SUCH AS LIFTING, WRINKLING OR LOSS OF ADHESION OF THE UNDERCOAT. THE TIME INTERVAL BETWEEN COATING APPLICATIONS SHALL BE IN COMPLIANCE WITH MANUFACTURER'S INSTRUCTIONS AND IN NO CASE MORE THAN FORTY-EIGHT (48) HOURS.

ALTERNATE COATS OF PAINT SHALL BE DIFFERENT COLORS TO PROVIDE ENOUGH CONTRAST TO INDICATE COMPLETE COVERAGE OF THE SURFACE. TINTING PASTES SHALL NOT BE ALLOWED.

THE MAXIMUM PRACTICAL TIME SHALL BE ALLOWED FOR PAINT TO DRY BEFORE RECOATING. SOME PAINTS MAY DRY TOO HARD FOR GOOD ADHESION OF SUBSEQUENT COATS, THESE SHALL BE RECOATED WITHIN THE TIME PERIOD IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. IF NOT RECOATED WITHIN THE SPECIFIED TIME THEN THE PREVIOUSLY APPLIED COATINGS SHALL BE ROUGHENED PRIOR TO RECOATING.

NO DRIER SHALL BE ADDED TO PAINT ON THE JOB UNLESS SPECIFICALLY CALLED FOR IN THE MANUFACTURER'S INSTRUCTIONS.

PAINT SHALL BE PROTECTED FROM RAIN, CONDENSATION, CONTAMINATION, SNOW AND FREEZING UNTIL DRY TO THE FULLEST EXTENT PRACTICAL.

SPRAY APPLICATION (GENERAL) :

ALL SPRAY APPLICATION OF PAINT, WHETHER AIR SPRAY, AIRLESS SPRAY, HOT AIR SPRAY OR HOT AIRLESS SPRAY, SHALL BE IN ACCORDANCE WITH THE FOLLOWING:

THE EQUIPMENT USED SHALL BE SUITABLE FOR THE INTENDED PURPOSES, SHALL BE CAPABLE OF PROPERLY ATOMIZING THE PAINT TO BE APPLIED AND SHALL BE EQUIPPED WITH SUITABLE PRESSURE REGULATORS AND GAGES. THE EQUIPMENT SHALL BE MAINTAINED IN PROPER WORKING CONDITION.

PAINT INGREDIENTS SHALL BE KEPT UNIFORMLY MIXED IN THE SPRAY POTS OR CONTAINERS DURING PAINT APPLICATION EITHER BY CONTINUOUS MECHANICAL AGITATION OR BY INTERMITTENT AGITATION AS FREQUENTLY AS NECESSARY.

SPRAY EQUIPMENT SHALL BE KEPT SUFFICIENTLY CLEAN SO THAT DIRT, DRIED PAINT AND OTHER FOREIGN MATERIALS ARE NOT DEPOSITED IN THE PAINT FILM. ANY SOLVENTS LEFT IN THE EQUIPMENT SHALL BE COMPLETELY REMOVED BEFORE USING.

PAINT SHALL BE APPLIED IN A UNIFORM LAYER WITH OVERLAPPING AT THE EDGES OF THE SPRAY PATTERN. DURING APPLICATION, THE GUN SHALL BE HELD PERPENDICULAR TO THE SURFACE AND AT A DISTANCE WHICH WILL ENSURE THAT A WET LAYER OF PAINT IS DEPOSITED ON THE SURFACE. THE TRIGGER OF THE GUN SHOULD BE RELEASED AT THE END OF EACH STROKE. ALL BOLTS AND RIVET HEADS SHALL BE SPRAYED FROM AT LEAST TWO (2) DIRECTIONS.

EACH SPRAY OPERATOR SHALL DEMONSTRATE TO THE ENGINEER HIS ABILITY TO APPLY THE PAINT AS SPECIFIED. ANY OPERATOR WHO DOES NOT DEMONSTRATE THIS ABILITY SHALL NOT SPRAY.

ALL RUNS AND SAGS SHALL BE BRUSHED OUT IMMEDIATELY OR THE COATING SHALL BE REMOVED AND THE SURFACE REPAINTED.

IF MUD CRACKING OCCURS, THE AFFECTED AREA SHALL BE CLEANED TO BARE METAL IN ACCORDANCE WITH SURFACE PREPARATION ABOVE AND REPAINTED.

CRACKS, CREVICES, BLIND AREAS OF ALL RIVETS, BOLTS AND ALL OTHER INACCESSIBLE AREAS SHALL BE PAINTED BY BRUSH, DAUBERS OR SHEEPSKINS.

PAINT SHALL BE SUITABLE FOR THE PARTICULAR SPRAY APPLICATION METHOD USED.

CAUTION MUST BE EXERCISED SO THAT HOT COATINGS ARE NOT APPLIED TO COLD SURFACES AND CONVERSELY, THAT COLD COATINGS ARE NOT APPLIED TO HOT SURFACES.

ALL CRACKS AND CREVICES SHALL BE FILLED WITH PAINT IF PRACTICAL.

WET PAINT SHALL BE PROTECTED AGAINST DAMAGE FROM DUST OR OTHER DETRIMENTAL FOREIGN MATTER.

AIRLESS SPRAY APPLICATIONS :

AIRLESS OR HIGH PRESSURE SPRAY APPLICATION OF PAINT SHALL BE IN ACCORDANCE WITH THE ABOVE PROVISIONS AND IN ADDITION SHALL COMPLY WITH THE FOLLOWING.

FLUID TIPS SHALL BE OF PROPER ORIFICE SIZE AND FAN ANGLE, AND THE FLUID CONTROL GUN OF PROPER CONSTRUCTION, AS RECOMMENDED BY THE MANUFACTURER OF THE MATERIAL BEING SPRAYED AND THE EQUIPMENT BEING USED. FLUID TIPS SHALL BE OF THE SAFETY TYPE WITH SHIELDS TO PREVENT PENETRATION OF THE SKINS BY THE HIGH PRESSURE STREAM OF PAINT.

THE AIR PRESSURE TO THE PAINT PUMP SHALL BE ADJUSTED SO THAT THE PAINT PRESSURE TO THE GUN IS PROPER FOR OPTIMUM SPRAYING EFFECTIVENESS. THIS PRESSURE SHALL BE SUFFICIENTLY HIGH TO PROPERLY ATOMIZE THE PAINT. PRESSURES CONSIDERABLY HIGHER THAN THOSE NECESSARY TO PROPERLY ATOMIZE THE PAINT SHOULD NOT BE USED. THIS WILL CAUSE DRY SPRAY TO BE APPLIED.

SPRAYING EQUIPMENT SHALL BE KEPT CLEAN AND SHALL UTILIZE PROPER FILTERS IN THE HIGH PRESSURE LINE SO THAT DIRT, DRY PAINT AND OTHER FOREIGN MATERIALS ARE NOT DEPOSITED IN THE PAINT FILM. ANY SOLVENTS LEFT IN THE EQUIPMENT SHALL BE COMPLETELY REMOVED BEFORE APPLYING PAINT.

THE TRIGGER OF THE GUN SHOULD BE PULLED FULLY OPEN AND HELD FULLY OPEN DURING ALL SPRAYING TO INSURE PROPER APPLICATION OF PAINT.

AIRLESS PAINT SPRAY EQUIPMENT SHALL ALWAYS BE PROVIDED WITH AN ELECTRIC GROUND WIRE IN THE HIGH PRESSURE LINE BETWEEN THE GUN AND THE PUMPING EQUIPMENT. FURTHER, THE PUMPING EQUIPMENT SHALL BE SUITABLY GROUNDED TO AVOID THE BUILD-UP OF ANY ELECTROSTATIC CHARGE ON THE GUN. THE MANUFACTURER'S INSTRUCTIONS ARE TO BE FOLLOWED REGARDING THE PROPER USE OF EQUIPMENT.

INSPECTION :

ALL WORK AND MATERIALS SUPPLIED UNDER THIS SPECIFICATION SHALL BE SUBJECT TO TIMELY INSPECTION BY THE ENGINEER. THE CONTRACTOR SHALL CORRECT SUCH WORK OR REPLACE SUCH MATERIAL THAT IS FOUND DEFECTIVE UNDER THE SPECIFICATION.

SAMPLES OF PAINTS USED UNDER THIS SPECIFICATION SHALL BE SUPPLIED UPON REQUEST ALONG WITH THE SUPPLIER'S NAME AND IDENTIFICATION FOR THE MATERIALS.

THE CONTRACTOR SHALL FURNISH AND ERECT SCAFFOLDING MEETING THE APPROVAL OF THE ENGINEER TO PERMIT INSPECTION OF THE STEEL PRIOR TO AND AFTER PAINTING.

SAFETY REQUIREMENTS AND PRECAUTIONS :

THE CONTRACTOR IS REQUIRED TO MEET THE APPLICABLE SAFETY REQUIREMENTS OF THE OHIO INDUSTRIAL COMMISSION.

THE PAINT MATERIALS SPECIFIED ON THIS PROJECT CAN BE HAZARDOUS TO THE HEALTH OF THE APPLICATOR IF NOT APPLIED AS PER MANUFACTURER'S INSTRUCTIONS. THE CONTRACTOR SHALL FOLLOW THE RECOMMENDATIONS CONTAINED ON THE MATERIAL SAFETY DATA SHEET, PRODUCT DATA SHEET AND THE LABEL ON THE PAINT CONTAINERS. THESE PRECAUTIONS SHALL INCLUDE THE USE OF RESPIRATORS AND EYE AND SKIN PROTECTION AS SPECIFIED.

THE MATERIAL SAFETY DATA SHEET SHALL BE PROVIDED AT THE PRECONSTRUCTION MEETING FOR ALL PAINTS AND THINNERS USED ON THIS PROJECT. NO WORK SHALL START UNTIL THE MATERIAL SAFETY DATA SHEET HAS BEEN SUBMITTED.

PRIOR INSPECTION OF WORK :

PROSPECTIVE BIDDERS ARE REQUIRED TO MAKE AN INSPECTION OF THE BRIDGES IN THE FIELD AND TO REVIEW THE PLANS AND SPECIFICATIONS BEFORE SUBMITTING BIDS AS PER SECTION 102.05 OF THE CONSTRUCTION AND MATERIALS SPECIFICATIONS. DATED JANUARY 1, 1985.

GENERAL NOTES

GENERAL NOTES

ASD/MED/RIC/WAY - VARIOUS

FHWA REGION	STATE	PROJECT	
5	OHIO		5 26

PLAN NO. BP-16-86

PROTECTION OF PERSONS AND PROPERTY:

THE CONTRACTOR SHALL COLLECT, REMOVE AND DISPOSE OF ALL BUCKETS, RAGS OR OTHER DISCARDED MATERIALS AND HE SHALL LEAVE THE JOB SITE IN A CLEAN CONDITION.

THE CONTRACTOR SHALL PROTECT ALL PORTIONS OF THE STRUCTURE WHICH ARE NOT TO BE PAINTED, AGAINST DAMAGE OR DISFIGUREMENT BY SPLASHES, SPATTERS, AND SMIRCHES OF PAINT.

TO PREVENT DAMAGE TO ADJACENT BUILDINGS, PARKED CARS OR BOATS, OR TO VEHICLES TRAVELING UNDER SPANS WHICH ARE BEING PAINTED, THE CONTRACTOR SHALL INSTALL AND MAINTAIN SUITABLE SHIELDS BETWEEN HIS OPERATIONS AND THE ABOVE. THE SHIELDS SHALL BE OF A TYPE AND CONSTRUCTION, APPROVED BY THE ENGINEER, THAT WILL PREVENT PAINT FROM DROPPING ONTO OR BEING BLOWN INTO PAVEMENT LANES OPEN TO TRAFFIC. THEY SHALL BE SUITABLY ANCHORED AND REINFORCED TO PREVENT INTERFERING WITH NORMAL TRAFFIC OPERATIONS IN THE OPEN LANES. PAYMENT FOR THE SHIELDS SHALL BE INCLUDED AS INCIDENTAL TO THE APPLICABLE FIELD COATING ITEM. WORK SHALL BE SUSPENDED WHEN DAMAGE TO ADJACENT BUILDINGS, PARKED CARS OR BOATS, OR TRAVELING VEHICLES IS OCCURRING.

WHEN OR WHERE ANY DIRECT OR INDIRECT DAMAGE OR INJURY IS DONE TO PUBLIC OR PRIVATE PROPERTY BY OR ON ACCOUNT OF ANY ACT, OMISSION, NEGLIGENCE OR MISCONDUCT IN THE EXECUTION OF THE WORK, HE SHALL RESTORE, AT HIS OWN EXPENSE, SUCH PROPERTY TO A CONDITION SIMILAR OR EQUAL TO THAT EXISTING BEFORE SUCH DAMAGE OR INJURY WAS DONE, BY REPAIRING, REBUILDING OR OTHERWISE RESTORING AS MAY BE DIRECTED, OR HE SHALL MAKE GOOD SUCH DAMAGE OR INJURY IN AN ACCEPTABLE MANNER.

POLLUTION CONTROL:

THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO COMPLY WITH POLLUTION CONTROL LAWS, RULES OR REGULATIONS OR FEDERAL, STATE OR LOCAL AGENCIES.

WORK LIMITATIONS:

ALL WORK SHALL BE DONE BETWEEN MARCH 15 AND OCTOBER 15.

THE CONTRACTOR SHALL NOT PERFORM WORK ON SUNDAYS OR LEGAL HOLIDAYS WITHOUT THE APPROVAL OF THE DIRECTOR.

THE CONTRACTOR SHALL NOT SANDBLAST ON SATURDAYS, HOWEVER HE MAY PAINT ON SATURDAYS WITH THE FOLLOWING RESTRICTION. LANE CLOSURES WILL BE PERMITTED ON THE NORTHBOUND LANES ONLY. NO LANE CLOSURES ARE PERMITTED ON THE SOUTHBOUND LANES.

ALL WORK SHALL BE SUSPENDED BETWEEN THE HOURS OF 5:00 P.M. SATURDAY AND 5:00 A.M. MONDAY. WORK SHALL ALSO BE SUSPENDED AT 5:00 P.M. THE DAY PRECEDING ALL LEGAL HOLIDAYS AND SHALL NOT RESUME UNTIL 7:00 A.M. THE DAY FOLLOWING THE HOLIDAY.

PAYMENT FOR ALL OF THE ABOVE WILL BE MADE AT THE CONTRACT BID PRICE FOR:

ITEM	UNIT	DESCRIPTION
SPECIAL	LUMP SUM	TEST SECTION, SYSTEM V
SPECIAL	LUMP SUM	TEST SECTION, SYSTEM VI
SPECIAL	LUMP SUM	PRIME COAT, SYSTEM V
SPECIAL	LUMP SUM	FINISH COAT, SYSTEM V
SPECIAL	LUMP SUM	PRIME COAT, SYSTEM VI
SPECIAL	LUMP SUM	INTERMEDIATE COAT, SYSTEM VI
SPECIAL	LUMP SUM	FINISH COAT, SYSTEM VI

COOPERATION WITH RAILROADS

The Contractor shall cooperate at all times with the local officials of the Railroad Company. He shall use all reasonable care and diligence in the work in order to avoid accidents, damage or interference with the trains or other property of the railroad. The contractor shall notify the local officials of the railroad prior to starting work that may affect railroad property and facilities and shall pay the railroad company the cost of flagmen furnished by the railroad company and made necessary because of any of the contractors operations over or adjacent to the tracks.

No scaffold, planks or other equipment shall be suspended or erected above or within 10 feet of a rail over which trains are operating without prior written approval of the Chief Engineer, or his authorized representative, of the Railroad Company.

Failure to notify the railroad company as noted above shall be cause for stopping work until all provisions for protecting Railroad property have been provided.

In addition to the Polaroid Camera and Positector; the contractor shall provide the Project Engineer with the following testing equipment.

- 1.) Hand Held Hygrometer (Humidity Meter) Model RH-200
For information contact: Omega Engineering Inc.
One Omega Drive
Box 4047
Stamford, Connecticut 06907
Telephone: (203)359-1660

or an approved equal to the above.

- 2.) Spring Micrometer and ten (10) rolls of Extra-coarse Replica Tape
For information contact: KTA-TATOR Inc.
115 Technolgh Drive
Pittsburg, Pennsylvania 15275
Telephone: (412)788-1300

or an approved equal to the above.

At the completion of the project the Polaroid Camera, all remaining film, Positector, Hand Held Hygrometer, Spring Micrometer and all remaining Replica Tape shall become the property of the State Of Ohio.

Payment for the Polaroid Camera, Film, Spring Micrometer and Replica Tape shall be included in Item Special Test Section, Sandblasting.

Payment for the Positector and the Hand Held Hygrometer shall be included in the cost of Item Special Test Section, System VI.

GENERAL NOTES

SSPC Guide to Vis 1
November 1, 1982SSPC Guide to Vis 1
November 1, 1982Steel Structures Painting Council
GUIDE TO VISUAL STANDARD NO. 1

Guide to Pictorial Surface Preparation Standards for Painting Steel Surfaces

The pictorial standard, Vis 1, described below was prepared by the Swedish IVA Corrosion Committee with input from the Steel Structures Painting Council and has been jointly approved by the Steel Structures Painting Council, the American Society for Testing and Materials, and the Swedish Standards Association. Copies of the pictorial standard can be obtained from any one of these three associations.

1. Scope

1.1 This guide *only describes* the pictorial standard and does not constitute the standard. The pictorial standard when used in conjunction with the SSPC surface preparation specifications gives only an approximation of the final surface condition. These visual standards should be considered a supplement to, and not a substitute for, surface preparation specifications.

2. Description

2.1 The pictorial surface preparation standard consists of a series of color prints which represent various conditions of unpainted steel surfaces prior to and after surface preparation.

2.2 The standard illustrates four initial rustgrades before surface preparation and covers the range from intact mill scale to badly rusted and pitted steel. These rustgrades are:

- A Steel surface covered completely with adherent mill scale with little, if any, rust.
- B Steel surface which has begun to rust, and from which the mill scale has begun to flake.
- C Steel surface from which the mill scale has rusted away or from which it can be scraped, but with little pitting visible.
- D Steel surface on which the mill scale has rusted away and where pitting is visible.

2.3 The standard also illustrates surfaces prepared by hand tool, power tool, and blast cleaning. The various grades of thoroughness of surface preparation are represented in Table 1. This table also shows the approximate correlation between the SSPC surface preparation specifications and the photographic standard, SSPC-Vis 1. For each of the four rustgrades defined, the standard addresses six degrees of cleanliness. The first two degrees are designated "St" for hand and power tool cleaning while the last four are designated "Sa" for blast cleaning.

2.4 Steel surfaces will show variations in shades, color, tone, pitting, flaking, mill scale, etc. These variations should be considered and compensated for when making comparison with the photographic standard.

2.5 This pictorial standard should not be used as a substitute for complete surface preparation specifications, since it is based upon appearance only and does not attempt to deal with other necessary factors such as surface profile, removal of contaminants, degree of removal of rust or impurities, permissible cleaning procedures, equipment, rust back, etc.

3. Procedures

3.1 Select the photograph(s) of unprepared surfaces (A, B, C, or D) that most closely represent(s) the appearance of the steel to be cleaned. NOTE: Occasionally the material to be cleaned will contain more than one of the initial surface conditions.

3.2 Determine the method of surface preparation that is specified (e.g., hand tool cleaning — SSPC-SP 2, white metal blast cleaning — SSPC-SP 5, etc.).

3.3 Use Table 1 to determine which photograph depicts the finished surface. For example, if the initial surface condition is rusted (C) and commercial blast cleaning (SSPC-SP 6) is specified, use photograph C Sa 2.

3.4 Compare the prepared surface with the photograph selected in Section 3.3 to evaluate the cleaning. NOTE: Steel surfaces will show variances in color, shading, etc., both before and after cleaning. Therefore *the photographs can be used only as a guide* and one can not expect an exact correlation when comparing a photograph to the surface.

4. Inspection

4.1 When this guide is used as part of a specification or procurement document, all work supplied shall be subject to timely inspection by the purchaser or his authorized representative. The contractor shall correct such work or replace such material as is found defective. In case of dispute the arbitration or settlement procedure established in the procurement documents, if any, shall be followed. If no arbitration or settlement procedure is established, the procedure specified by the American Arbitration Association shall be used.

TABLE 1

Degree of Cleaning	Adherent Mill Scale A	Rusting Mill Scale B	Rusted C	Pitted and Rusted D
Initial Surface Condition	A Sa 0	B St 0 B Sa 0	C St 0 C Sa 0	D St 0 D Sa 0
Manual Cleaning: Thorough Hand Tool Cleaning SSPC-SP 2	(1)	B St 2	C St 2	D St 2
Manual Cleaning: Very Thorough Power Tool Cleaning SSPC-SP 3	(1)	B St 3	C St 3	D St 3
Blast Cleaning: Light Brush-Off Blast Cleaning SSPC-SP 7	(1)	B Sa 1	C Sa 1	D Sa 1
Blast Cleaning: Thorough Commercial Blast Cleaning SSPC-SP 6	(1)	(2)	C Sa 2	D Sa 2
Blast Cleaning: Very Thorough Near-White Blast Cleaning SSPC-SP 10	A Sa 2-1/2	B Sa 2-1/2	C Sa 2-1/2	D Sa 2-1/2
Blast Cleaning: Extremely Thorough (3) White Metal Blast Cleaning SSPC-SP 5	A Sa 3	B Sa 3	C Sa 3	D Sa 3

(1) No photograph available.

(2) The photograph (through the 1982 printing) corresponding with "B Sa 2" shows dark areas that could be interpreted as millscale and is not recommended as an illustration of SSPC-SP 6, "Commercial Blast Cleaning."

(3) The photographs (1978 through 1982 printing) illustrating "A Sa 3," "B Sa 3," and "C Sa 3" do not adequately illustrate the surface texture of typically blast-cleaned steel.

4.2 The procurement documents covering work or purchase should establish the responsibility for testing and for any required affidavit certifying full compliance with the specification.

plete, and useful as possible, the SSPC cannot assume responsibility nor incur any obligation resulting from the use of any materials, paints, or methods specified therein, or of the guide itself.

5. Notes

5.1 While every precaution is taken to insure that all information furnished in SSPC guides is as accurate, com-

Steel Structures Painting Council
SURFACE PREPARATION SPECIFICATION NO. 1
 Solvent Cleaning

SSPC-SP 1
 November 1, 1982

1. Scope

1.1 This specification covers the requirements for the solvent cleaning of steel surfaces.

2. Definition

2.1 Solvent cleaning is a method for removing all visible oil, grease, soil, drawing and cutting compounds, and other soluble contaminants from steel surfaces.

2.2 It is intended that solvent cleaning be used prior to the application of paint and in conjunction with surface preparation methods specified for the removal of rust, mill scale, or paint.

3. Surface Preparation Before and After Solvent Cleaning

3.1 Prior to solvent cleaning, remove foreign matter (other than grease and oil) by one or a combination of the following: brush with stiff fiber or wire brushes, abrade, scrape, or clean with solutions of appropriate cleaners, provided such cleaners are followed by a fresh water rinse.

3.2 After solvent cleaning, remove dirt, dust, and other contaminants from the surface prior to paint application. Acceptable methods include brushing, blow off with clean, dry air, or vacuum cleaning.

4. Methods of Solvent Cleaning

4.1 Remove heavy oil or grease first by scraper. Then remove the remaining oil or grease by any of the following methods:

4.1.1 Wipe or scrub the surface with rags or brushes wetted with solvent. Use clean solvent and clean rags or brushes for the final wiping.

4.1.2 Spray the surface with solvent. Use clean solvent for the final spraying.

4.1.3 Vapor degrease using stabilized chlorinated hydrocarbon solvents.

4.1.4 Immerse completely in a tank or tanks of solvent. For the last immersion, use solvent which does not contain detrimental amounts of contaminant.

4.1.5 Emulsion or alkaline cleaners may be used in place of the methods described. After treatment, wash the surface with fresh water or steam to remove detrimental residues.

4.1.6 Steam clean, using detergents or cleaners and follow by steam or fresh water wash to remove detrimental residues.

5. Inspection

5.1 All work and materials supplied under this specification shall be subject to timely inspection by the purchaser or his authorized representative. The contractor shall correct such work or replace such material as is found defective under this specification. In case of dispute the arbitration or settlement procedure established in the procurement documents, if any, shall be followed. If no arbitration or settlement procedure is established, the procedure specified by the American Arbitration Association shall be used.

5.2 The procurement documents covering work or purchase should establish the responsibility for testing and for any required affidavit certifying full compliance with the specification.

6. Safety

6.1 All safety requirements stated in this specification and its component parts apply in addition to any applicable federal, state, and local rules and requirements. They also shall be in accord with instructions and requirements of insurance underwriters.

7. Notes

7.1 While every precaution is taken to insure that all information furnished in SSPC specifications is as accurate, complete, and useful as possible, the SSPC cannot assume responsibility or incur any obligation resulting from the use of any materials, paints, or methods specified therein, or of the specification itself.

7.2 A Commentary Section is available (Chapter 2 of Volume 2 of the Steel Structures Painting Manual) and contains additional information and data relative to this specification. The Surface Preparation Commentary is not part of this specification. The table below lists the subjects discussed relevant to solvent cleaning and appropriate Commentary Section.

Subject	Commentary Section
Solvents and Cleaners	11.1 through 11.1.3
Steam Cleaning	11.1.4
Threshold Limit Values	11.1.5
Film Thickness	10.0

Steel Structures Painting Council
SURFACE PREPARATION SPECIFICATION NO. 10
 Near-White Blast Cleaning

1. Scope

1.1 This specification covers the requirements for Near-White Blast Cleaning of steel surfaces by the use of abrasives.

2. Definition

2.1 A Near-White Blast Cleaned surface, when viewed without magnification, shall be free of all visible oil, grease, dirt, dust, mill scale, rust, paint, oxides, corrosion products, and other foreign matter, except for staining as noted in Section 2.2.

2.2 Staining shall be limited to no more than 5 percent of each square inch of surface area and may consist of light shadows, slight streaks, or minor discolorations caused by stains of rust, stains of mill scale, or stains of previously applied paint.

2.3 ACCEPTABLE VARIATIONS IN APPEARANCE THAT DO NOT AFFECT SURFACE CLEANLINESS as defined in Sections 2.1 and 2.2 include variations caused by type of steel, original surface condition, thickness of the steel, weld metal, mill or fabrication marks, heat treating, heat affected zones, blasting abrasives, and differences in the blast pattern.

2.4 When painting is specified, the surface shall be roughened to a degree suitable for the specified paint system.

2.5 Immediately prior to paint application, the surface shall comply with the degree of cleaning as specified herein.

2.6 SSPC-VIS 1 or other visual standards of surface preparation may be specified to supplement the written definition.

*NOTE: Additional information on visual standards is available in Section A.4 of the Appendix.

3. Blast Cleaning Abrasives

3.1 The selection of abrasive size and type shall be based on the type, grade, and surface condition of the steel to be cleaned, type of blast cleaning system employed, the finished surface to be produced (cleanliness and roughness), and whether the abrasive will be recycled.

3.2 The cleanliness and size of recycled abrasives shall be maintained to insure compliance with this specification.

3.3 The blast cleaning abrasive shall be dry and free of oil, grease, and other harmful materials at the time of use.

3.4 Any limitations or restrictions on the use of specific abrasives, quantity of contaminants, or degree of embedment shall be included in the procurement documents (project specification) covering the work, since abrasive embedment and abrasives containing contaminants may not be acceptable for some service requirements.

*NOTE: Additional information on abrasive selection is available in Section A.2 of the Appendix.

4. Reference Standards

4.1 If there is a conflict between the cited reference standards and this specification, this specification shall prevail unless otherwise indicated in the procurement documents (project specification).

4.2 The standards referenced in this specification are:

- SSPC-SP 1 Solvent Cleaning
- SSPC-VIS 1 Pictorial Surface Preparation Standards for Painting Steel Surfaces

5. Procedure Before Blast Cleaning

5.1 Before blast cleaning, visible deposits of oil or grease shall be removed by any of the methods specified in SSPC-SP 1 or other agreed upon methods.

5.2 Before blast cleaning, surface imperfections such as sharp fins, sharp edges, weld spatter, or burning slag should be removed from the surface to the extent required by the procurement documents (project specification).

*NOTE: Additional information on surface imperfections is available in Section A.5 of the Appendix.

6. Blast Cleaning Methods and Operation

6.1 Clean, dry, compressed air shall be used for nozzle blasting. Moisture separators, oil separators, traps

or other equipment may be necessary to achieve this requirement.

6.2 Any of the following methods of surface preparation may be used to achieve a Near-White Blast Cleaned surface:

6.2.1 Dry abrasive blasting using compressed air, blast nozzles, and abrasive.

6.2.2 Dry abrasive blasting using a closed cycle, recirculating abrasive system with compressed air, blast nozzle, and abrasive, with or without vacuum for dust and abrasive recovery.

6.2.3 Dry abrasive blasting, using a closed cycle, recirculating abrasive system with centrifugal wheels and abrasive.

6.3 Other methods of surface preparation (such as wet abrasive blasting) may be used to achieve a Near-White Blast Cleaned surface by mutual agreement between the party responsible for performing the work and the party responsible for establishing the requirements or his representative.

*NOTE: If wet abrasive blasting is used, information on the use of inhibitors to prevent the formation of rust immediately after wet blast cleaning is contained in Section A.9 of the Appendix.

7. Procedures Following Blast Cleaning and Immediately Prior to Painting

7.1 Visible deposits of oil, grease, or other contaminants shall be removed by any of the methods specified in SSPC-SP 1 or other methods agreed upon by the party responsible for establishing the requirements and the party responsible for performing the work.

7.2 Dust and loose residues shall be removed from prepared surfaces by brushing, blowing off with clean, dry air, vacuum cleaning or other methods agreed upon by the party responsible for establishing the requirements and the party responsible for performing the work. Moisture separators, oil separators, traps, or other equipment may be necessary to achieve clean, dry air.

7.3 After blast cleaning, surface imperfections which remain (i.e., sharp fins, sharp edges, weld spatter, burning slag, scabs, slivers, etc.) shall be removed to the extent required in the procurement documents (project specification). Any damage to the surface profile resulting from the removal of surface imperfections shall be corrected to meet the requirements of Section 2.4.

*NOTE: Additional information on surface imperfections is contained in Section A.5 of the Appendix.

7.4 Any visible rust that forms on the surface of the steel after blast cleaning shall be removed by reblasting the rusted areas to meet the requirements of this

specification before painting.

*NOTE: Information on rust-back (rerusting) and surface condensation is contained in Sections A.7 and A.8 of the Appendix.

8. Inspection

8.1 Work and materials supplied under this specification are subject to inspection by the party responsible for establishing the requirements or his representative. Materials and work areas shall be accessible to the inspector. The procedures and times of inspection shall be as agreed upon by the party responsible for establishing the requirements and the party responsible for performing the work.

8.2 Conditions not complying with this specification shall be corrected. In case of dispute the arbitration or settlement procedure established in the procurement documents (project specification) shall be followed. If no arbitration or settlement procedure is established, then the procedure established by the American Arbitration Association shall be used.

8.3 The procurement documents (project specification) should establish the responsibility for inspection and for any required affidavit certifying compliance with the specification.

9. Safety and Environmental Requirements

9.1 Blast cleaning is a hazardous operation. Therefore, all work shall be conducted in such a manner to comply with all applicable insurance underwriter, local, state, and federal safety and environmental rules and requirements.

*NOTE: SSPC-PA Guide 3, "A Guide to Safety in Paint Application," addresses safety concerns for coating work.

10. Comments

10.1 While every precaution is taken to insure that all information furnished in SSPC specifications is as accurate, complete, and useful as possible, the Steel Structures Painting Council cannot assume responsibility nor incur any obligation resulting from the use of any materials, paints, or methods specified therein, or of the specification itself.

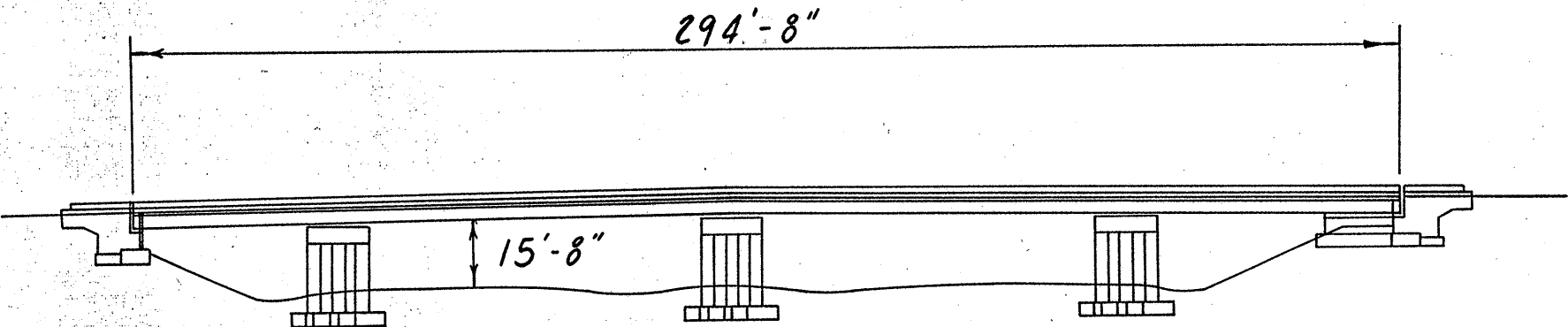
10.2 Additional information and data relative to this specification are contained in the following brief Appendix. More detailed information and data are presented in a separate document, SSPC-SP COM, "Surface Preparation Commentary." The recommendations contained in the Notes, Appendix, and SSPC-SP COM are believed to represent good practice, but are not to be considered as requirements of the specification. The table below lists the subjects discussed relevant to Near-White Blast Cleaning

and appropriate section of SSPC-SP COM.

Subject	Commentary Section
Abrasive Selection	5.
Degree of Cleaning	11.10
Film Thickness	10.
Wet Abrasive Blast Cleaning	9.
Maintenance Painting	3.2
Rust Back (Rerusting)	8.
Surface Profile	6.
Visual Standards	7.
Weld Spatter	4.1

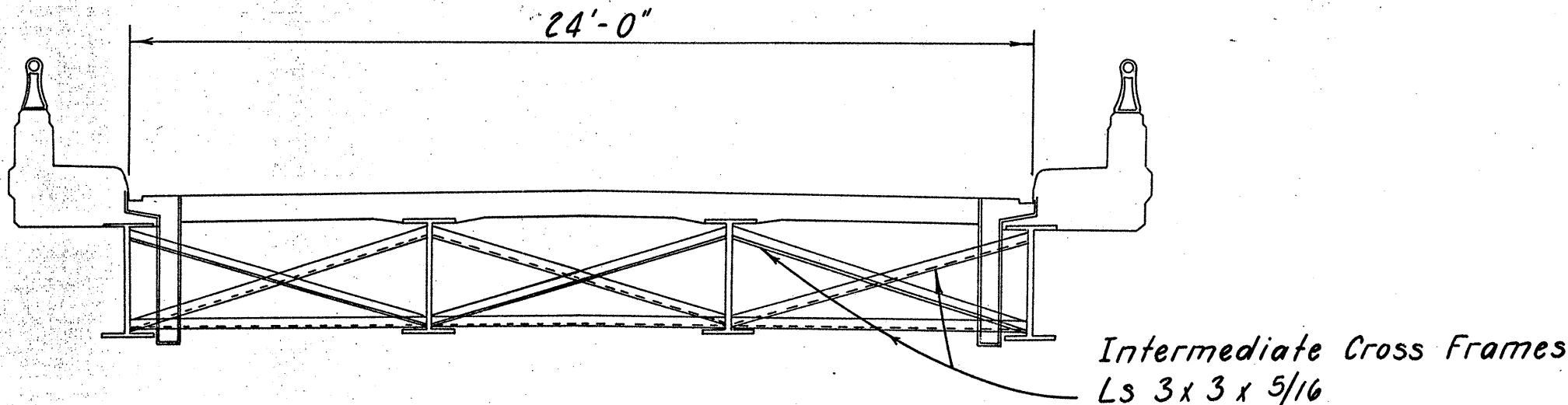
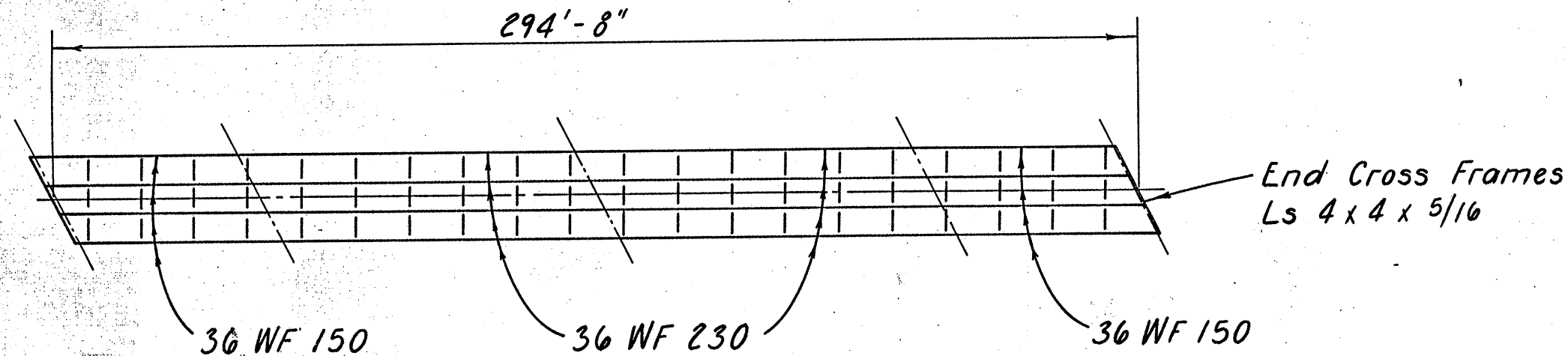
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Part	Bridge Number	Funding	Special	Special					Special		
			Surface Preparation	System V		System VI			Test Section		
				Prime Coat	Finish Coat	Prime Coat	Intermediate Coat	Finish Coat	Surface Preparation	System V	System VI
1	ASD - 71 - 0230		Lump Sum			Lump Sum	Lump Sum	Lump Sum			
2	MED - 71 - 0993		Lump Sum			Lump Sum	Lump Sum	Lump Sum			
3	MED - 71 1091		Lump Sum	Lump Sum	Lump Sum						
4	MED - 71 1354		Lump Sum			Lump Sum	Lump Sum	Lump Sum			
5	MED - 71 - 1450 L&R		Lump Sum			Lump Sum	Lump Sum	Lump Sum			
6	MED - 71 1529		Lump Sum			Lump Sum	Lump Sum	Lump Sum			
7	RIC - 30 - 1215		Lump Sum	Lump Sum	Lump Sum				DELETED		
8	RIC - 30 - 1232		Lump Sum			Lump Sum	Lump Sum	Lump Sum			
9	RIC - 30 - 1404 L&R		Lump Sum			Lump Sum	Lump Sum	Lump Sum			
10	RIC - 71 - 1455 L&R		Lump Sum			Lump Sum	Lump Sum	Lump Sum			
11	RIC - 71 1486		Lump Sum			Lump Sum	Lump Sum	Lump Sum			
12	RIC - 71 - 1523 L&R		Lump Sum			Lump Sum	Lump Sum	Lump Sum			
13	RIC - 71 - 1542 L&R		Lump Sum			Lump Sum	Lump Sum	Lump Sum			
14	RIC - 71 - 1753		Lump Sum			Lump Sum	Lump Sum	Lump Sum			
15	WAY - 30 0946		Lump Sum			Lump Sum	Lump Sum	Lump Sum			
16	Miscellaneous								Lump Sum	Lump Sum	Lump Sum
17	Item 614 - Maintaining Traffic - Lump Sum										
18	Item 624 - Mobilization - Lump Sum										



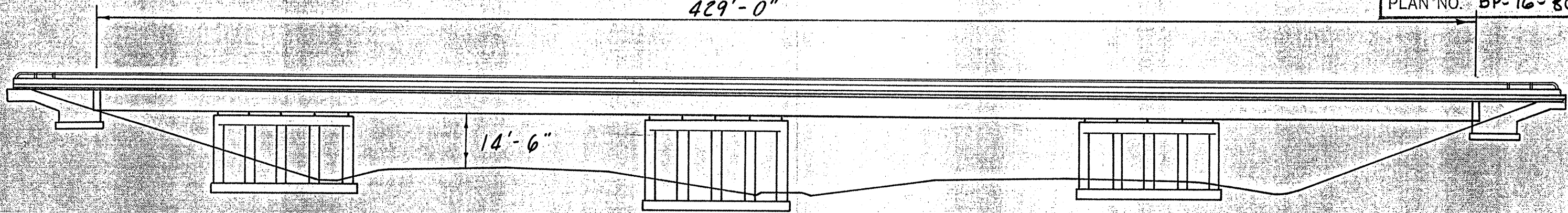
ASD - 71 - 0230
Under Township Road 1153

Approximate Surface
Area 14,000 Sq. Ft.



PART 1
ASD - 71 - 0230

429'-0"



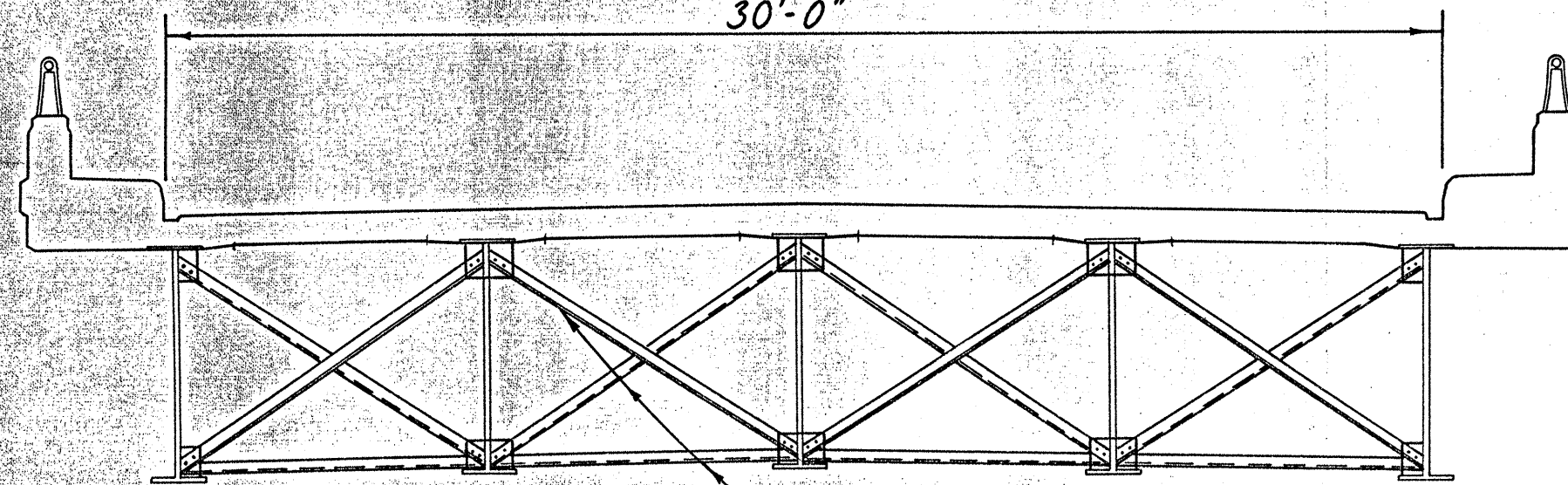
14'-6"

MED - 71 - 0993

Under S.R. 3

Approximate Surface
Area 43,000 Sq. Ft.

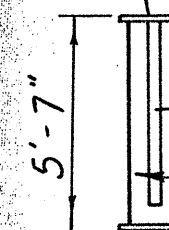
30'-0"



Intermediate Cross Frames
Ls 3 x 3 x 5/16

FLANGE PLATE SIZES

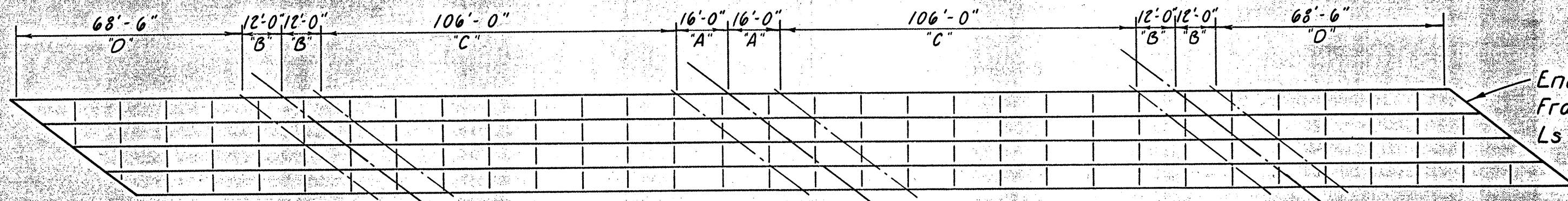
- Girder "A" = 16" x 2 3/8"
- Girder "B" = 16" x 1 3/4"
- Girder "C" = 16" x 1 1/2"
- Girder "D" = 16" x 1 1/4"



1/2" Web Plate

7" x 3/8" Stiffener @
@ 5'-0" o/c

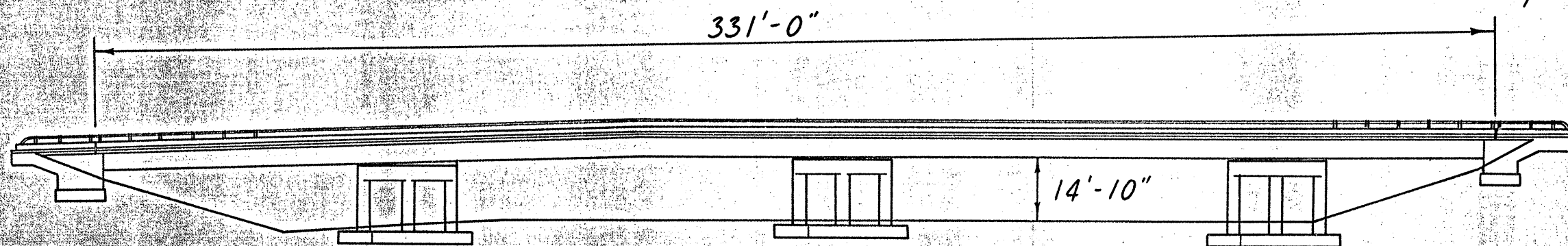
7" x 3/4" Stiffener @
Support Points



End Cross
Frames
Ls 4 x 4 x 5/16

PART 2

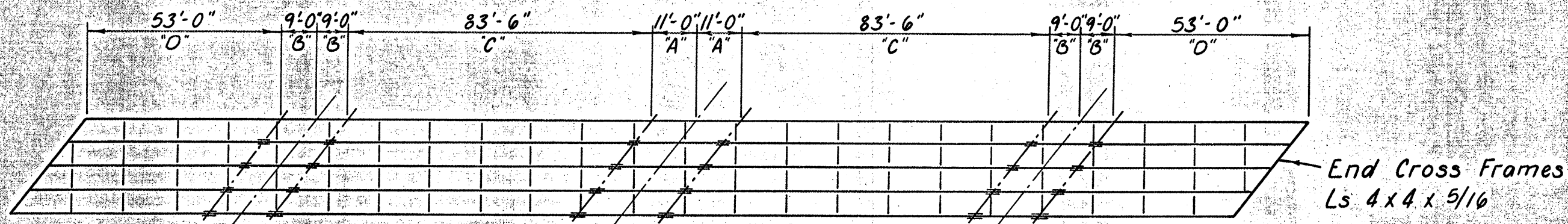
MED - 71 - 0993



MED - 71 - 1091

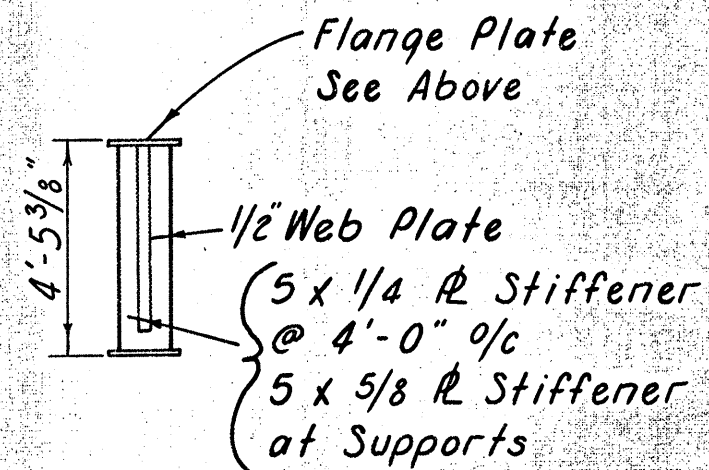
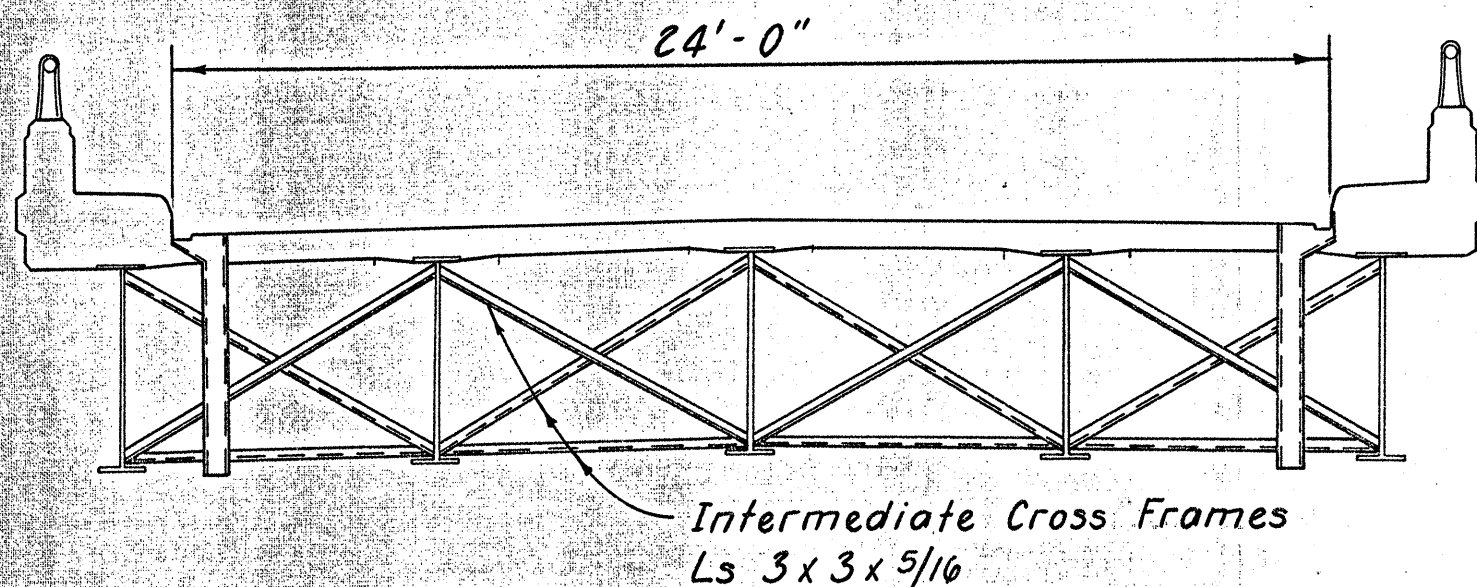
Under County Road 120

Approximate Surface
Area 24,000 Sq. Ft.

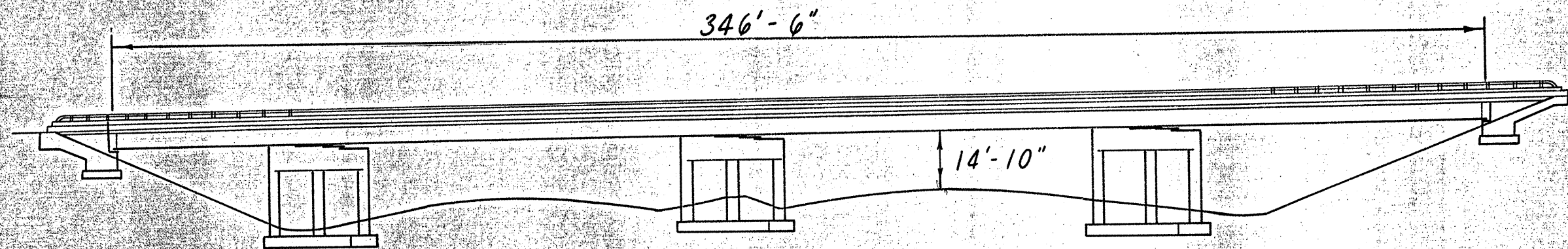


Girder "A" = 12" x 1 1/2"
Girder "B" = 12" x 1 1/4"
Girder "C" = 12" x 7/8"
Girder "D" = 12" x 3/4"

Flange Plate Sizes



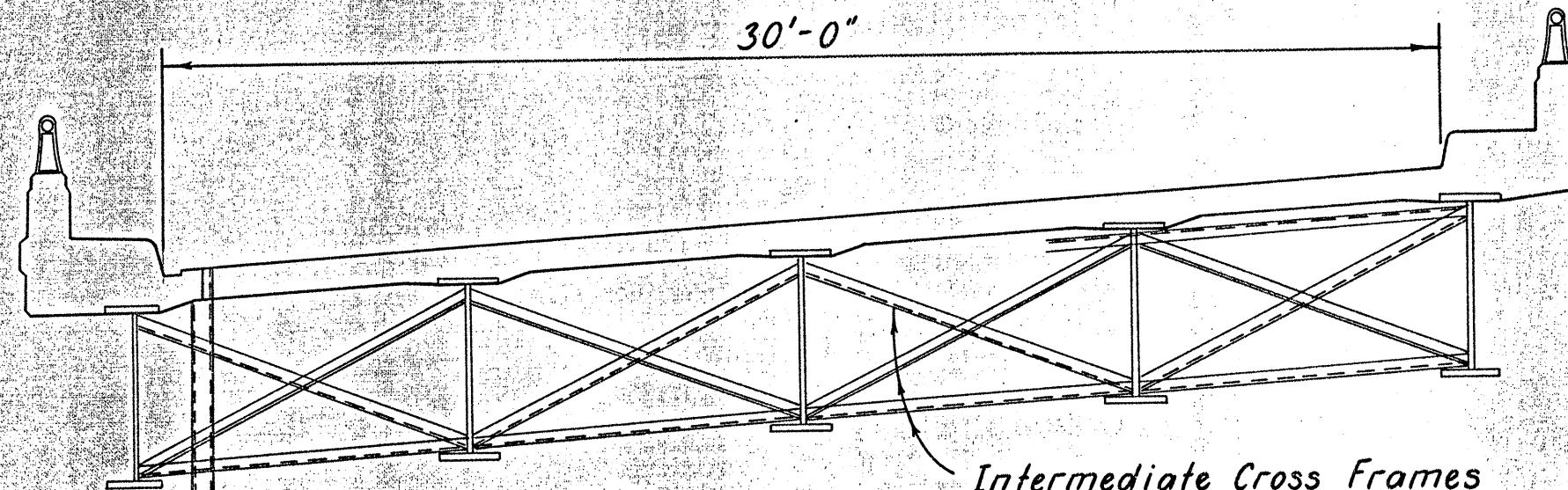
PART 3
MED - 71 - 1091



MED - 71 - 1354

Under S.R. 57

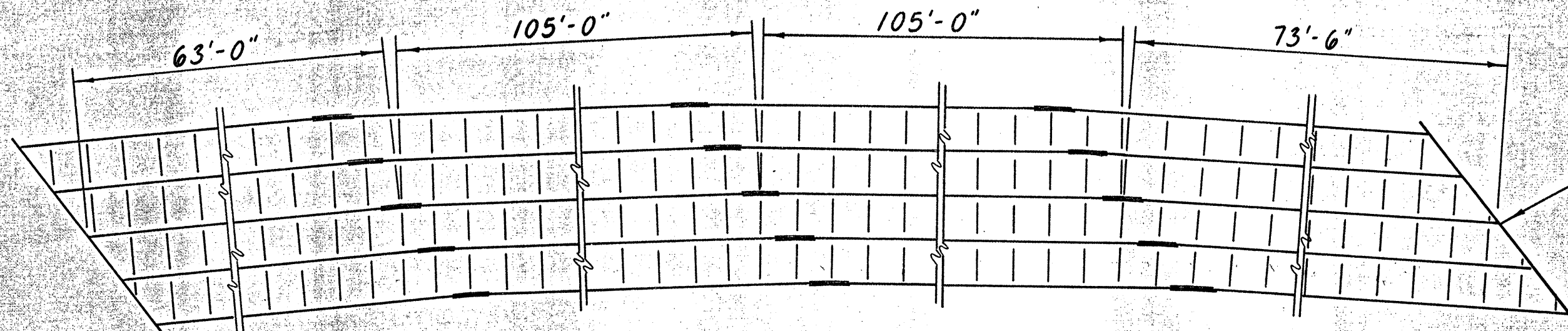
Approximate Surface
Area 31,000 Sq. Ft.



Intermediate Cross Frames
Ls 3 x 3 x 5/16

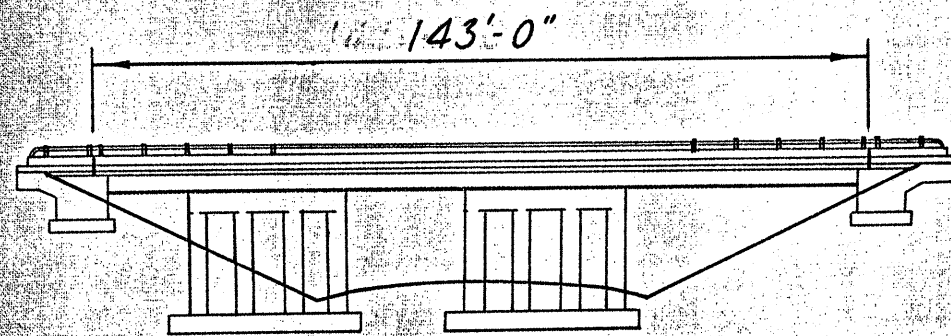
17" x 1 1/4" Flange Plate 105' Span
17" x 1" Flange Plate End Spans

7" x 3/8" Web Plate Stiffeners @
4'-0" o/c between Supports.
8" x 3/4" Web Plate Stiffeners @
Piers
1/2" Web Plate



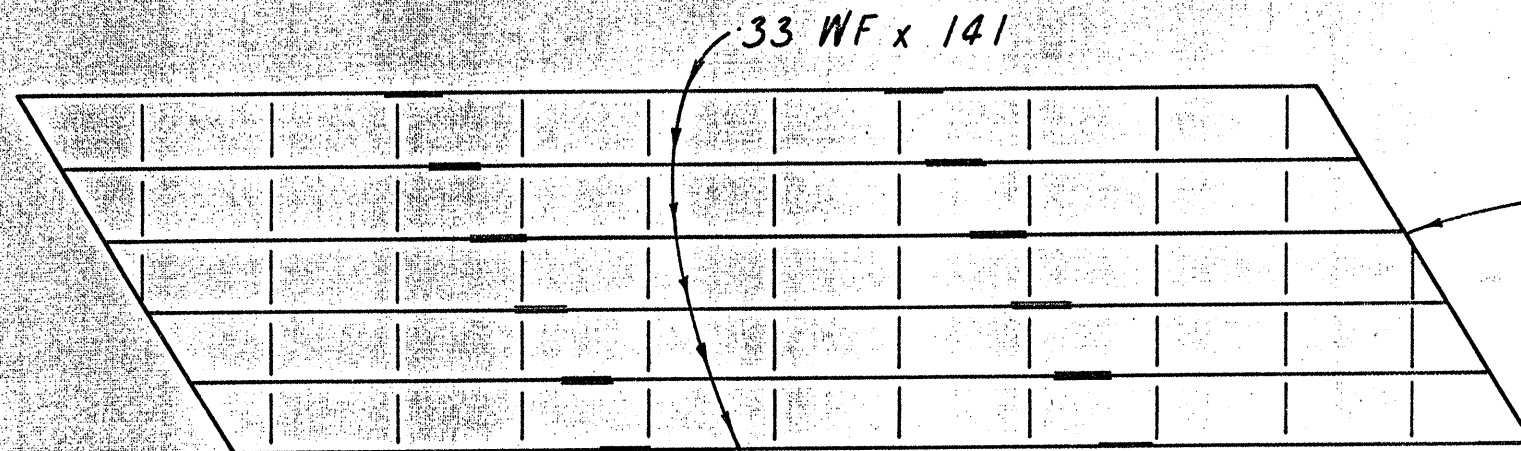
End Cross Frames
Ls 4 x 4 x 5/16

PART 4
MED - 71 - 1354

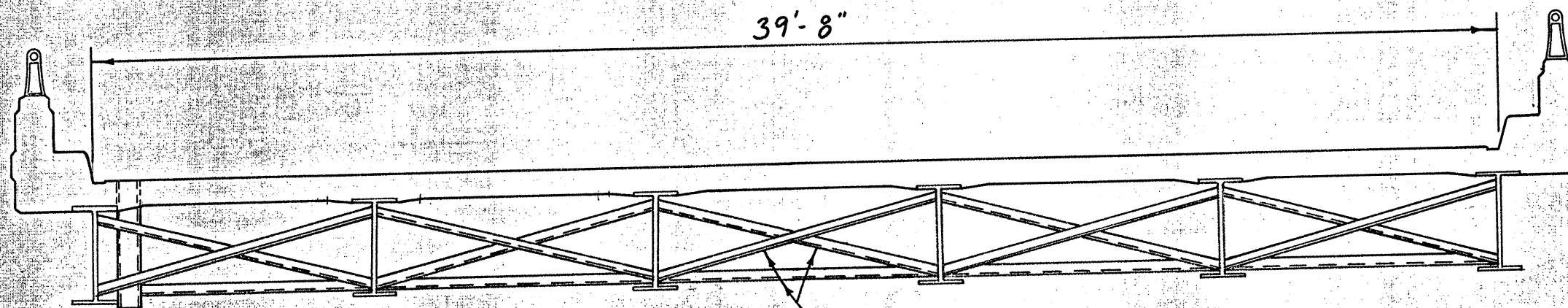


MED-71-1450 L&R
Over S.R. 162

Approximate Total Surface
Area both Structures 18,000 Sq. Ft.

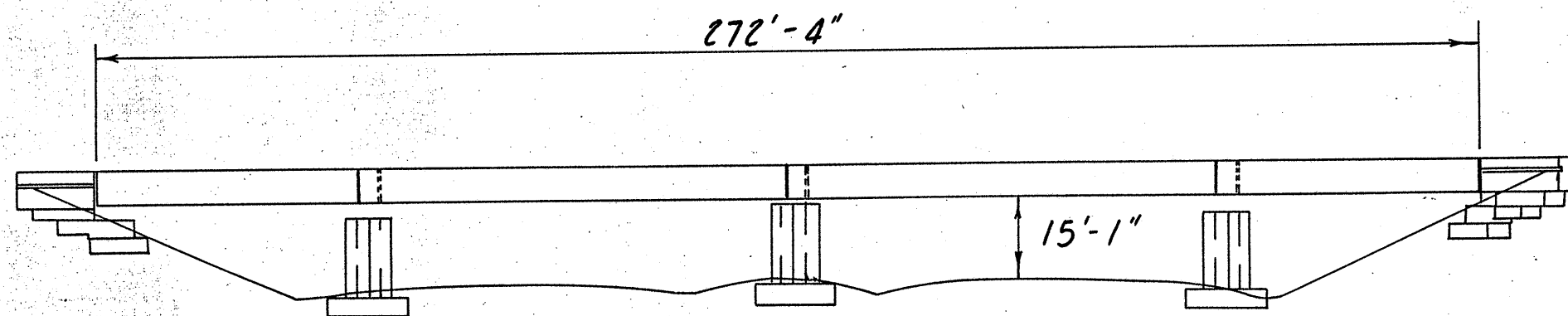


End Cross Frames
Ls 4x4 x 5/16



Intermediate Cross Frames
Ls 3 x 3 x 5/16

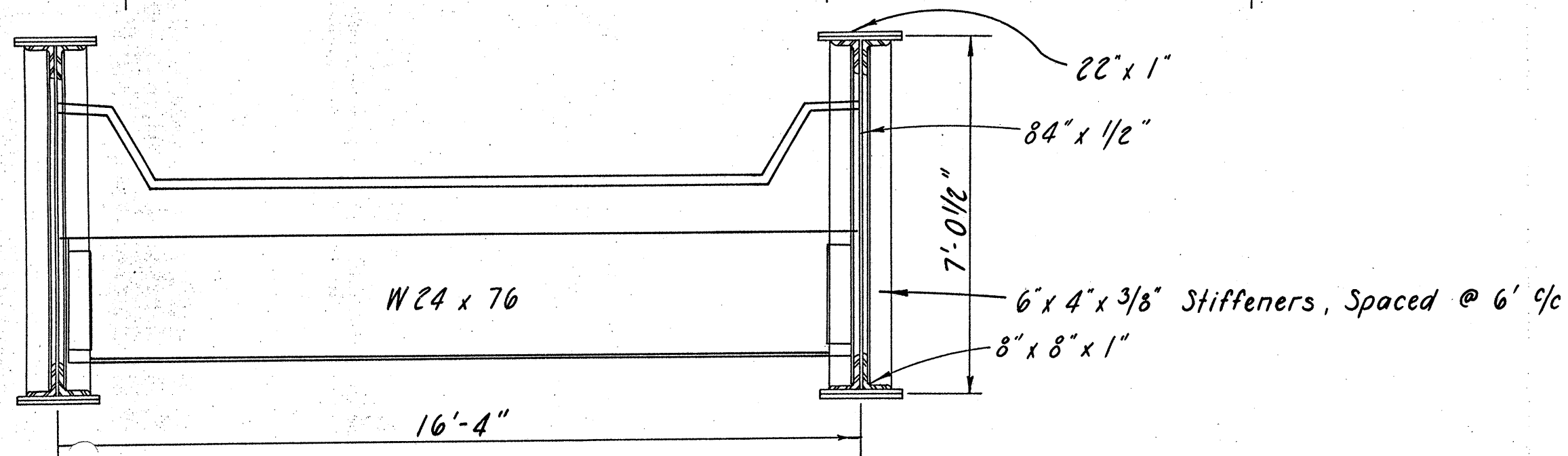
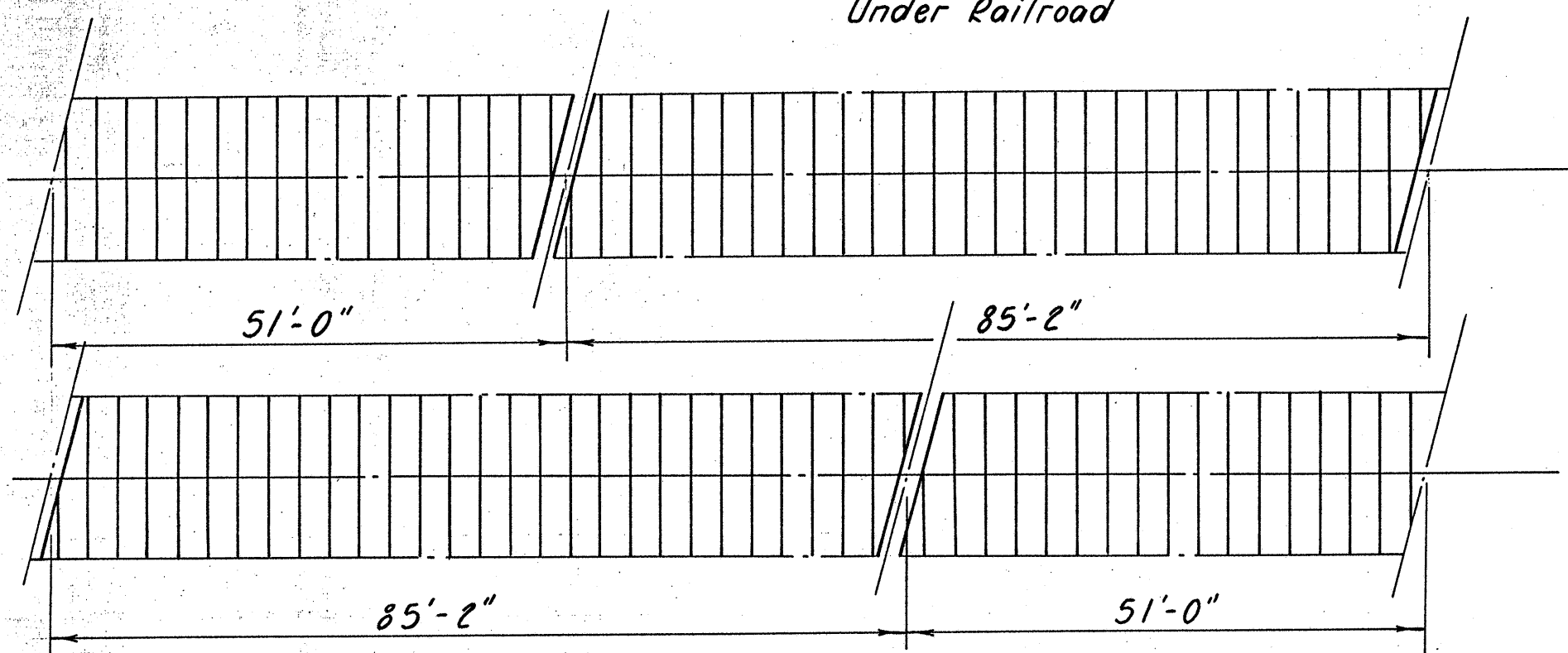
PART 5
MED-71-1450 L&R



MED-71-1529

Under Railroad

Approximate Surface
Area 22,000 Sq. Ft.



PART 6
MED-71-1529

DELETED

Approximate Surface
Area 42,000 Sq. Ft.

RIC - 30 - 1215

Over Railroad

252'-0"

82'-0"

4 x 3 x 5/16 Stiffeners
Spaced 3'-4" c/c

End Cross Frames
Ls 4 x 4 x 5/16

6 x 6 x 3/4

3/8

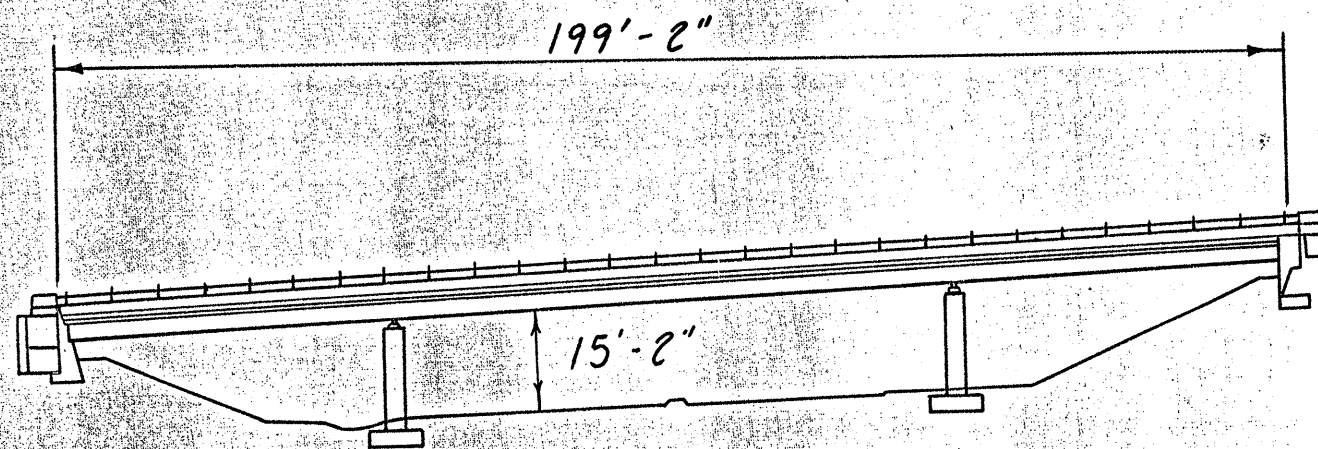
48 1/2" Back to
Back to Ls

14 x 5/8

3/8" Gusset Plate

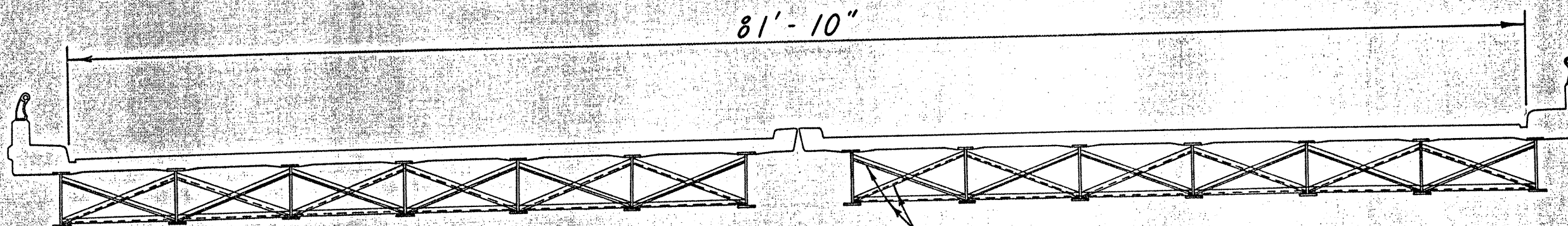
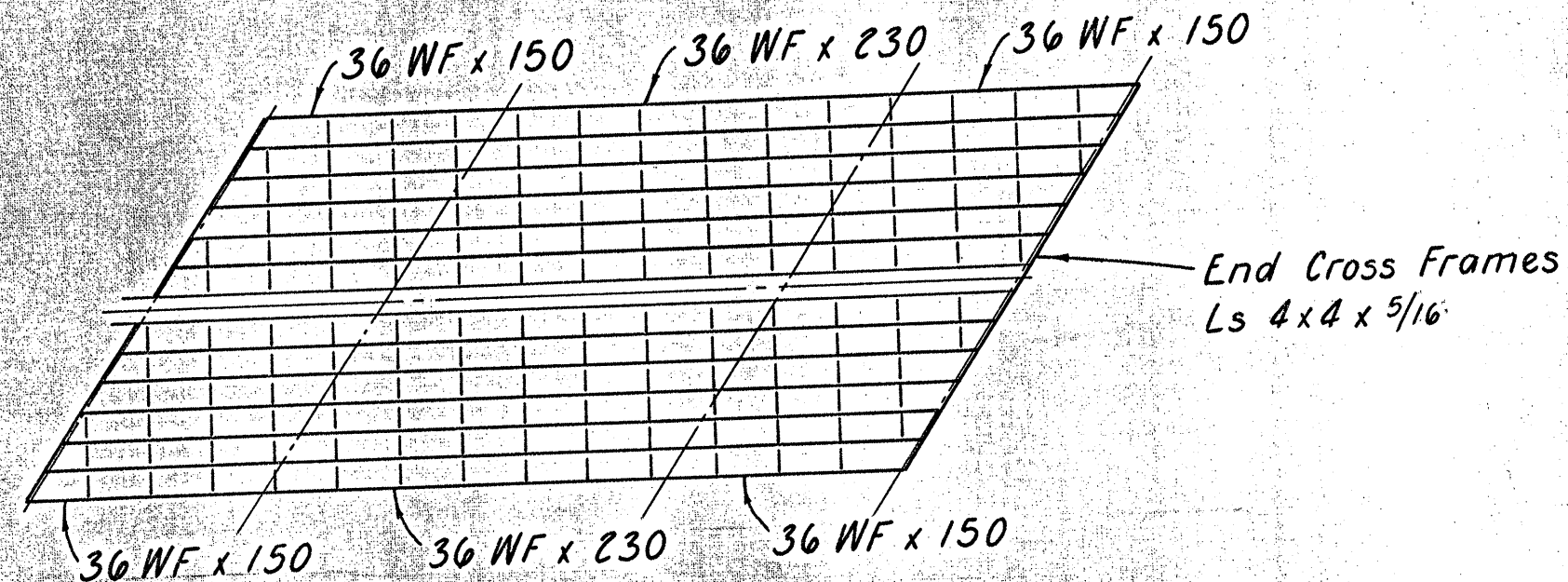
Intermediate Cross Frames
Ls 3 1/2 x 3 1/2 x 3/8

PART 7
RIC - 30 - 1215



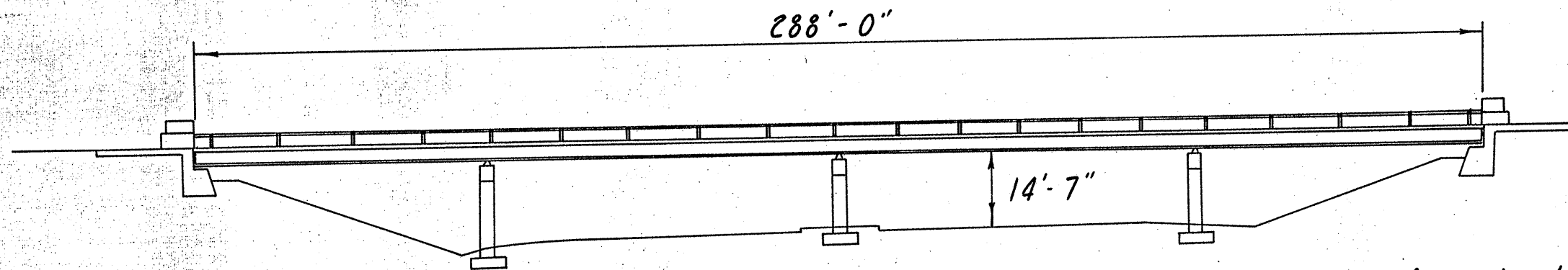
RIC - 30 - 1232
Over S.R. 545

Approximate Surface
Area 30,000 Sq. Ft.



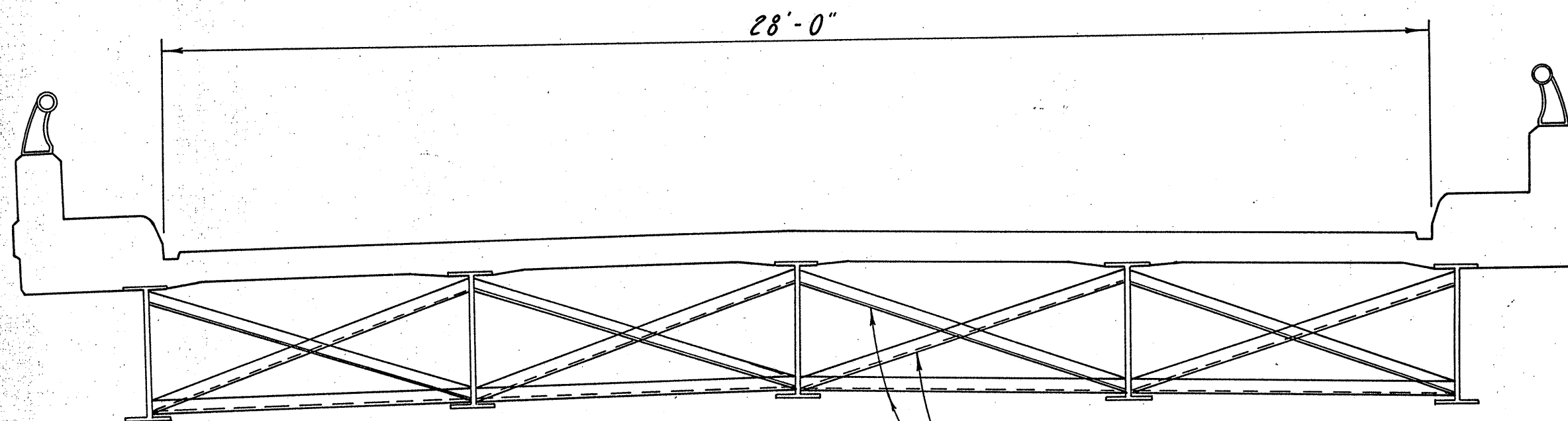
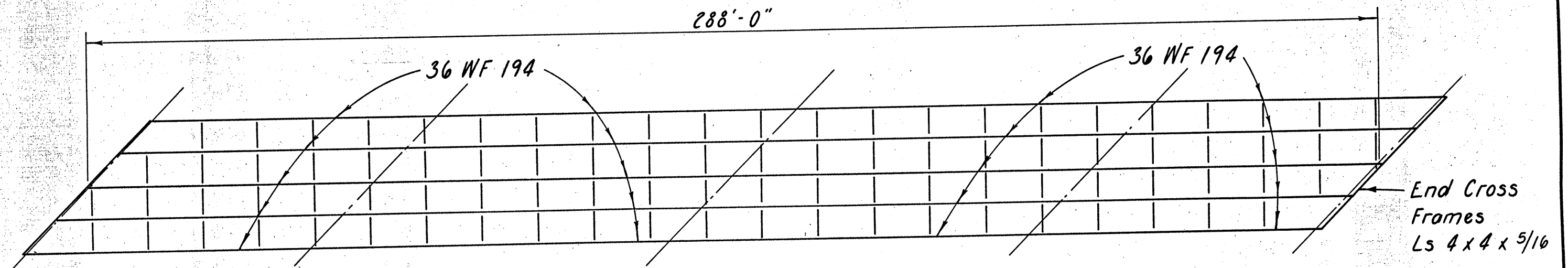
Intermediate Cross Frames
Ls 3x3 x 5/16

PART 8
RIC - 30 - 1232



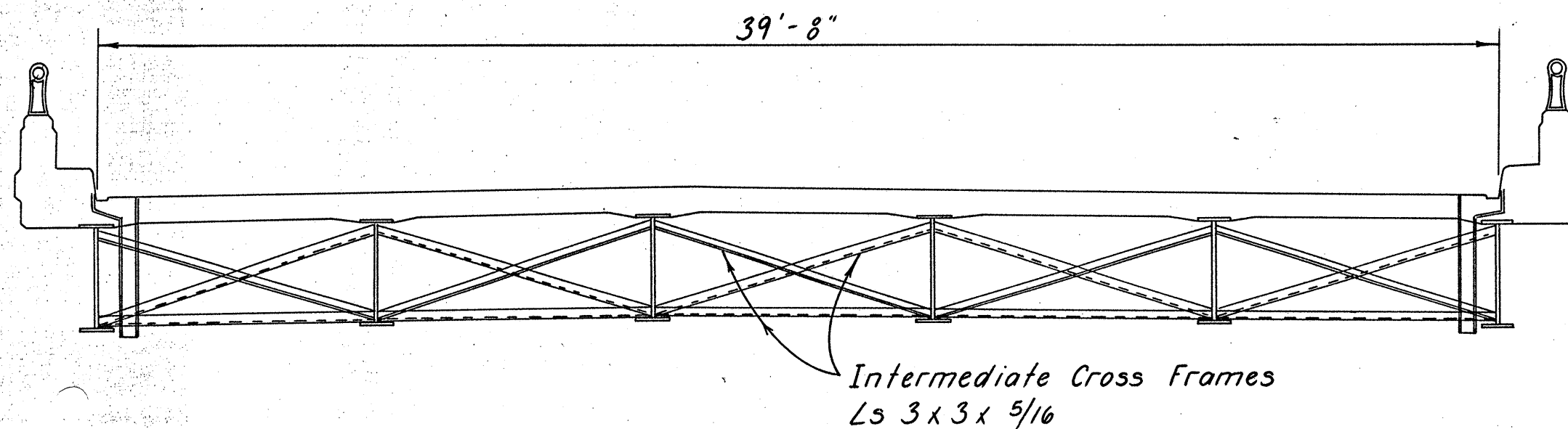
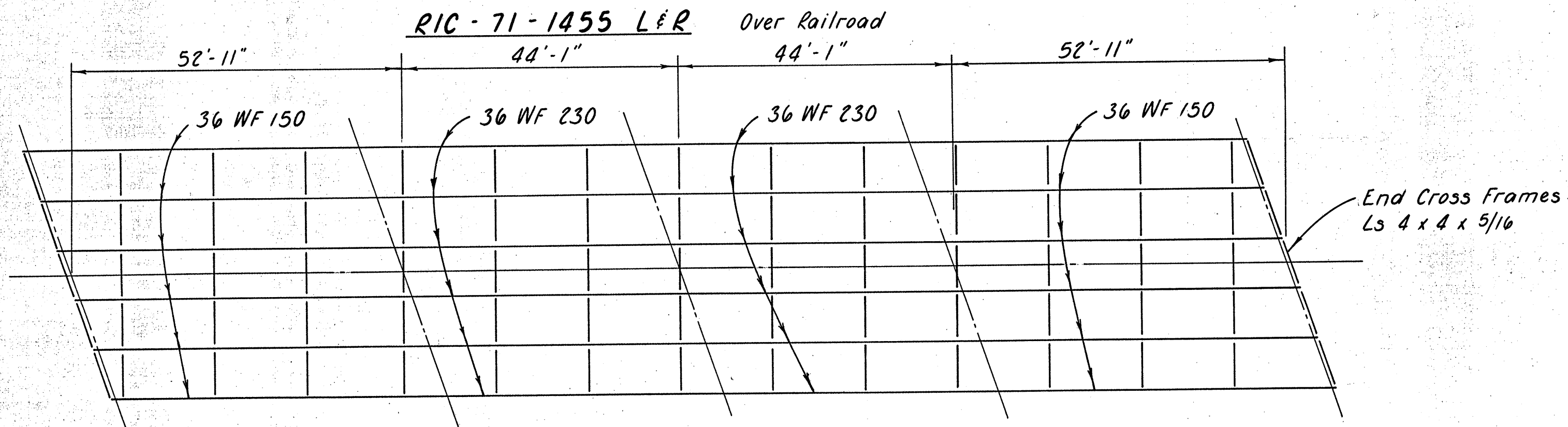
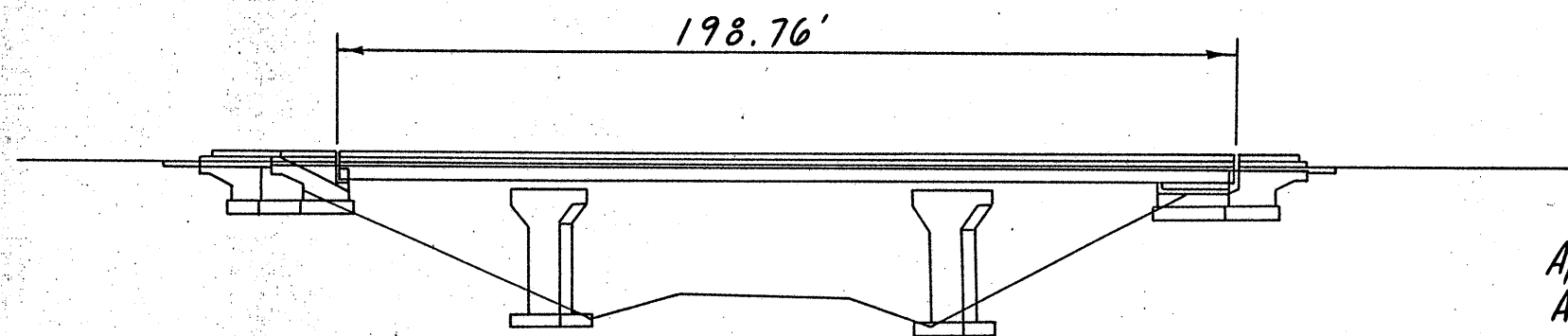
RIC - 30 - 1404 L&R
Over U.S. 42

Approximate Total Surface
Area both Structures 31,000 Sq. Ft.

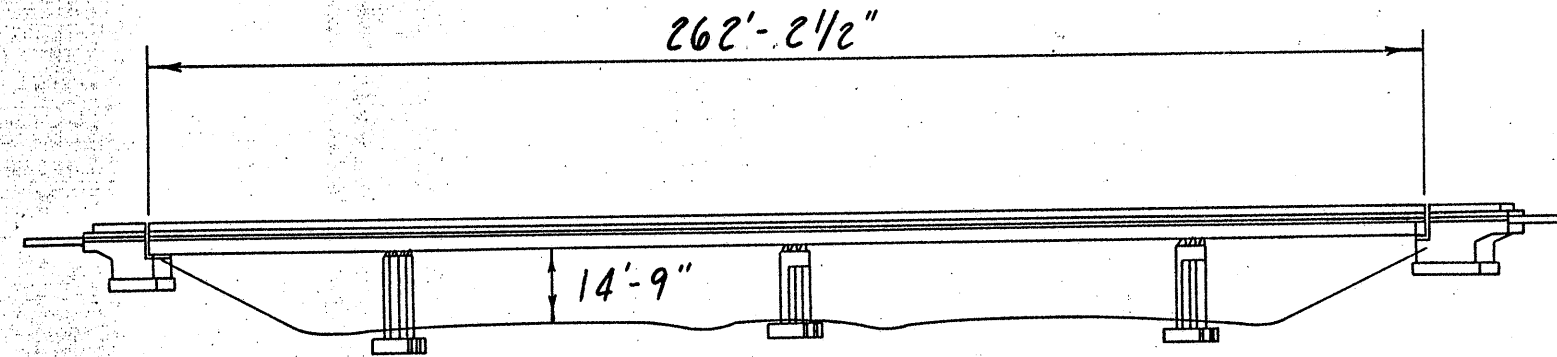


Intermediate Cross Frames
Ls 3 x 3 x 5/16

PART 9
RIC - 30 - 1404 L&R

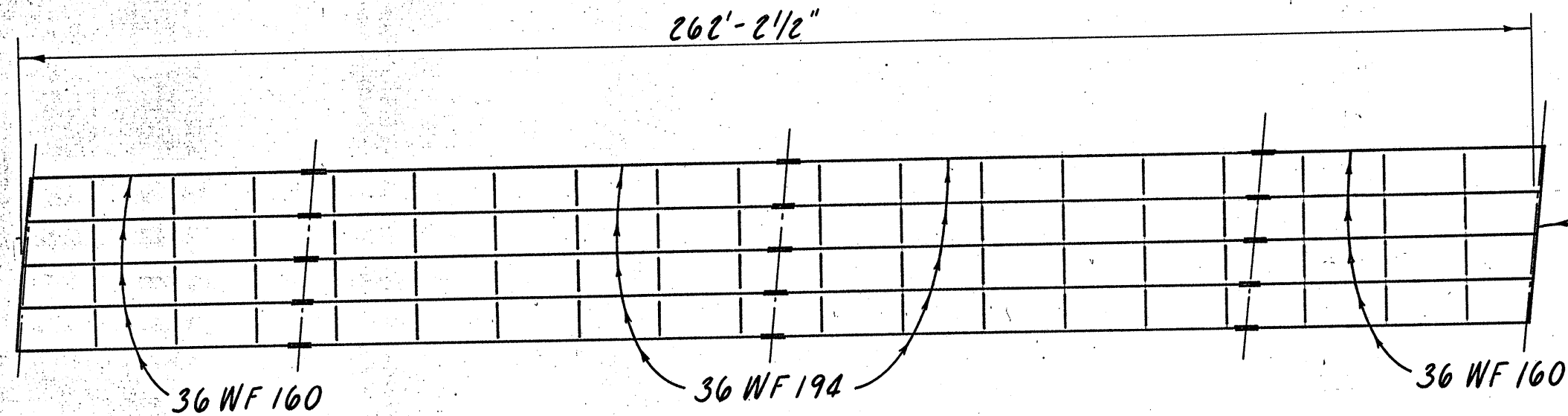


PART 10
RIC - 71 - 1455 L&R

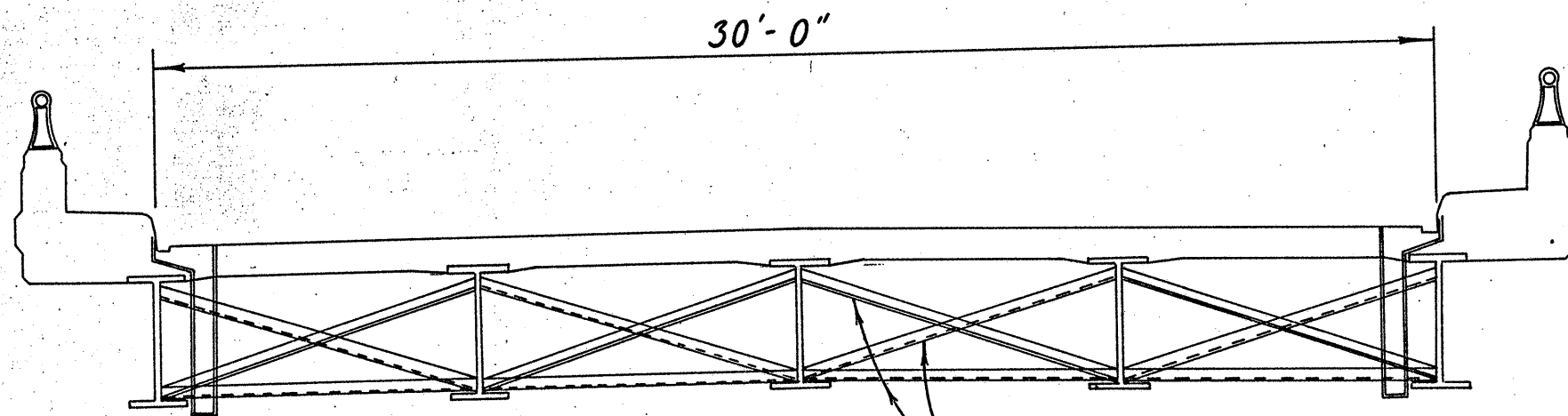


RIC - 71 - 1486
Under S.R. 39

Approximate Surface
Area 14,000 Sq. Ft.

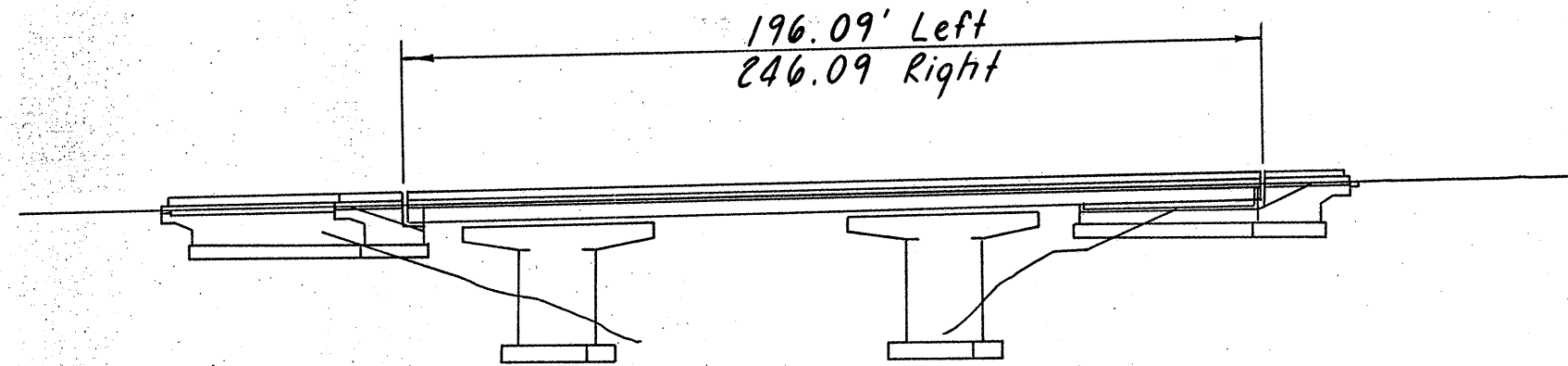


End Cross Frames
Ls 4x4 x 5/16



Intermediate Cross Frames
Ls 3x3 x 5/16

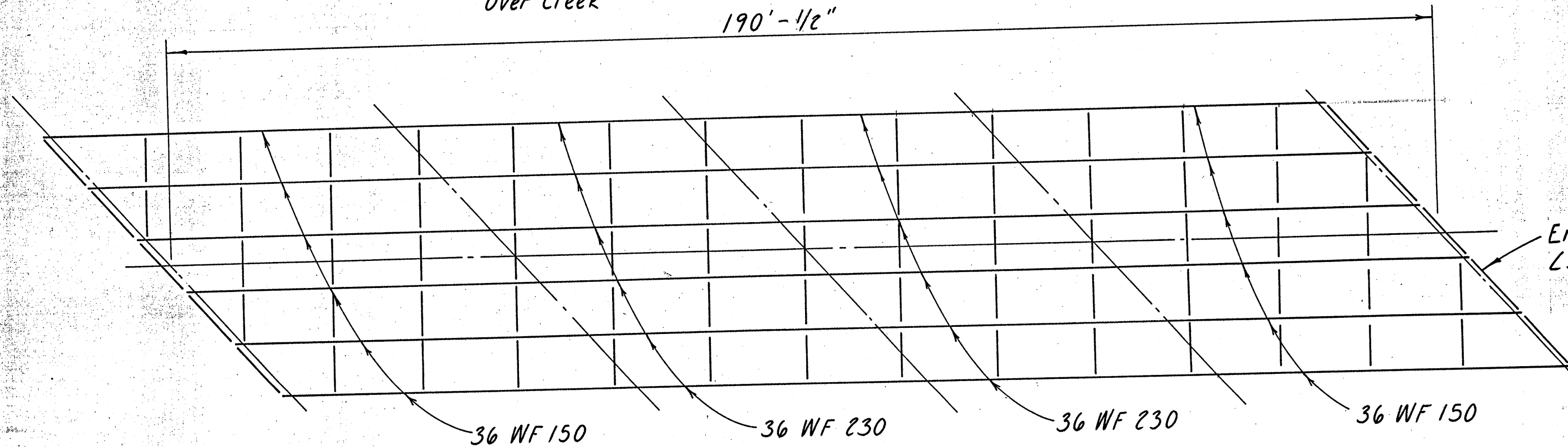
PART II
RIC - 71 - 1486



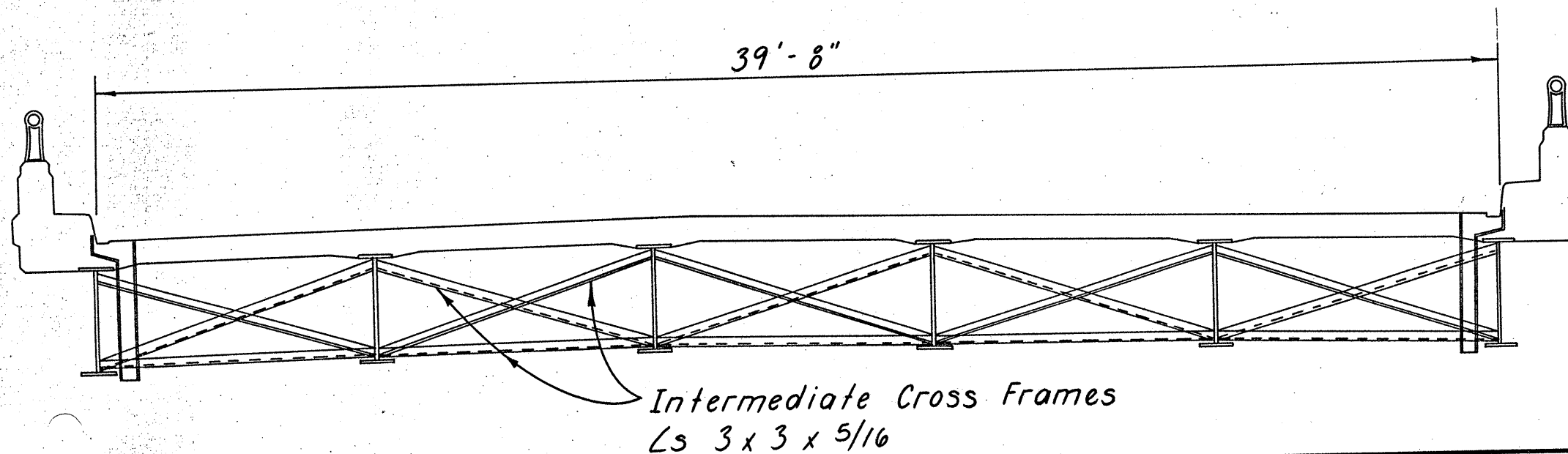
Approximate Surface
Area 31,000 Sq. Ft.

RIC - 71 - 1523 L&R
Over Creek

190' - 1/2"

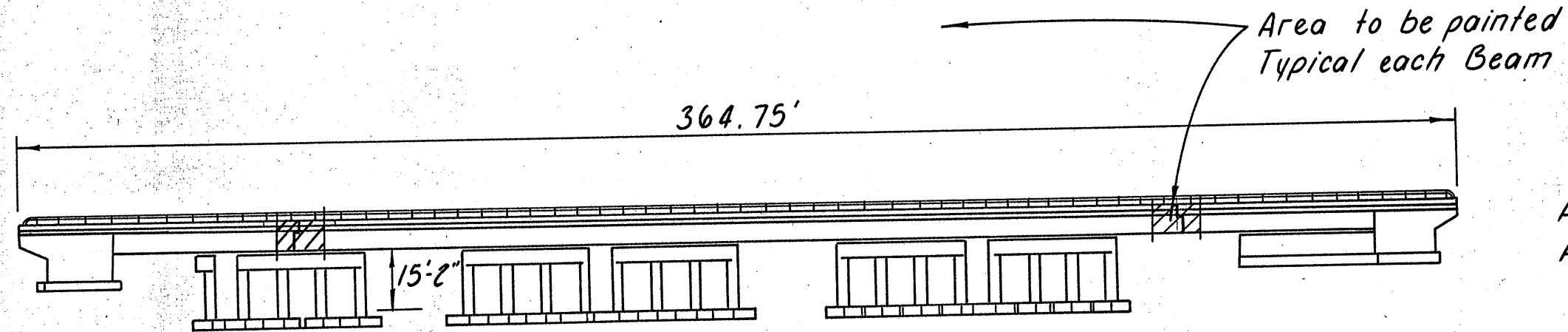


End Cross Frames
Ls 4 x 4 x 5/16



Intermediate Cross Frames
Ls 3 x 3 x 5/16

PART 12
RIC - 71 - 1523 L&R

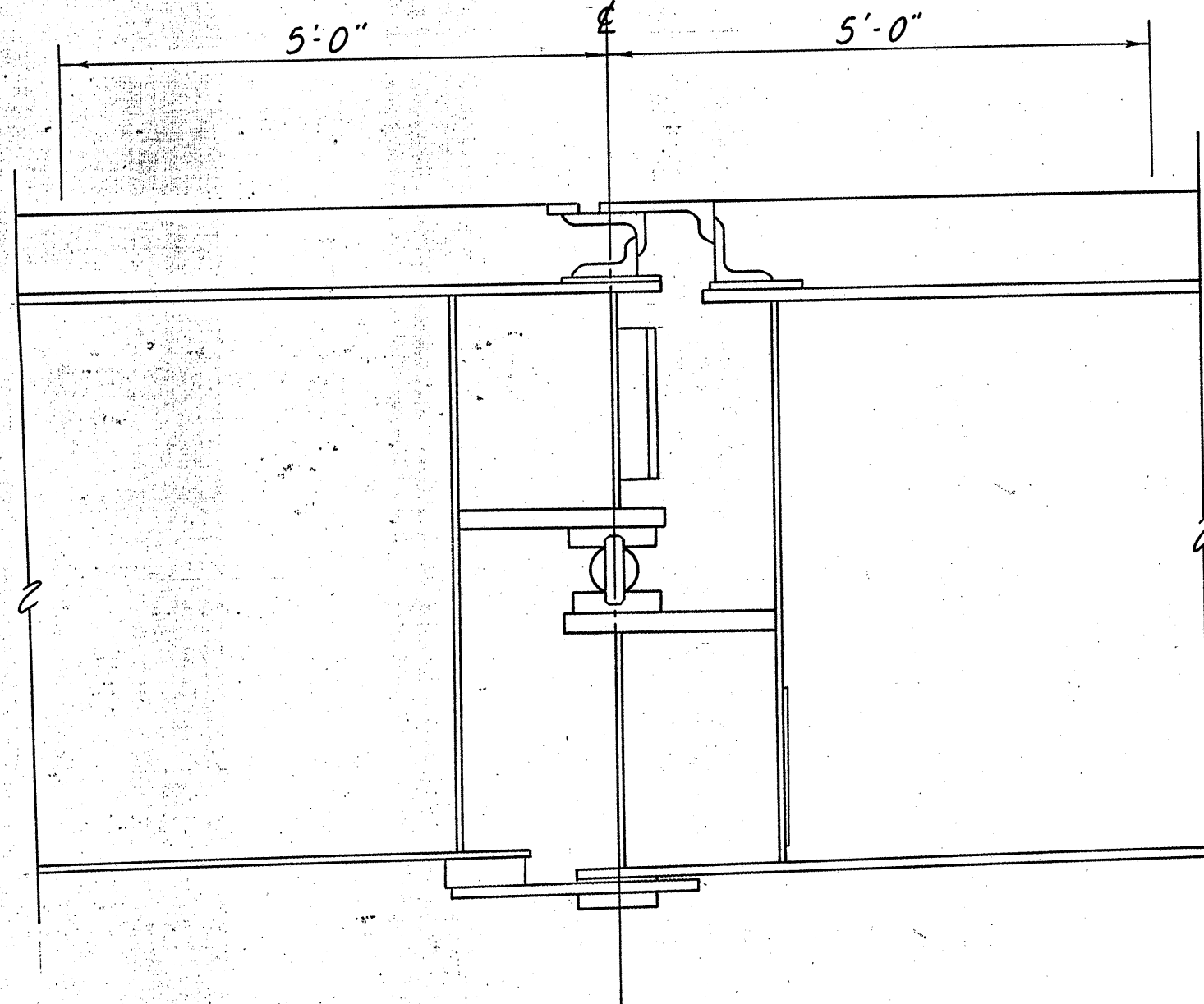


Approximate Surface
Area 2,000 Sq. Ft.

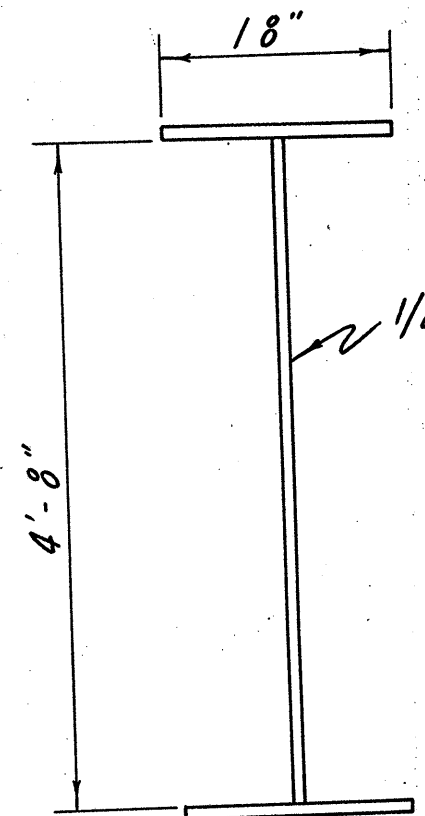
WAY - 30 - 0946

Under St. Rt. 3
(Columbus Ave.)

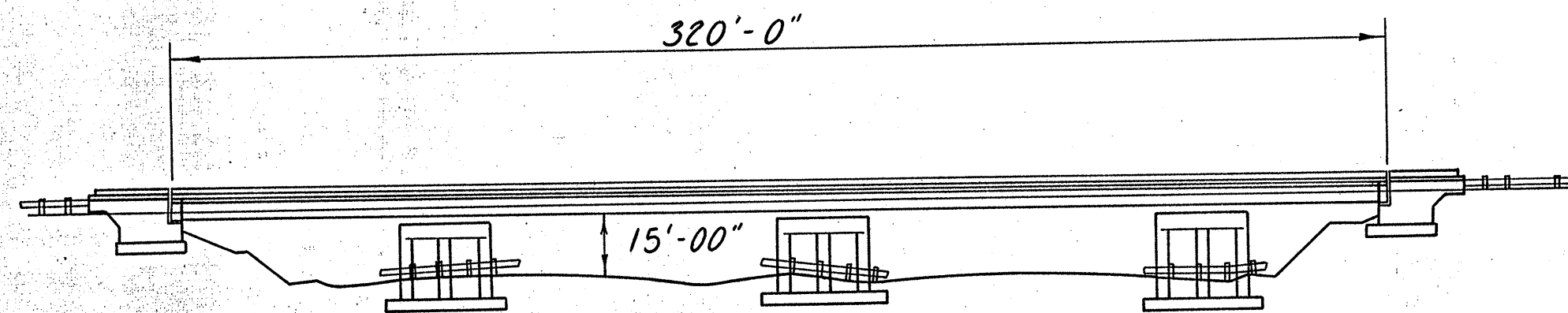
Paint 5'-0" on each side of $\mathbb{E}$



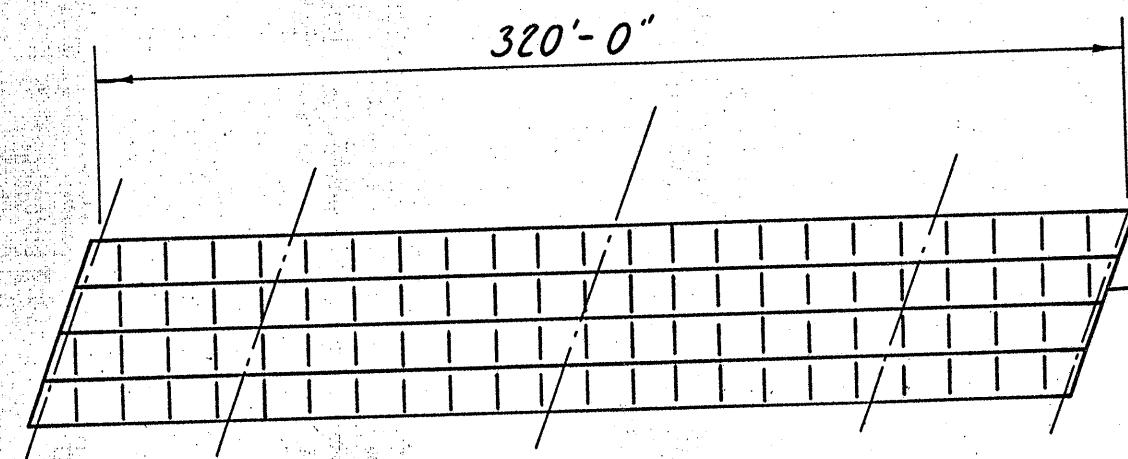
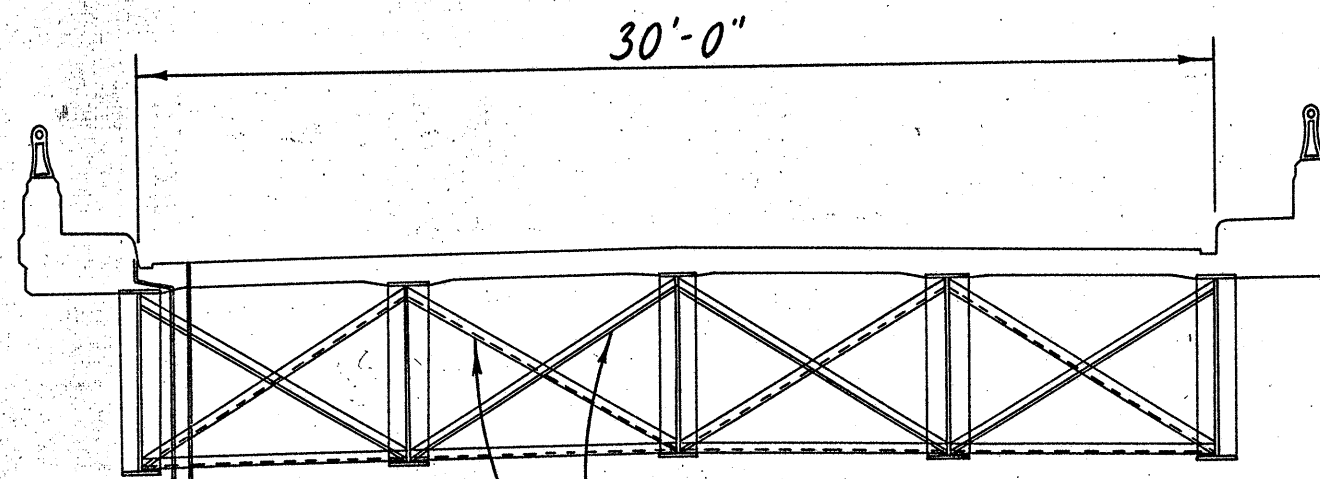
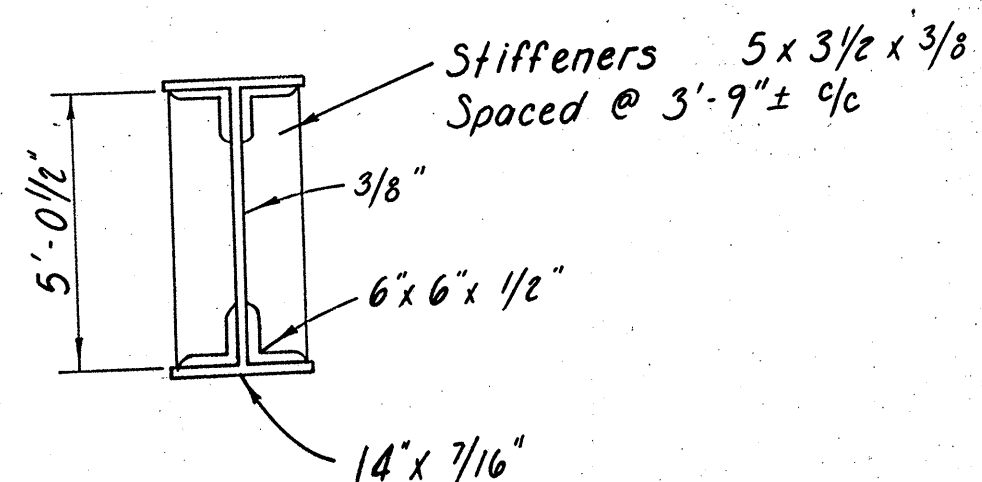
EXPANSION JOINT DETAIL

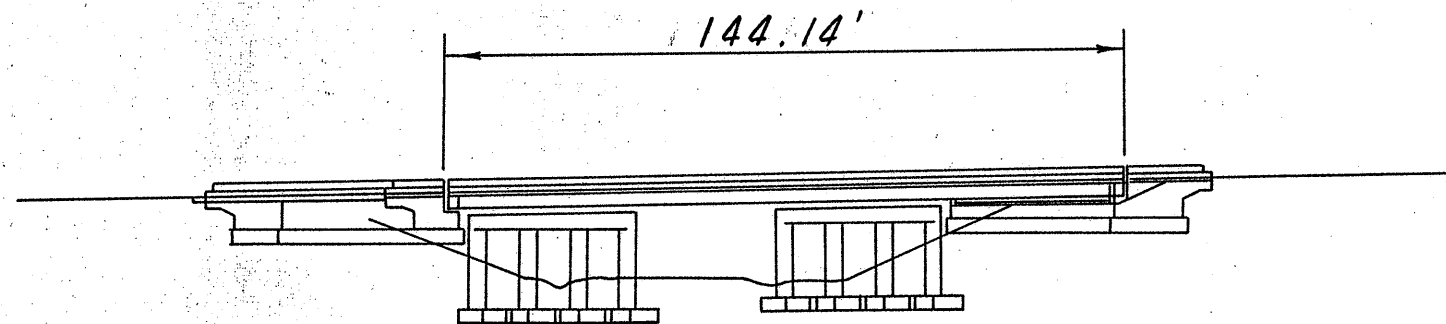


PART 15
WAY - 30 - 0946

RIC - 71 - 1753Approximate Surface
Area 28,000 Sq. Ft.

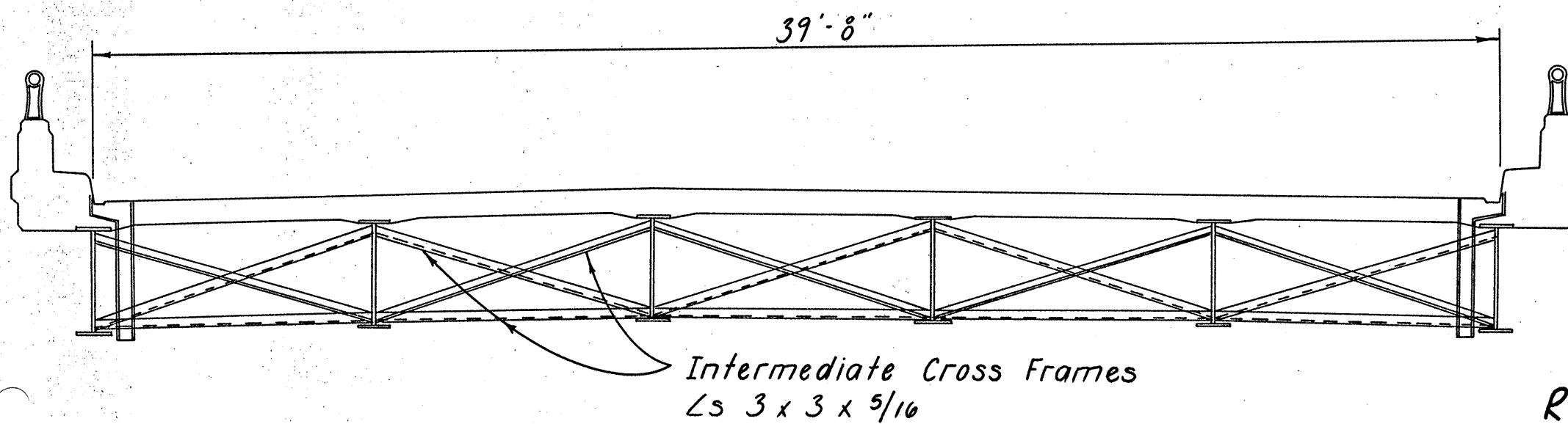
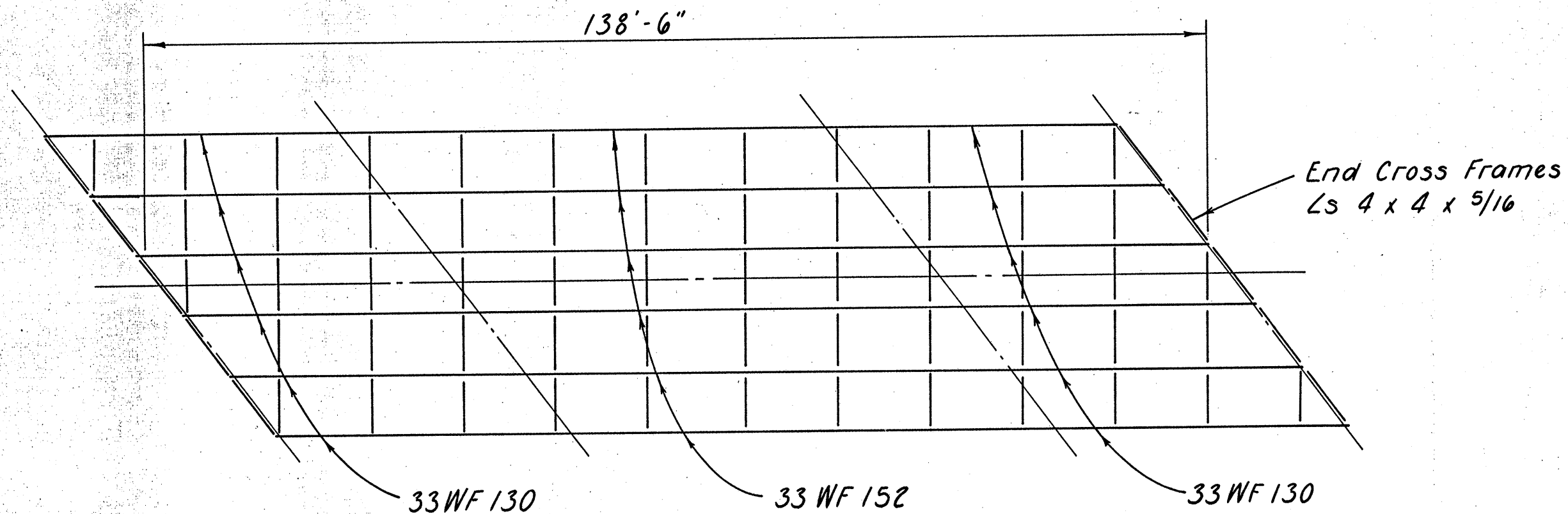
Under S.R. 430

End Cross Frames
Ls 4x4x 5/16Intermediate Cross Frames
Ls 3x3x 5/16PART 14
RIC - 71 - 1753

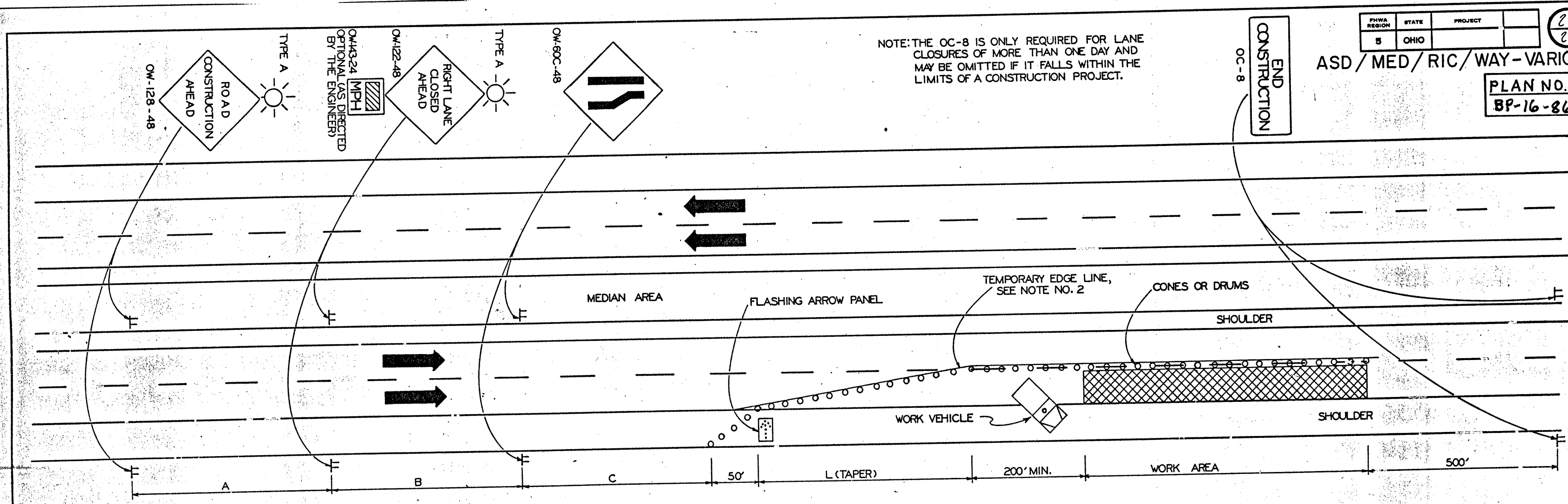


Approximate Surface
Area 18,000 Sq. Ft.

RIC - 71 - 1542 L&R
Over County Road



PART 13
RIC - 71 - 1542 L&R



- 1) THE TAPER LENGTH (L) SHALL BE IN ACCORDANCE WITH SECTION 7F-17 OF THE OMUTCD. THE LOCATION OF THE TRANSITION TAPER AND LOCATION OF THE ADVANCE WARNING SIGNS SHOULD BE ADJUSTED TO PROVIDE FOR ADEQUATE SIGHT DISTANCE FOR THE EXISTING VERTICAL AND HORIZONTAL ROADWAY ALIGNMENT. IN ORDER TO DETERMINE THE MINIMUM NUMBER OF CHANNELIZING DEVICES FOR THE TRANSITION TAPER SEE TABLE 7-5 OMUTCD. FOR A 55 MPH PREVAILING SPEED AND A 1/2 FT. LANE, NOT LESS THAN THIRTEEN (13) DRUMS SHALL BE USED TO FORM THE LANE TRANSITION TAPER IN ADVANCE OF THE WORK AREA. NOT LESS THAN FIVE (5) DRUMS SHALL BE USED TO FORM THE TAPER ON THE SHOULDER. DRUMS SHALL BE SPACED 50' CENTER TO CENTER IN THE WORK AREA. CONES HAVING A MINIMUM HEIGHT OF 28 INCHES MAY BE SUBSTITUTED FOR DRUMS FOR DAY TIME LANE CLOSURES. PROVISIONS SHALL BE MADE TO STABILIZE THE CONES TO PREVENT THEM FROM BLOWING OVER.
- 2) IF THE CONSTRUCTION OPERATION REQUIRES THE LANE CLOSURE FOR MORE THAN ONE DAY THEN THE EXISTING CONFLICTING PAVEMENT MARKINGS AND REFLECTORS FROM THE RAISED PAVEMENT MARKERS SHALL BE REMOVED AND THE APPROPRIATE COLOR TEMPORARY EDGE LINES SHALL BE APPLIED. PAVEMENT MARKING TAPE MAY BE USED. AFTER COMPLETION OF THE WORK, TEMPORARY MARKINGS SHALL BE REMOVED IN ACCORDANCE WITH 621.134 AND THE ORIGINAL MARKINGS AND RAISED PAVEMENT MARKER REFLECTORS SHALL BE RESTORED.
- 3) THE MAJOR STANDARD LEVEL (36") WARNING SIGNS MAY BE USED ON DIVIDED STREETS OR HIGHWAYS THAT ARE NOT CLASSIFIED AS FREEWAYS OR EXPRESSWAYS.

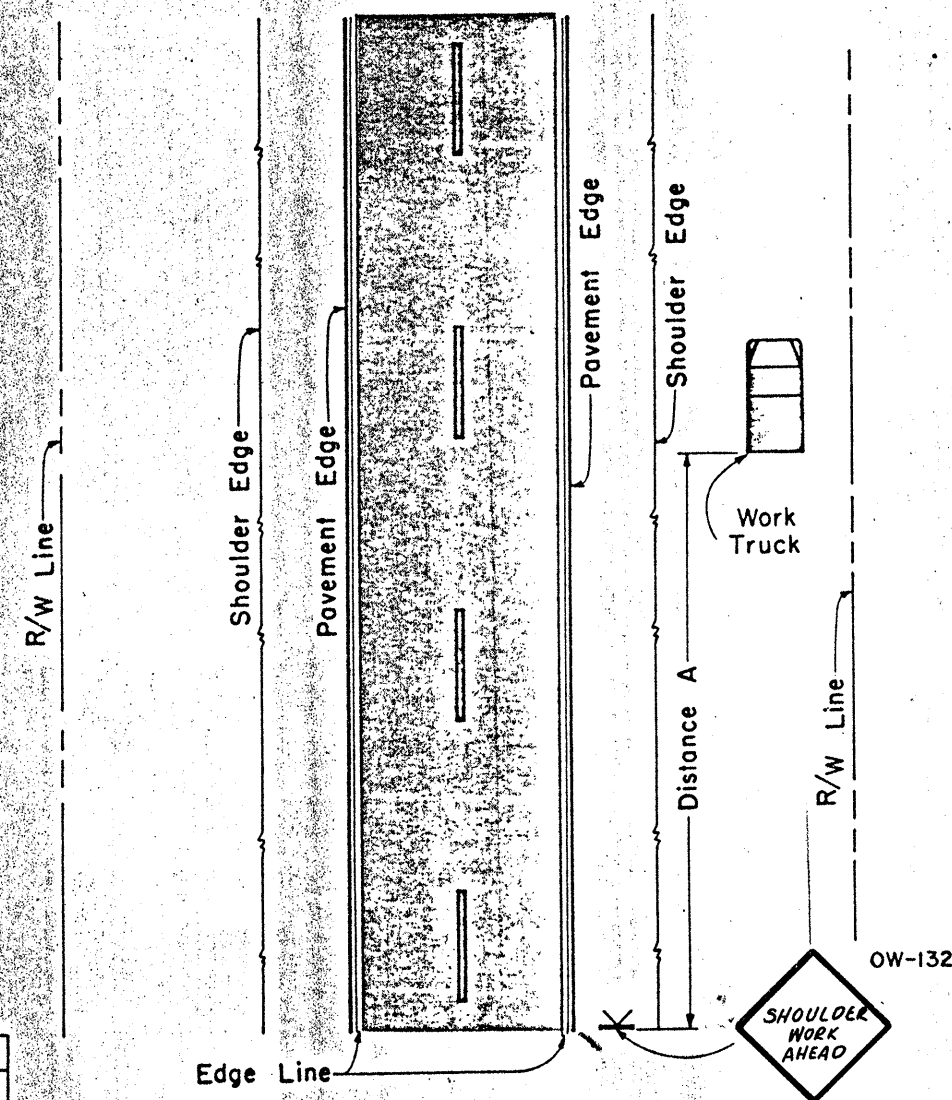
- 4) WHEN WORK IS BEING PERFORMED IN THE LANE ADJACENT TO THE MEDIAN ON A DIVIDED HIGHWAY AN OW-123-48 SIGN(S) SHALL BE SUBSTITUTED FOR THE OW-122-48 SIGN(S) AND AN OW-60D-48 SIGN(S) SHALL BE SUBSTITUTED FOR THE OW-60C-48 SIGN(S). NOTE NO. 2 IS APPLICABLE FOR THIS CLOSURE ALSO.
- 5) THE WORK VEHICLE SHOWN AT THE BEGINNING OF THE WORK AREA SHALL BE IN PLACE AND UNOCCUPIED WHENEVER WORKERS ARE IN THE WORK AREA. THIS WORK VEHICLE SHALL BE REMOVED FROM THE PAVEMENT WHENEVER WORKERS ARE NOT IN THE WORK AREA. OTHER PROTECTIVE DEVICES MAY BE USED IN LIEU OF THE WORK VEHICLE SHOWN WHEN APPROVED BY THE ENGINEER. THE VEHICLE SHALL BE EQUIPPED WITH A 360° ROTATING OR FLASHING AMBER BEACON CLEARLY VISIBLE FOR A MINIMUM OF ONE-QUARTER (1/4) MILE.
- 6) THE FLASHING ARROW PANEL SHALL MEET THE REQUIREMENTS OF STANDARD DRAWING TC-35.10.
- 7) TYPE C STEADY BURN BARRICADE WARNING LIGHTS SHALL BE ERECTED ON DRUMS FOR NIGHT LANE CLOSURES. THE MAXIMUM SPACING SHALL BE IDENTICAL TO THE CHANNELIZING DEVICE SPACING REQUIREMENTS DESCRIBED IN NOTE NO. 1.
- 8) TYPE A FLASHING BARRICADE WARNING LIGHTS SHOWN ON THE "ROAD CONSTRUCTION AHEAD" AND THE "RIGHT LANE CLOSED AHEAD" SIGNS ARE REQUIRED WHENEVER A NIGHT LANE CLOSURE IS NECESSARY.

- 9) SOME WORK AREA LOCATIONS MAY REQUIRE MORE THAN JUST STATIC OR CONVENTIONAL SIGNS TO ENHANCE COMMUNICATION WITH THE DRIVER. AT THESE LOCATIONS PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) UNITS ARE RECOMMENDED. THESE DEVICES SHOULD BE LOCATED APPROXIMATELY 2,000 FEET IN ADVANCE OF A LANE CLOSURE OR OTHER POINT OF REQUIRED ACTION. SEE SECTION 7G-8.1, OMUTCD FOR FURTHER GUIDANCE ON USE OF PCMS UNITS. THESE UNITS, IF REQUIRED, WILL BE SPECIFICALLY CALLED FOR IN THE PLANS AND PAID FOR SEPARATELY.
- 10) PAYMENT FOR ALL OF THE ABOVE, UNLESS ITEMIZED SEPARATELY, SHALL BE INCLUDED IN ITEM 614, MAINTAINING TRAFFIC.

MINIMUM DISTANCE	A	B	C
	FEET	FEET	FEET
MAJOR STANDARD	500	500	500
URBAN FREEWAY & EXPRESSWAY	500 TO 1000	500 TO 1000	500 TO 1000
RURAL FREEWAY & EXPRESSWAY	2600	1600	1000

OHIO DEPARTMENT OF TRANSPORTATION			
CLOSING ONE LANE OF A FOUR LANE DIVIDED HIGHWAY			DATE: 12/82
REVISED:			
CN 10-83			

TYPICAL APPLICATIONS OF TRAFFIC CONTROL DEVICES FOR OPERATIONS BEYOND THE SHOULDER



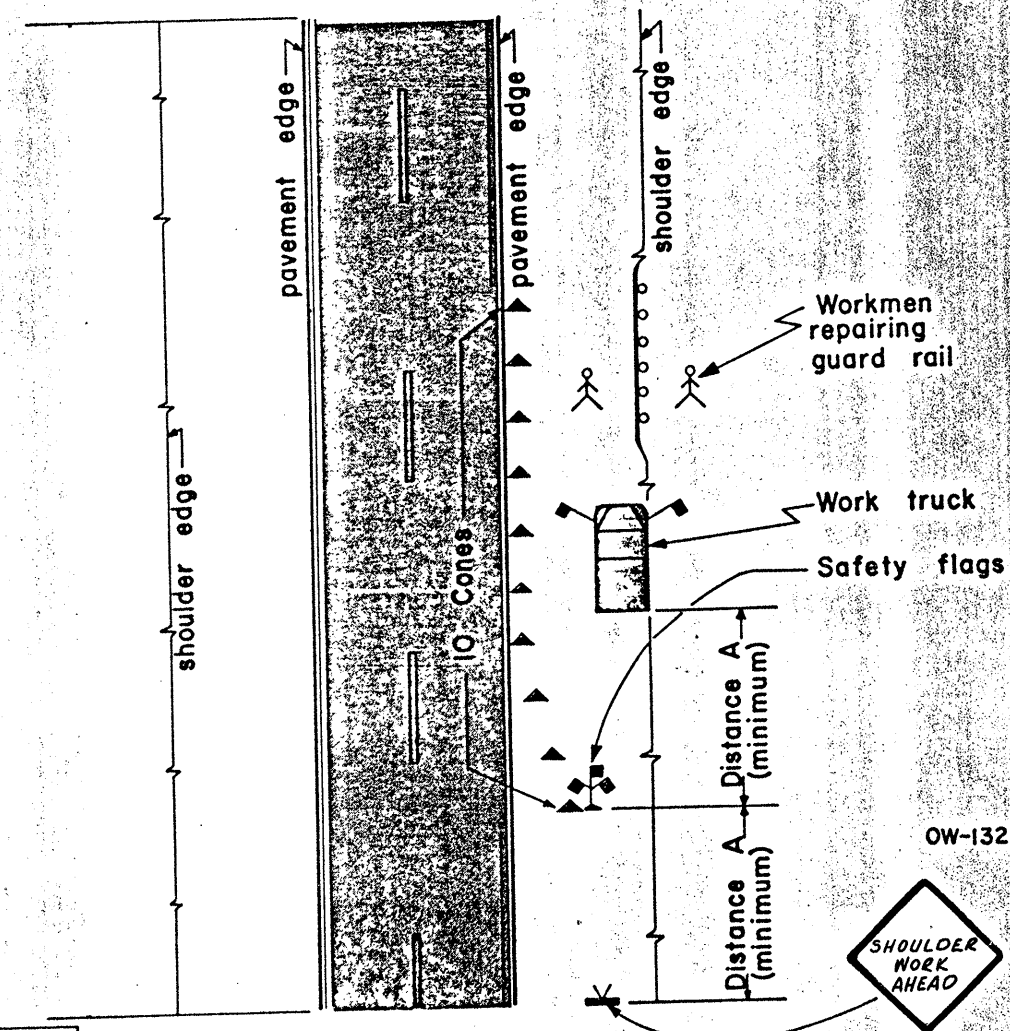
REF. SEC.
7D-16

NOTES:

1. Erect signs only on that side of the road where work is being done.
2. Erect signs facing both directions for work in the median area.

TYPE OF ROADWAY	DISTANCE A - ft.
Urban	200
Standard	500
Expressway	1500

TYPICAL APPLICATIONS OF TRAFFIC CONTROL DEVICES FOR STATIONARY OPERATIONS ON THE SHOULDER



REF. SEC.
7D-16

NOTES:

1. Space the cones at 50' maximum.
2. For work within the median, install the same cones and signs for both directions of travel.

TYPE OF ROADWAY	DISTANCE A - ft.
Urban	200
Standard	500
Expressway	750