PLAN INDEX	
SH. NO.	DESCRIPTION
1	TITLE SHEET
2	NOTE SHEET
3	DETOUR ROUTE
4	GENERAL PLAN OF SITE
5-6	GENERAL PLAN OF STRUCTURE
7	EX. GENERAL PLAN OF SITE
8-9	EX. GENERAL PLAN OF STRUCTURE (REMOVAL)
10-11	EX. ABUTMENT A DETAILS (REMOVAL)
12-13	EX. ABUTMENT B DETAILS (REMOVAL)
14-16	EX. STRUCTURAL STEEL DETAILS (REMOVAL)
17	ABUTMENT REPAIR DETAILS
18-19	STRUCTURAL STEEL DETAILS
20-22	PIN AND HANGER DETAILS
23	EXPANSION JOINT DETAILS
24-30	SUPERSTRUCTE DETAILS
31-33	SLAB AND SCREED DETAILS
34	STEEL REINFORCEMENT DETAILS
35-38	APPROACH DETAILS
39-55	STREET LIGHTING DETAILS
56-60	SPECIAL DETAILS

CITY OF DETROIT

IN COOPERATION WITH

MICHIGAN DEPARTMENT OF TRANSPORTATION

AND

FEDERAL HIGHWAY ADMINISTRATION

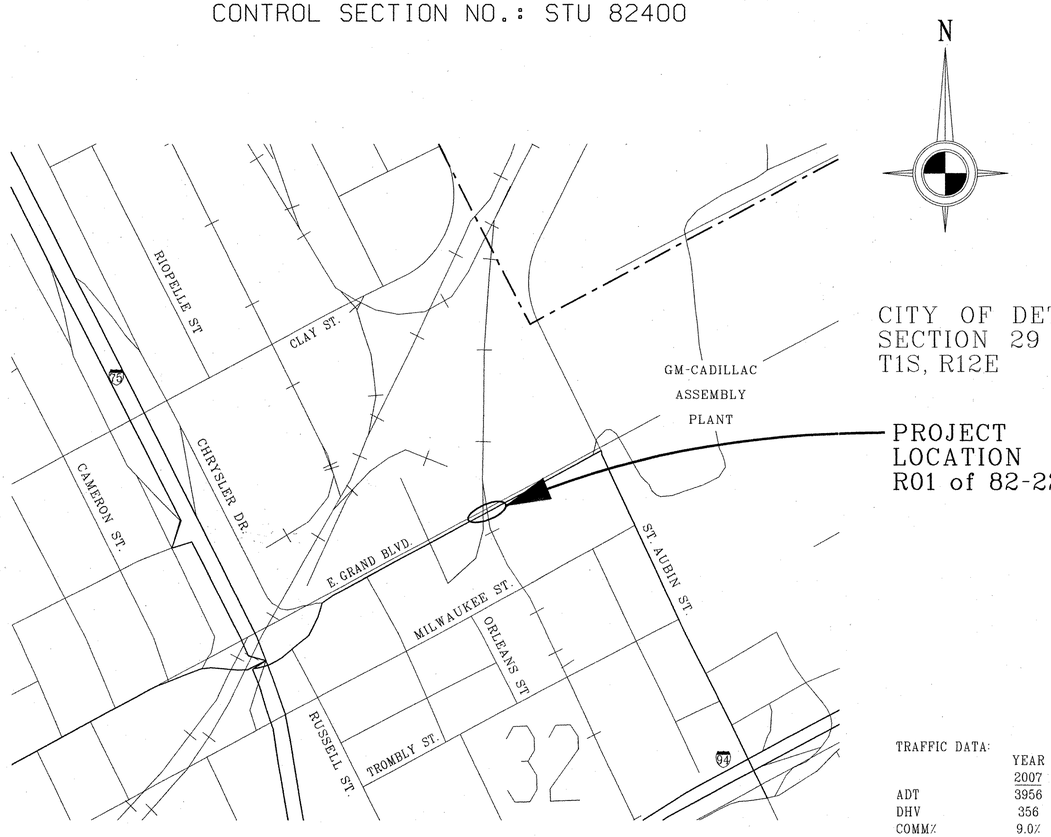
PLAN AND PROFILE OF PROPOSED
REHABILITATION OF THE

EAST GRAND BOULEVARD BRIDGE

OVER THE

DETROIT CONNECTING RAILROAD

FEDERAL PROJECT NO.: STP 0782 (130)
FEDERAL ITEM NO.: HH 5103
STATE BRIDGE NO.: R01 OF 82-22-54
JOB NO.: 86173A
CONTROL SECTION NO.: STU 82400



CITY OF DETROIT
SECTION 29
T1S, R12E

TRAFFIC DATA:

	YEAR 2007	YEAR 2027
ADT	3956	7118
DHV	356	648
COMM%	9.0%	9.0%
DESIGN SPEED		35 MPH
POSTED SPEED		35 MPH

TITLE SHEET LEGEND

- PROPOSED BRIDGE PROJECT
- EXISTING ROADS
  - CITY STREET
  - COUNTY
  - STATE ROUTES
  - FEDERAL DIVIDED ROUTES
  - FEDERAL DIVIDED INTERSTATE ROUTES
- SECTION LINE
- CITY, VILLAGE OR TOWNSHIP LIMITS
- RAILROADS

CONTRACT FOR: DECK REPLACEMENT, PIN AND HANGER REPLACEMENT AND RELATED APPROACH WORK FOR EAST GRAND BOULEVARD OVER DETROIT CONNECTION RAILROAD AND RIVARD STREET

BRIDGE PLANS WERE PREPARED FOR THE CITY OF DETROIT
BY

DLZ
151 WEST CONGRESS, SUITE 328
DETROIT, MICHIGAN 48226
(313) 961-4040

STATE OF MICHIGAN · RONALD G. WOOLFE ENGINEER NO. 23345 · LICENSED PROFESSIONAL ENGINEER

Ronald G. Woolfe — LICENSED PROFESSIONAL ENGINEER — 4/14/08 DATE

LOCAL AUTHORITY APPROVAL
CITY OF DETROIT
CITY ENGINEERING DIVISION
DEPARTMENT OF PUBLIC WORKS

APPROVED BY _____ HEAD ENGINEER _____ DATE

APPROVED BY Luis Torres CITY ENGINEER 4/18/08 DATE

PREPARED UNDER THE SUPERVISION OF

Rodolfo Flores — LICENSED PROFESSIONAL ENGINEER — 19128 REGISTRATION NO.

CITY OF DETROIT
ORGANIZATION

CITY ENGINEERING DIVISION
900 CADILLAC TOWER
DETROIT, MI 48226
ADDRESS

STATE OF MICHIGAN · RODOLFO L. FLORO ENGINEER No. 19128 · LICENSED PROFESSIONAL ENGINEER

MDOT
Michigan Department of Transportation

CONTROL SECTION	JOB NUMBER	FEDERAL NUMBERS PROJECT	FEDERAL NUMBERS ITEM	SHEET NO.
STU 82400	86173A			1

STU 82400-86173A
CONTROL SECTION — JOB NUMBER
DATE: 2/8/07
CORRECTED BY: DAF
DATE: 1/16/07
CHECKED BY: KCK
DATE: 1/10/07
DRAWN BY: DAF
FILE NAME: east grand title.dgn

CITY OF DETROIT STANDARD PLANS

WHERE THE FOLLOWING ITEMS ARE CALLED FOR ON THE PLANS THEY ARE TO BE CONSTRUCTED ACCORDING TO THE STANDARD PLAN GIVEN BELOW OPPOSITE EACH ITEM UNLESS OTHERWISE INDICATED AS INCLUDED IN THE PROPSAL.

STANDARD CURB DETAILS	C-4380
STANDARD SEWER AND DROP MANHOLES	C-4387
MANHOLE FRAME AND COVER	C-4391
FLAT TYPE GRATE AND FRAME	C-4392
BARRICADES AND LIGHTED ARROW	C-4730
PAVEMENT REINFORCEMENT	C-4942R
REINFORCED CONCRETE PAVEMENT JOINTS	C-4943
TYPICAL JOINT LAYOUT FOR REINFORCED CONCRETE PAVEMENT	C-4992
STANDARD CATCH BASINS "A" AND "B" AND FLAT GRATE AND FRAME	C-5028
SIDEWALK RAMP DETAILS	R-28-A

MDOT STANDARD PLANS

WHERE THE FOLLOWING ITEMS ARE CALLED FOR ON THE PLANS THEY ARE TO BE CONSTRUCTED ACCORDING TO THE STANDARD PLAN GIVEN BELOW OPPOSITE EACH ITEM UNLESS OTHERWISE INDICATED.

INTEGRAL CURB AND INTEGRAL CURB & GUTTER	R-31-D
LOAD TRANSFER ASSEMBLIES FOR TRANSVERSE JOINTS	R-40-F
CONCRETE BARRIER	R-49-F
UTILITY TRENCHES	R-83-B
SOIL EROSION & SEDIMENTATION CONTROL MEASURES	R-96-D
PLACEMENT OF TEMPORARY CONCRETE BARRIER	R-126-F
BRIDGE RAILING, AESTHETIC PARAPET TUBE	B-25-E
FENCING FOR BRIDGE RAILING, AESTHETIC PARAPET TUBE	B-41-B

GENERAL NOTES

THE REHABILITATION DESIGN IS BASED ON CURRENT AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES HS20-44 LOADING. LIVE LOAD PLUS IMPACT DEFLECTION DOES NOT EXCEED 1/1000 OF SPAN LENGTH AND 1/375 OF CANTILEVER ARM. THE LOAD FACTOR METHOD OF DESIGN WAS USED FOR THIS STRUCTURE. THE ORIGINAL STRUCTURE WAS DESIGNED FOR HS20-44 LOADING.

EXCEPT WHERE OTHERWISE INDICATED ON THESE PLANS, OR IN THE PROPOSAL AND SUPPLEMENTAL SPECIFICATIONS CONTAINED HEREIN, ALL MATERIALS AND WORKMANSHIP SHALL BE ACCORDING TO THE MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION 2003 EDITION.

ALL EXPOSED CONCRETE CORNERS SHOWN SQUARE ON THE PLANS SHALL BE BEVELED WITH ½" TRIANGULAR MOLDINGS EXCEPT AS OTHERWISE NOTED.

THE PROPOSED IMPROVEMENTS COVERED BY THESE PLANS ARE IN ACCORDANCE WITH THE AASHTO: A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS, 2004.

BIDDERS WILL BE FURNISHED WITH SCANNED IMAGES OF PLAN SHEETS OF THE EXISTING STRUCTURE IF REQUESTED.

THE DESIGN OF THE STRUCTURAL MEMBERS IS BASED ON MATERIAL OF THE FOLLOWING GRADES AND STRESSES:

CONCRETE: GRADE S2	f'c = 3,000 psi
CONCRETE: GRADE D	f'c = 4,000 psi
STEEL REINFORCEMENT	fy = 60,000 psi
EX. STRUCTURAL STEEL:	
ASTM A588W GRADE 50	fy = 50,000 psi
STRUCTURAL STEEL PINS:	
ASTM A276	fy = 36,000 psi
TEMP SUPPORT HANGER RODS:	
ASTM A193 GRADE B7 (AISI 4140)	
2½" AND UNDER	ft = 125,000 psi
	fy = 105,000 psi
OVER 2½" TO 4"	ft = 115,000 psi
	fy = 95,000 psi
OVER 4" TO 7"	ft = 100,000 psi
	fy = 75,000 psi

THE REGULATED WASTE ACTIVITY IDENTIFICATION NUMBERS FOR THIS PROJECT ARE AS FOLLOWS:

CONTROL SECTION	NUMBER
STU 82400	

TRAFFIC DATA:

	YEAR 2007	YEAR 2027
ADT	3956	7118
DHV	356	648
COMM%	9.0%	9.0%
DESIGN SPEED		35 MPH
POSTED SPEED		35 MPH

DATE: 2/8/07
CORRECTED BY: DAF
DATE: 1/16/07
CHECKED BY: KCK
DATE: 1/10/07
DRAWN BY: DAF
FILE NAME: east grand title.dgn

REVISIONS	DESCRIPTION	DATE	BY

DLZ

CITY OF DETROIT

EAST GRAND BLVD OVER DETROIT CONNECTING RAILROAD

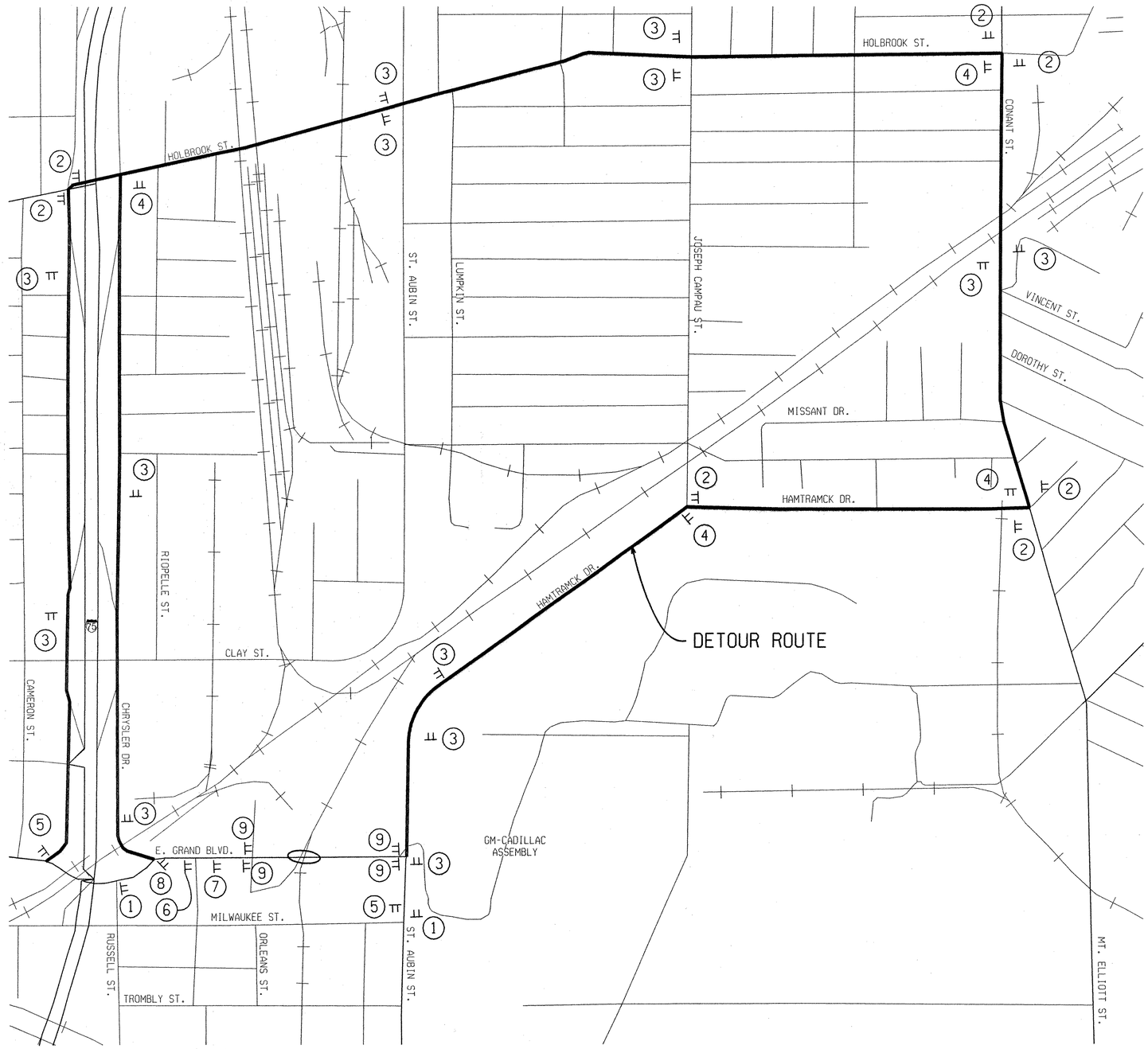
MDOT JOB NO. 86173A | STRUCTURE NO. R01 of 82-22-54

NOTE SHEET

DATE: 04/16/08

DLZ JOB NO. 0642-6090-00

SHEET NO. 2 OF 60



① DETOUR AHEAD — W20-2 (48" X 48") 16 SFT TYPE IIB SIGN

② E. GRAND BLVD / DETOUR — D3-1 (48" X 9") 3 SFT TYPE IIB SIGN; M4-9L (30" X 24") 5 SFT TYPE IIB SIGN

③ E. GRAND BLVD / DETOUR — D3-1 (48" X 9") 3 SFT TYPE IIB SIGN; M4-9S (30" X 24") 5 SFT TYPE IIB SIGN

④ E. GRAND BLVD / DETOUR — D3-1 (48" X 9") 3 SFT TYPE IIB SIGN; M4-9R (30" X 24") 5 SFT TYPE IIB SIGN

⑤ DETOUR ENDS — M4-8a (24" X 18") 3 SFT TYPE IIB SIGN

⑥ ROAD CLOSED AHEAD — W20-3 (48") 16 SFT TYPE IIIB SIGN

⑦ TRADE/KILL A WORKER / FINE - $ 2500 / JAIL - 15 YRS — R5-18bLA (60" X 42") 17.5 SFT TYPE IIIB SIGN

WORK ZONE BEGINS / TRAFFIC FINES DOUBLED — R5-18cLA (60" X 42") 17.5 SFT TYPE IIIB SIGN (450' SPA FROM R5-18bLA)

⑧ ROAD CLOSED AHEAD / LOCAL TRAFFIC ONLY — R11-3 (60" X 30") 12.5 SFT TYPE IIB SIGN MOUNT ON SEPARATE POSTS ABOVE AND BEHIND BARRICADE

DETOUR — M4-10 (48" X 18") 6 SFT TYPE IIB SIGN MOUNT ON SEPARATE POSTS ABOVE AND BEHIND BARRICADE

TYPE III LIGHTED BARRICADE

⑨ ROAD CLOSED — R11-2 (48" X 30") 10 SFT TYPE IIB SIGN MOUNT ON SEPARATE POSTS BEHIND BARRICADES

(4) TYPE III LIGHTED BARRICADES

MISCELLANEOUS QUANTITIES

17	Ea	Barricade, Type III, High Intensity, Double sided, Furn
17	Ea	Barricade, Type III, High Intensity, Double Sided, Oper
10	Ea	Plastic Drum, High Intensity, Lighted, Furn
10	Ea	Plastic Drum, High Intensity, Lighted, Oper
340	Sft	Sign, Type B, Temp, Prismatic, Furn
340	Sft	Sign, Type B, Temp, Prismatic, Oper
1	LS	Minor Traf Devices

DATE: 07/06/06 CORRECTED BY:KCK
DATE: 07/06/07 CHECKED BY: KCK
DRAWN BY: DW
FILE NAME: east grand detour.dgn

REVISIONS	DESCRIPTION	DATE	BY

DLZ

CITY OF DETROIT

EAST GRAND BLVD OVER DETROIT CONNECTING RAILROAD

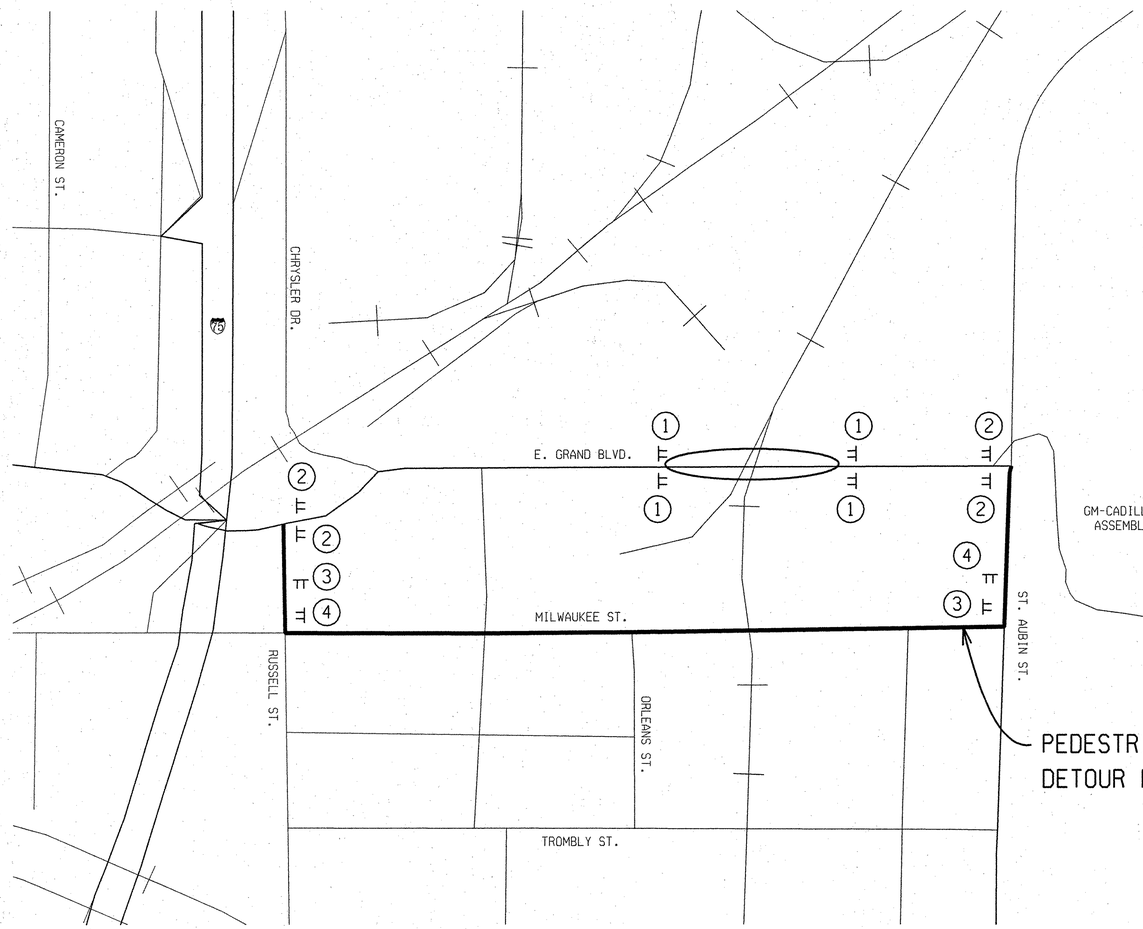
MDOT JOB NO. 86173A | STRUCTURE NO. R01 of 82-22-54

DETROUR ROUTE

DATE: 04/16/08

DLZ JOB NO. 0642-6090-00

SHEET NO. 3 OF 60



③ DETOUR — M4-9b (30" X 24") 5 SFT TYPE IIB SIGN

④ DETOUR — M4-9b (30" X 24") 5 SFT TYPE IIB SIGN

SIDEWALK CLOSED — R9-9 (30" X 18") 3.75 SFT TYPE IIB SIGN MOUNT ON SEPARATE POSTS ABOVE AND BEHIND BARRICADE

① TYPE III LIGHTED BARRICADE

② SIDEWALK CLOSED AHEAD / CROSS HERE — R9-11 (48" X 36") 12 SFT TYPE IIB SIGN

MISCELLANEOUS QUANTITIES

4	Ea	Barricade, Type III, High Intensity, Double sided, Furn
4	Ea	Barricade, Type III, High Intensity, Double Sided, Oper
83	Sft	Sign, Type B, Temp, Prismatic, Furn
83	Sft	Sign, Type B, Temp, Prismatic, Oper

REVISIONS	DESCRIPTION	DATE	BY

DLZ

CITY OF DETROIT

EAST GRAND BLVD OVER
DETROIT CONNECTING RAILROAD

MDOT JOB NO. 86173A | STRUCTURE NO. R01 of 82-22-54

DETOUR ROUTE

DATE: 04/16/08
DLZ JOB NO. 0642-6090-00
SHEET NO. 3A OF 60

DATE: 07/06/06
DATE: 07/06/07 CORRECTED BY:KCK
CHECKED BY: KCK
DRAWN BY: DW
FILE NAME: east grand ped detour.dgn

BENCH MARKS

BM 100 EL 149.59
SOUTHEAST ANCHOR BOLT LAMP POLE WEST SIDE OF ENTRANCE DETROIT ENERGY RECYCLING CENTER NORTH SIDE EAST GRAND BLVD WEST SIDE OF BRIDGE.
NORTHING: 10054.0520 EASTING: 19901.8540

BM 101 EL 150.69
BENCH TIE SOUTH SIDE POWER POLE #21490 NORTH SIDE OF BRIDGE DOWN UNDER EAST SIDE OF PARKING LOT TO MILWAUKEE PARK LOFTS
NORTHING: 10453.1930 EASTING: 20973.8950

WITNESSES

WITNESSES TO CP1; 2" MAG NAIL IN CONC ISLAND NORTH OF SERVICE DRIVE SOUTH OF EAST GRAND BLVD WEST SIDE OF BRIDGE

N 20° W	BACK OF CURB	4.00 FT
S 70° W	BACK OF CURB WEST END OF ISLAND	35.70 FT
S 20° E	BACK OF CURB	3.40 FT

NORTHING: 10000.0000 EASTING: 20000.000

WITNESSES TO CP12; 6" DOCK SPIKE IN SOUTHWEST OF NORTH SIDE SERVICE RD NORTH SIDE OF EAST GRAND BLVD WEST END OF BRIDGE EAST OF ENTRANCE TO DETROIT ENERGY RECYCLING
NORTHING: 10109.6510 EASTING: 19962.6540

N 18° W	BACK OF SIDEWALK	2.50 FT
S 18° E	BACK OF CURB	5.20 FT
S 75° W	CORNER POST FOR GATE	40.80 FT

WITNESSES TO CP5; 6" DOCK SPIKE IN CROSS SEAM OF SIDEWALK EAST SIDE GENERAL MOTOR BLVD EAST END OF SITE SOUTH OF BRIDGE

N 35° W	SOUTHWEST ANCHOR BOLT OF LIGHT POLE	50.30 FT
N 57° W	CENTER WATER MANHOLE	26.35 FT
S 76° W	BACK OF CURB	7.35 FT

NORTHING: 10328.3620 EASTING: 21655.7850

WITNESSES TO CP6; 6" DOCK SPIKE IN CROSS SEAM OF SIDEWALK EAST SIDE OF GENERAL MOTOR BLVD EAST END OF SITE NORTH OF BRIDGE ℄

N 27° W	SOUTHWEST ANCHOR BOLT OF LIGHT POLE	
S 18° W	CENTER LIGHT POLE	58.75 FT
S 76° W	BACK OF CURB	42.35 FT

NORTHING: 10518.8810 EASTING: 21605.4040 7.20 FT

EXISTING STRUCTURE

THE EXISTING STRUCTURE IS A SIX SPAN BRIDGE WITH A TOTAL LENGTH OF 488'. THE EXISTING BEAMS ARE ROLLED STEEL BEAMS. THE SUBSTRUCTURE IS ON SPREAD FOOTINGS. THE BRIDGE WAS BUILT IN 1973.

UTILITIES

CITY OF DETROIT, ELECTRIC, LIGHTING
PUBLIC LIGHTING DEPT (PLD)
9449 GRINNELL
DETROIT, MI 48213
ATTN.: STAN TOPOLEWSKI
PHONE NO.: (313) 267-7228

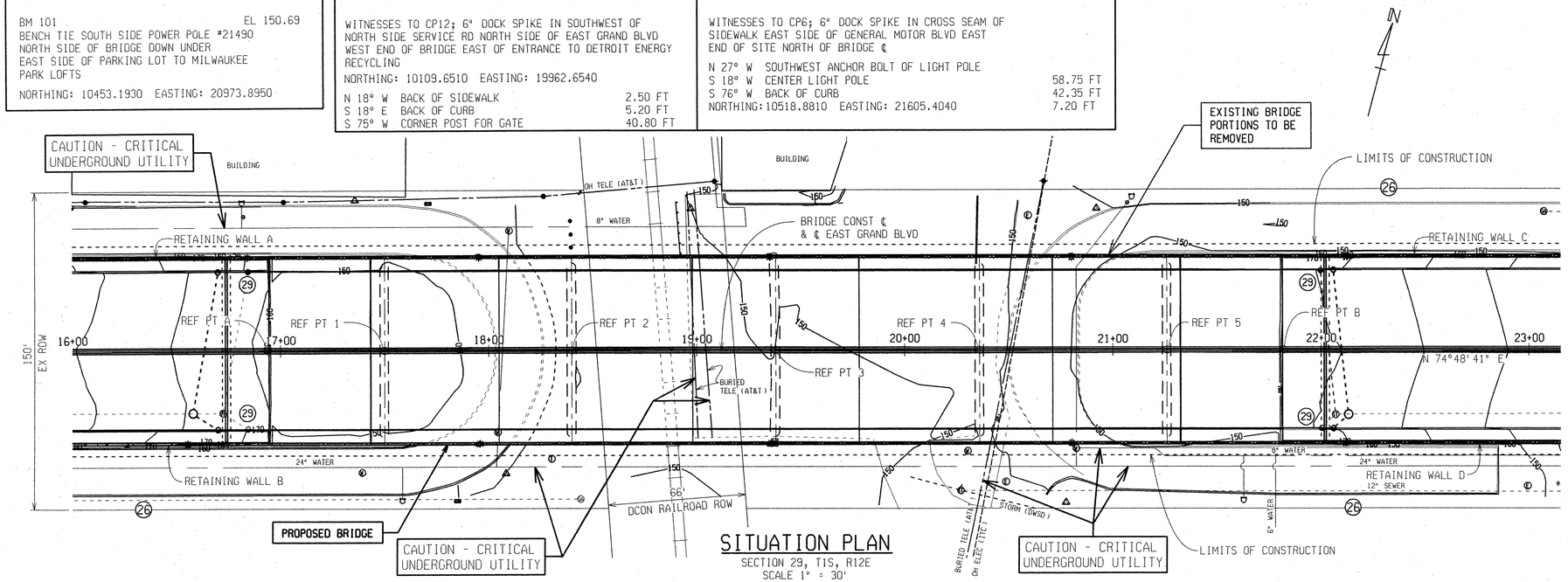
CITY OF DETROIT WATER, SEWER
DETROIT WATER & SEWERAGE DEPT (DWSD)
J MADISON BLDG
1420 WASHINGTON BLVD., SUITE 100
DETROIT, MI 48226
ATTN.: BHARAT DOSHI
PHONE NO.: (313) 967-1541

DTE ENERGY
MICHIGAN CONSOLIDATED GAS CO. (MCG) GAS
3200 HOBSON STREET
DETROIT, MI 48201
ATTN.: ADOLFO CASTILLO
PHONE NO.: (313) 577-7470

DETROIT EDISON (DET ED) ELECTRIC
982 BROADWAY
ANN ARBOR, MI 48105-1804
ATTN: DENNIS BREWER
PHONE NO: (734) 332-3105

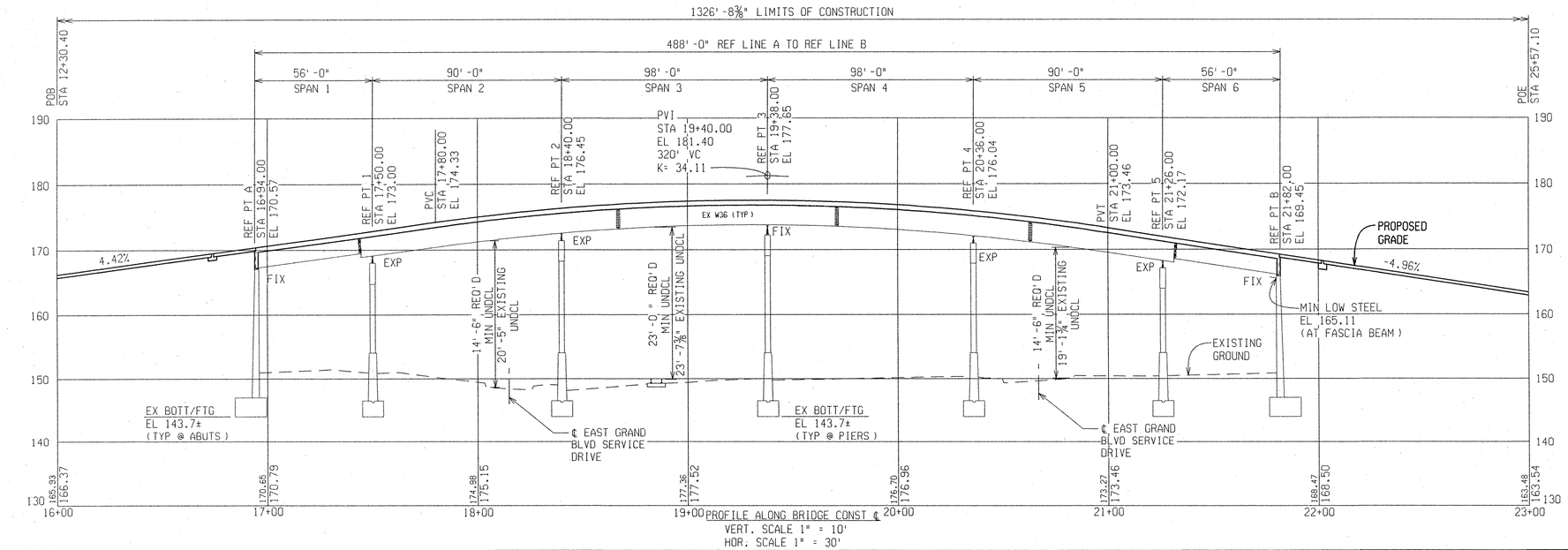
AT&T PHONE
31100 PLYMOUTH ROAD, ROOM 301
LIVONIA, MI 48150
ATTN: GARY CLINTON
PHONE NO.: (734) 523-6880

ITC HOLDINGS CORPORATION ELECTRIC
27175 ENERGY WAY
NOVI, MI 48377
ATTN: ERIN KEELER
PHONE NO.: (248) 946-3298



SITUATION PLAN

SECTION 29, T1S, R12E
SCALE 1" = 30'



PROFILE ALONG BRIDGE CONST ℄
VERT. SCALE 1" = 10'
HOR. SCALE 1" = 30'

EROSION AND SEDIMENTATION CONTROL MEASURES

			KEY NO.
1410	Ft	Erosion Control, Silt Fence	26
6	Ea	Erosion Control, Inlet Protection Fabric Drop	29
13	Ea	Erosion Control, Inlet Protection, Geotextile and Stone	30

* PLACE AS DIRECTED BY THE ENGINEER

NOTES:

THE WORK COVERED BY THESE PLANS INCLUDES MAINTAINING TRAFFIC, REMOVAL AND REPLACEMENT OF THE BRIDGE DECK, PIN AND HANGER REPLACEMENT, SUBSTRUCTURE REPAIRS AND CONCRETE APPROACHES.

THE CONTRACTOR SHALL LOCATE ALL ACTIVE UNDERGROUND UTILITIES PRIOR TO STARTING WORK AND SHALL CONDUCT HIS OPERATIONS IN SUCH A MANNER AS TO ENSURE THAT THOSE UTILITIES NOT REQUIRING RELOCATION WILL NOT BE DISTURBED.

EAST GRAND BLVD TRAFFIC IS TO BE DETOURED OVER OTHER ROADS.

PLAN ELEVATIONS REFER TO CITY OF DETROIT DATUM.

THE TRAIN MOVEMENT AND SPEED INFORMATION SHOWN IN THE PROPOSAL DOES NOT REPRESENT A COMMITMENT BY THE DETROIT CONNECTING RAILROAD COMPANY AND IS SUBJECT TO CHANGE WITHOUT NOTICE.

MEASURES SHALL BE TAKEN TO PREVENT DEBRIS FROM FALLING FROM THE STRUCTURE.

ANY DAMAGE TO THOSE PORTIONS OF THE EXISTING STRUCTURE TO REMAIN IN PLACE RESULTING FROM THE CONTRACTOR'S ACTIONS SHALL BE REPAIRED OR REPLACED AS DIRECTED BY THE ENGINEER AND AT THE CONTRACTOR'S EXPENSE.

REVISIONS	DESCRIPTION	DATE	BY

DLZ

CITY OF DETROIT

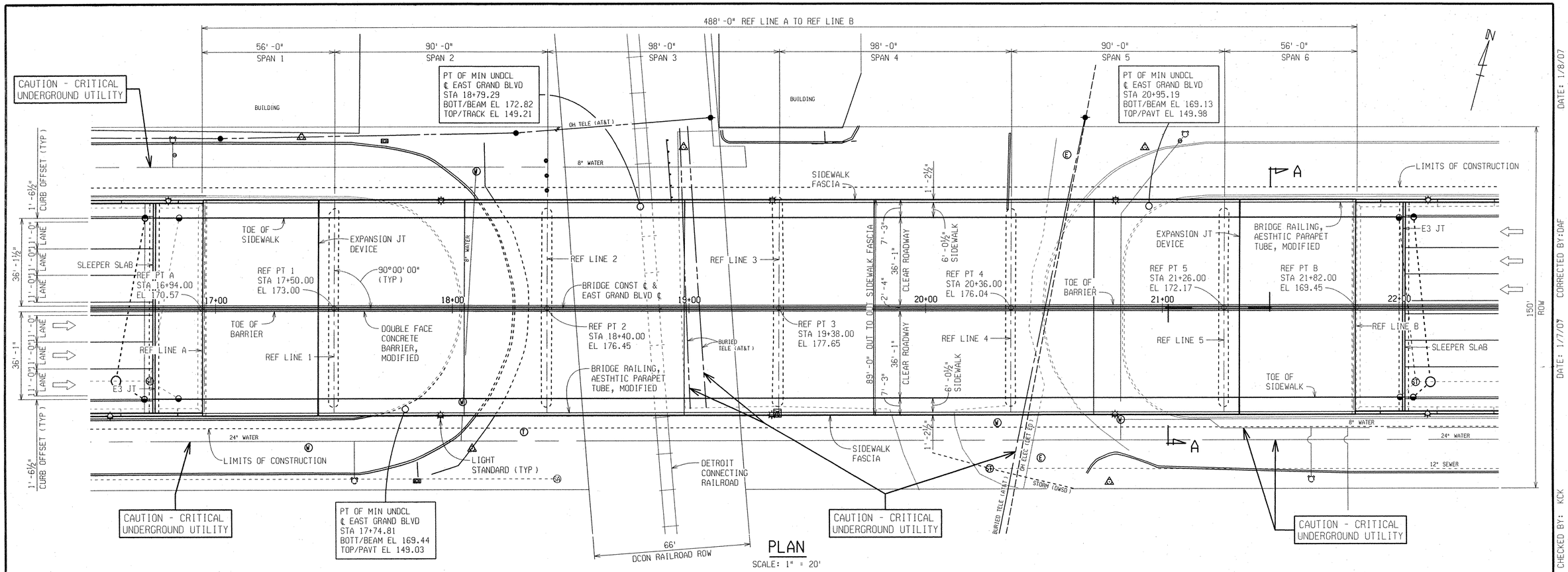
EAST GRAND BLVD OVER DETROIT CONNECTING RAILROAD

MDOT JOB NO. 86173A | STRUCTURE NO. R01 of 82-22-54

GENERAL PLAN OF SITE

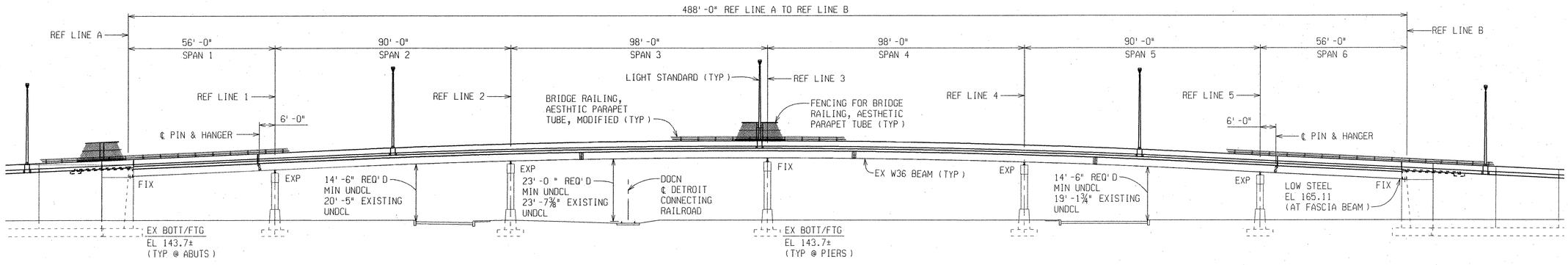
DATE: 04/16/08
DLZ JOB NO. 0642-6090-00
SHEET NO. 4 OF 60

DATE: 2/8/07
DATE: 2/7/07 CORRECTED BY: DAF
CHECKED BY: KCK
DATE:
DRAWN BY:
FILE NAME: east grand s1.dgn



PLAN

SCALE: 1" = 20'



ELEVATION

SCALE: 1" = 20'

REVISIONS	DESCRIPTION	DATE	BY

DLZ

CITY OF DETROIT

EAST GRAND BLVD OVER DETROIT CONNECTING RAILROAD

MDOT JOB NO. 86173A | STRUCTURE NO. R01 of 82-22-54

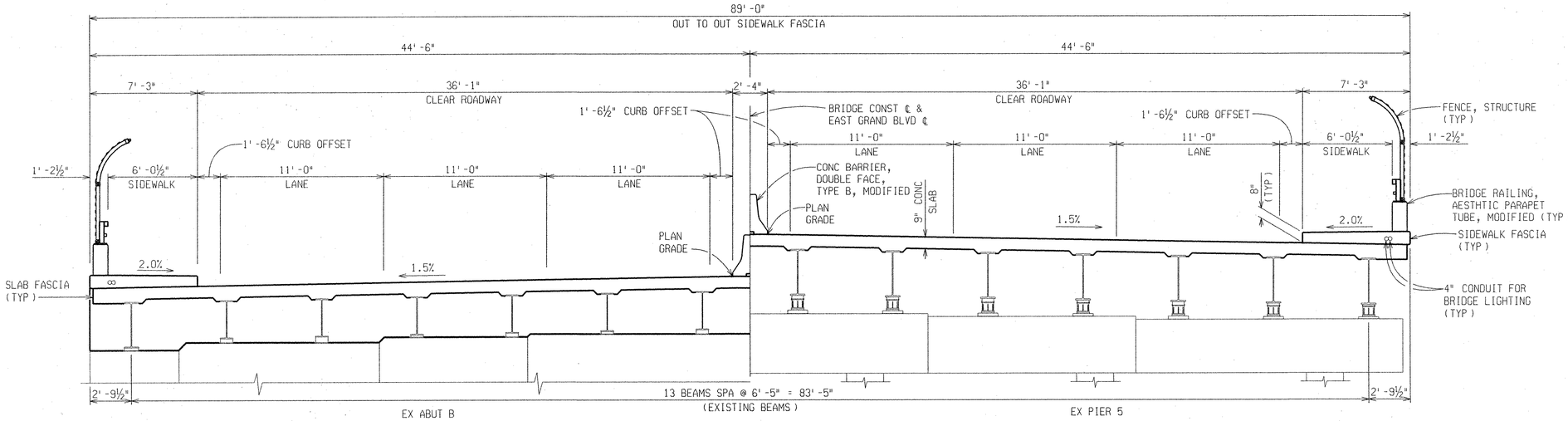
GENERAL PLAN OF STRUCTURE

DATE: 04/16/08

DLZ JOB NO. 0642-6090-00

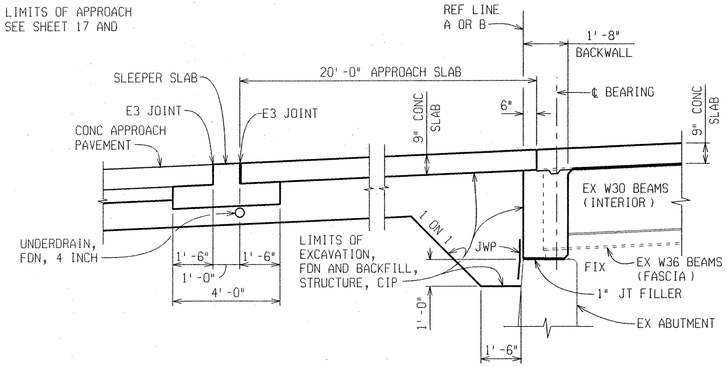
SHEET NO. 5 OF 60

DATE: 1/8/07 CORRECTED BY: DAF DATE: 1/7/07 CHECKED BY: KCK DRAWN BY: DAF DATE: 1/10/07 FILE NAME: east grand st1.dgn

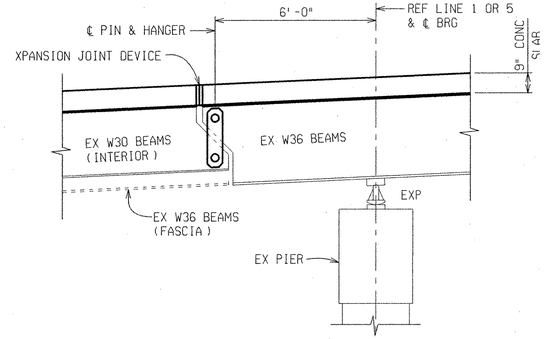


SECTION A-A

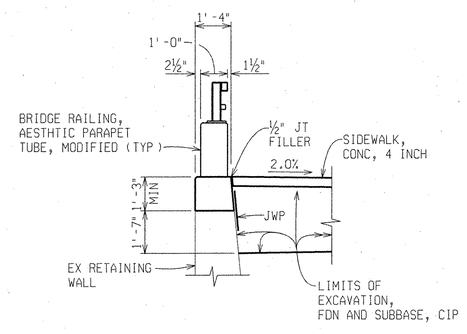
NOTE: FOR THE LIMITS OF APPROACH RECONSTRUCTION SEE SHEET 17 AND 18 OF 18.



TYPICAL ABUTMENT SECTION



TYPICAL PIER SECTION



TYPICAL RETAINING WALL SECTION

MISCELLANEOUS QUANTITIES

976	Ft	Fence, Rem
1	LS	Structures, Rem Portions (R01 of 82-22-52)
186	Cyd	Backfill, Structure, Cip
98	Cyd	Excavation, Fdn
40,710	Sft	False Decking
2661	Sft	Joint Waterproofing
211,500	Dollar	Railroad Inspection and Flagging
6	Ea	Hh Cover
976	Ft	Conduit, Encased, 2, 4 Inch
30	Ft	Conduit, Encased, 1, 3 Inch

NOTES:

THE REHABILITATION DESIGN IS BASED ON CURRENT AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES HS20-44 LOADING. LIVE LOAD PLUS IMPACT DEFLECTION DOES NOT EXCEED 1/1000 OF SPAN LENGTH AND 1/375 OF CANTILEVER ARM. THE LOAD FACTOR METHOD OF DESIGN WAS USED FOR THIS STRUCTURE. THE ORIGINAL STRUCTURE WAS DESIGNED FOR HS20-44 LOADING.

FALSE DECKING SHALL INCLUDE THE AREA BOUND BY REFERENCE LINES A & B AND OUTSIDE FLANGE OF FASCIA BEAMS. THE ESTIMATED AREA IS 40,710 SQUARE FEET DURING REMOVAL AND THE PROPOSED CONSTRUCTION.

LEGEND:

JWP DENOTES JOINT WATERPROOFING.

REVISIONS	DESCRIPTION	DATE	BY

DLZ

CITY OF DETROIT

EAST GRAND BLVD OVER
DETROIT CONNECTING RAILROAD

MDOT JOB NO. 86173A | STRUCTURE NO. R01 of 82-22-54

GENERAL PLAN OF STRUCTURE

DATE: 04/16/08

DLZ JOB NO. 0642-6090-00

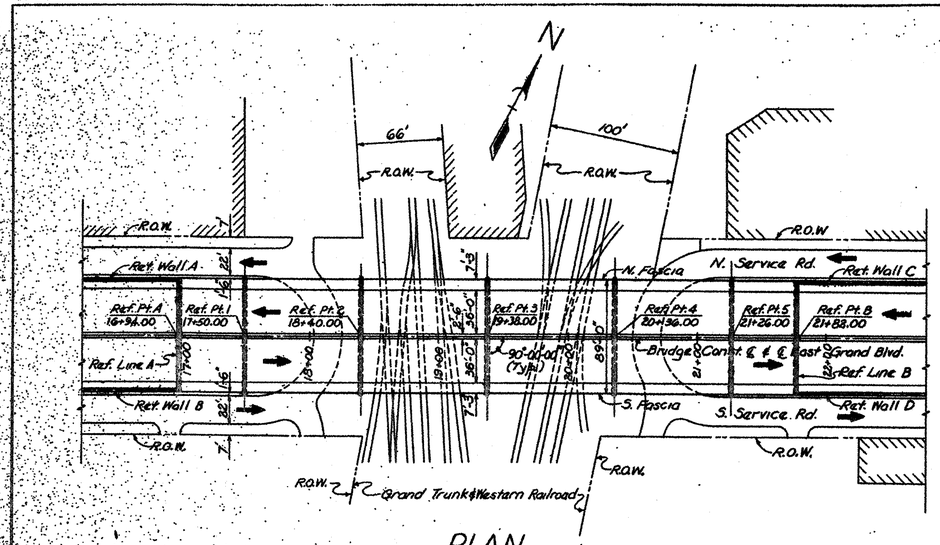
SHEET NO. 6 OF 60

DATE: 2/8/07 CHECKED BY: KCK

DATE: 2/7/07 CORRECTED BY: DAF

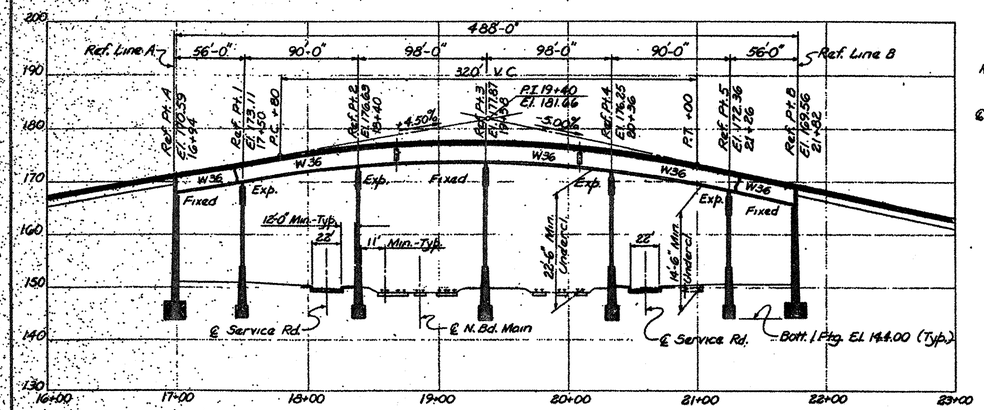
DATE: 1/11/07 DRAWN BY: DAF

FILE NAME: east grand st2.dgn



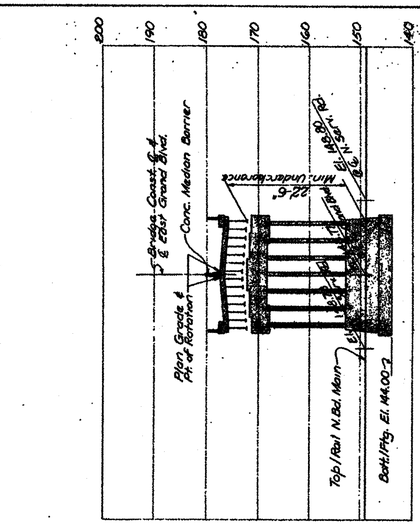
PLAN

Scale: 1" = 40'



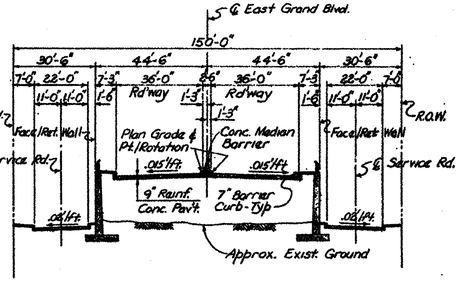
PROFILE

Scales: Horiz. 1"=40'
Vert. 1"=10'



PROFILE - N. BD. MAIN

Scales: Horiz. 1"=40'
Vert. 1"=10'



TYPICAL SECTION THRU APPROACH

Scale: 1" = 30'

TRAIN MOVEMENT

Daily 7:00 A.M. to 7:00 P.M., 25 to 30 trains which includes 6 commuter trains.

GENERAL NOTES

The work covered by these plans include construction of the proposed bridge and retaining walls to the limits shown. All work not listed is included with the Road Plans.

For Bench Marks see Survey Plan, Sh. #3, #4, & #5

Datum refers to City of Detroit Datum. To obtain U.S.C.&G.S. Precise Datum add 479.755'.

For maintenance of traffic see Road Plans.

Approximately 80% of the cost of this structure represents a hazard to railroad operations.

The information concerning train movement does not represent a commitment by the G.T.W.R.R. to continue them unchanged inasmuch as they are subject to change without notice.

The ground adjacent to the tracks and structure shall be graded by the road contractor to provide drainage.

The Contractor shall locate all active underground utilities prior to staking work and shall conduct his operations in such a manner as to insure that these utilities not requiring relocation will not be disturbed.

EXISTING

FOR INFORMATION ONLY
DO NOT WORK FROM THIS SHEET.
THE INFORMATION SHOWN HERE IS FOR REFERENCE ONLY. NO PAY ITEMS ARE SHOWN.

MDSH Revision 5-1-72

REVISIONS

BOARD OF WAYNE COUNTY ROAD COMMISSIONERS
DETROIT, MICHIGAN
PHILIP J. HEUDRICK

EAST GRAND BOULEVARD OVER
GRAND TRUNK RAILROAD
GRADE SEPARATION
GENERAL DRAWING

T4000(3)
PROJECT
COUNTY JOB 508
PUBLIC NO. 2
SHEET NO. 2
DATE 5-1-72

REVISIONS	DESCRIPTION	DATE	BY

DLZ

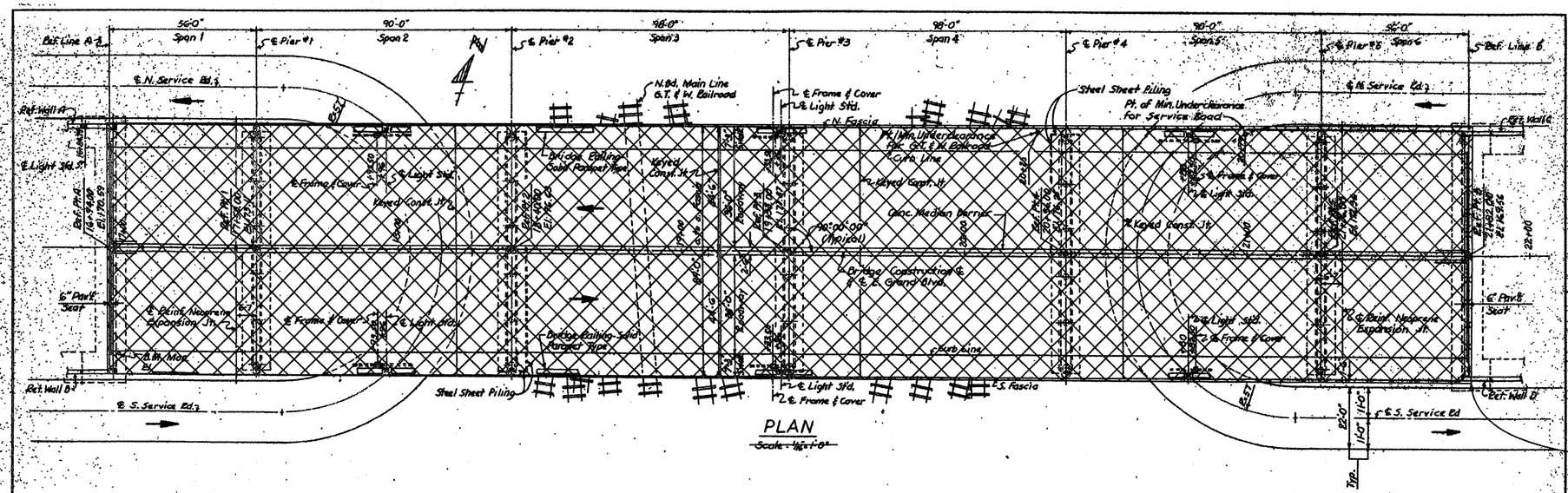
CITY OF DETROIT

EAST GRAND BLVD OVER
DETROIT CONNECTING RAILROAD

MDOT JOB NO. 86173A | STRUCTURE NO. R01 of 82-22-54

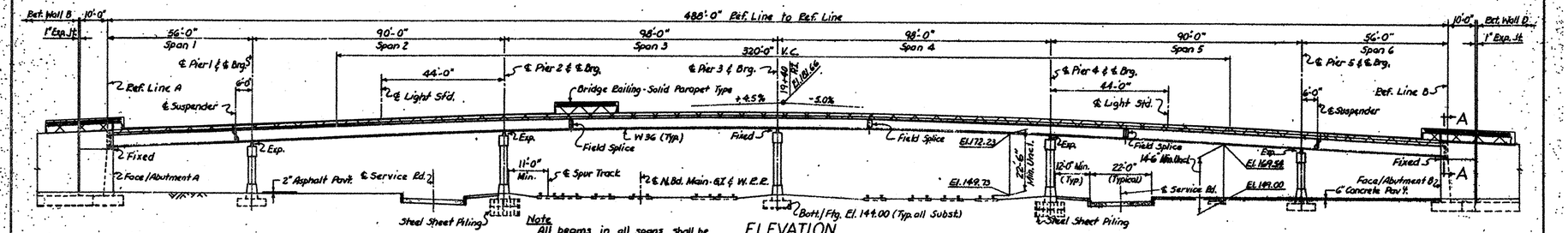
EX GENERAL PLAN OF SITE

DATE: 04/16/08
DLZ JOB NO. 0642-6090-00
SHEET NO. 7 OF 60

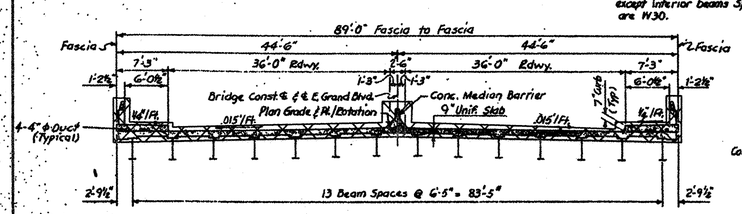


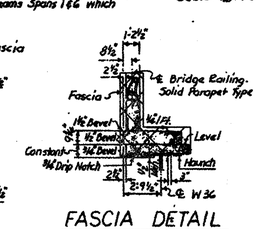
JN 86173A

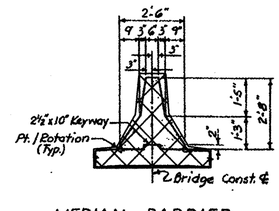
REMOVE DECK, SIDEWALK AND BRIDG RAILINGS. INCLUDED IN THE PAY ITEM "Structures, Rem Portions".



Note
All beams in all spans shall be W36 with composite construction, except interior beams Spans 1 & 6 which are W30.







GENERAL NOTES

The design of this structure is based on the M.D.S.H. Std. Specification for the Design of Highway Bridges, 1958 Edition and current AASHO Standard Specifications for Highway Bridges H S20-44 Loading. Live load plus impact deflection equals 1/1000 of span length and 1/300 of cantilever arm.

The top of roadway slab and curbs are parallel to the vertical curve.

The lateral pay limits of temporary steel sheet piling are as determined and required by the Engineer.

All Structural Steel shall be A.S.T.M. A-588.

Work this Sheet with Sh. #8

REMOVAL SHEET

JOB NUMBER 86173A

THE ONLY ITEMS OF WORK TO BE DONE FROM THIS SHEET ARE IDENTIFIED BY THE LEGEND BOX BELOW, LABELED WITH THIS PROJECT'S JOB NUMBER.

PROPOSED WORK

DENOTES REMOVAL PORTIONS

REVISIONS

DESCRIPTION	DATE	BY

BOARD OF WAYNE COUNTY ROAD COMMISSIONERS
DETROIT, MICHIGAN

T4000(3)

EAST GRAND BOULEVARD OVER GRAND TRUNK RAILROAD GRADE SEPARATION
GENERAL PLAN OF STRUCTURE

PROJECT: COUNTY JOB 508
ENGR. NO. 1
SHEET NO. 7
DATE 4-8-78

DLZ

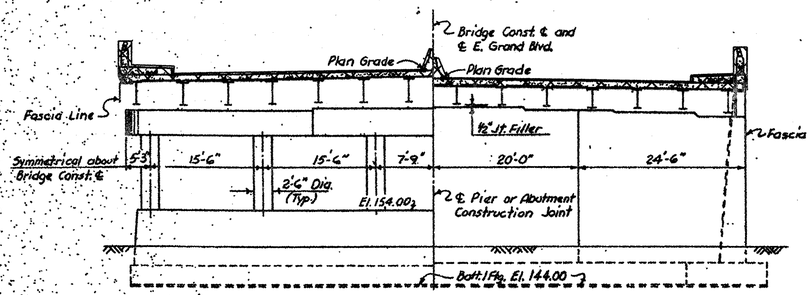
CITY OF DETROIT

EAST GRAND BLVD OVER DETROIT CONNECTING RAILROAD

MDOT JOB NO. 86173A | STRUCTURE NO. R01 of 82-22-54

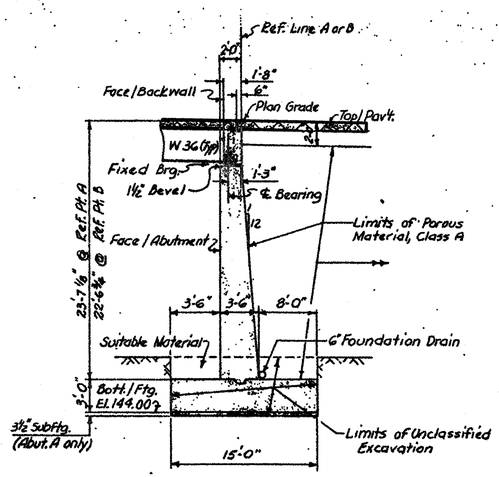
EX GENERAL PLAN OF STRUCTURE (REMOVAL)

DATE: 04/16/08
DLZ JOB NO. 0642-6090-00
SHEET NO. 8 OF 60



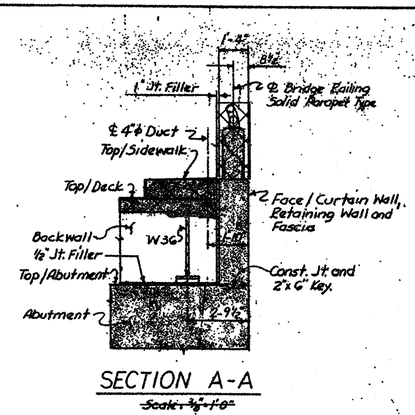
ELEVATION

Scale: 1/8" = 1'-0"



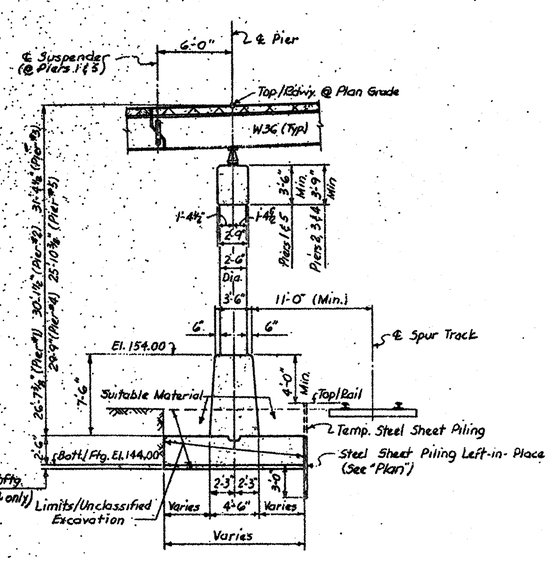
ABUTMENT SECTION

Scale: 1/8" = 1'-0"



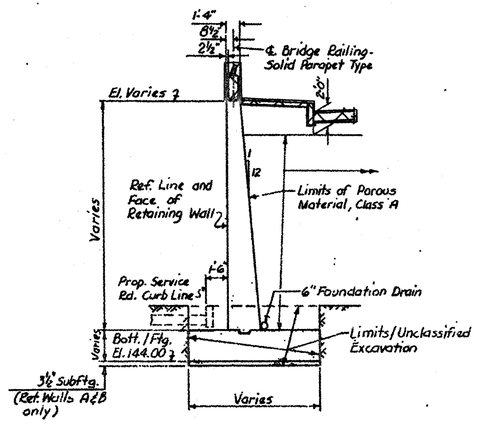
SECTION A-A

Scale: 3/8" = 1'-0"



PIER SECTION

Scale: 1/16" = 1'-0"



RETAINING WALL SECTION

Scale: 1/16" = 1'-0"

REMOVAL SHEET

JOB NUMBER 86173A

THE ONLY ITEMS OF WORK TO BE DONE FROM THIS SHEET ARE IDENTIFIED BY THE LEGEND BOX BELOW, LABELED WITH THIS PROJECT'S JOB NUMBER.

PROPOSED WORK

DENOTES REMOVAL PORTIONS

MISCELLANEOUS QUANTITIES

Item	Unit	Amount
Unclassified Excavation	Cu. Yds.	5710

Work this Sheet with Sh.# 7.

T4000(3)

REVISIONS	DESIGNED BY Hodkinson	CHECKED BY E. PLATZ	DATE 9-24-71
	TRACED BY	CHECKED BY	CORRECT
	CORRECT		ASSIST. ENGINEER OF DESIGN
	SQUAD LEADER		APPROVED
			ENGINEER OF DESIGN

BOARD OF WAYNE COUNTY ROAD COMMISSIONERS
DESIGN DIVISION

EAST GRAND BOULEVARD OVER GRAND TRUNK RAILROAD GRADE SEPARATION
GENERAL PLAN OF STRUCT. (CONT'D.)

COUNTY PROJECT	COUNTY JOB
	508
ISSUE NO. 1	SHEET NO.
DATE 4-3-72	8

FILE

REVISIONS	DESCRIPTION	DATE	BY

DLZ

CITY OF DETROIT

EAST GRAND BLVD OVER
DETROIT CONNECTING RAILROAD

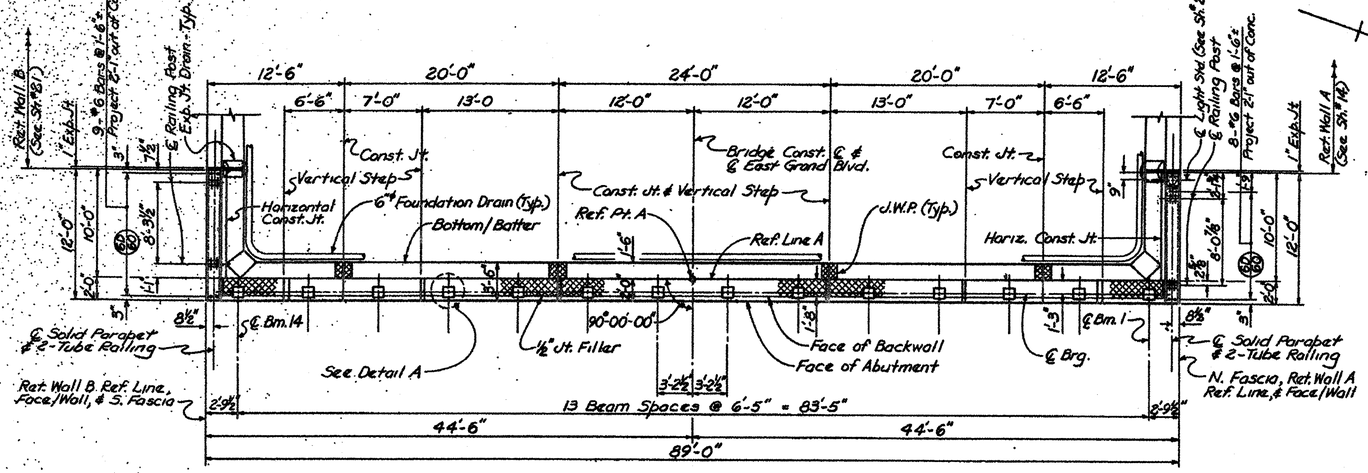
MDOT JOB NO. 86173A | STRUCTURE NO. R01 of 82-22-54

EX GENERAL PLAN OF STRUCTURE (REMOVAL)

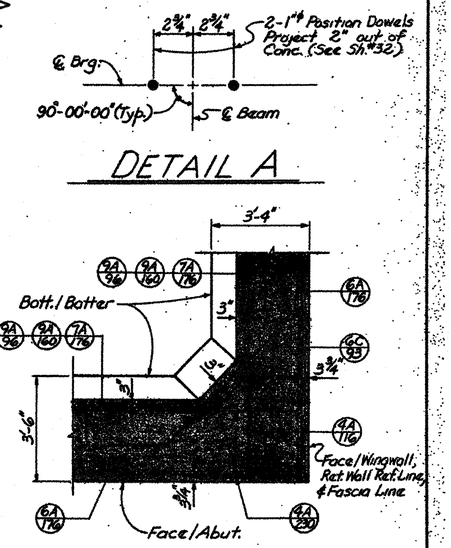
DATE: 04/16/08

DLZ JOB NO. 0642-6090-00

SHEET NO. 9 OF 60

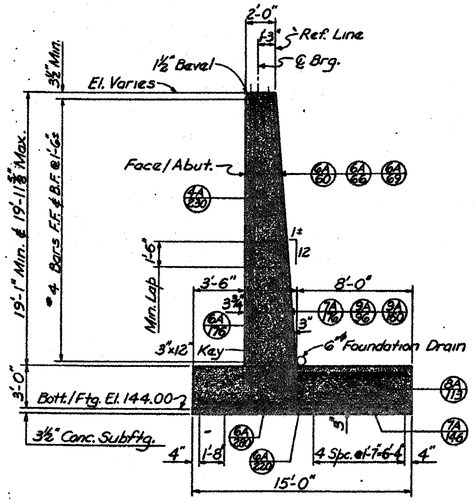


PLAN - ABOVE FOOTING

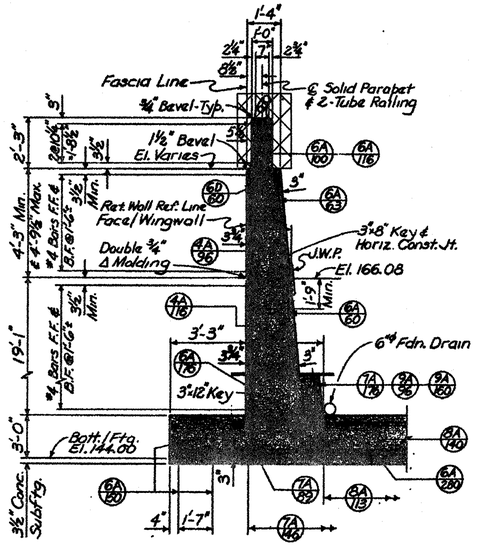


DETAIL A

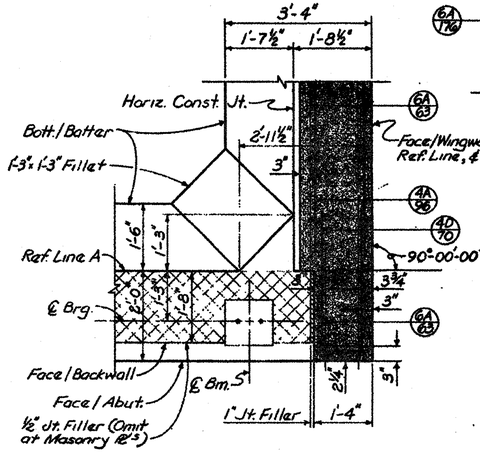
SECTION D-D



SECTION A-A



SECTION B-B



SECTION C-C

Note:
North Corner shown in Section C-C & Section D-D. South Corner similar but Opposite Hand.

REMOVAL SHEET

JOB NUMBER 86173A

THE ONLY ITEMS OF WORK TO BE DONE FROM THIS SHEET ARE IDENTIFIED BY THE LEGEND BOX BELOW, LABELED WITH THIS PROJECT'S JOB NUMBER.

PROPOSED WORK

DENOTES REMOVAL PORTIONS

Work this Sheet with Sh.#11 & 29

T4000(3)

REVISIONS	DESIGNED BY E. PLATZ	CHECKED BY C.D.K.	DATE 3-2-72	CORRECT
	TRACED BY	CHECKED BY	SCALE	ASSIST. ENGINEER OF DESIGN
	CORRECT Robert Cummins SQUAD LEADER			APPROVED ENGINEER OF DESIGN

BOARD OF
WAYNE COUNTY ROAD COMMISSIONERS
DESIGN DIVISION

EAST GRAND BOULEVARD OVER GRAND TRUNK RAILROAD GRADE SEPARATION
ABUTMENT A DETAILS

COUNTY PROJECT	COUNTY JOB
	508
ISSUE NO. 1	SHEET NO. 10
DATE 4-3-72	

FILE

REVISIONS	DESCRIPTION	DATE	BY

DLZ

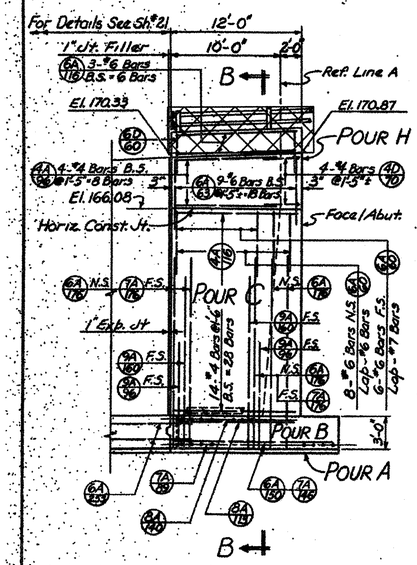
CITY OF DETROIT

EAST GRAND BLVD OVER
DETROIT CONNECTING RAILROAD

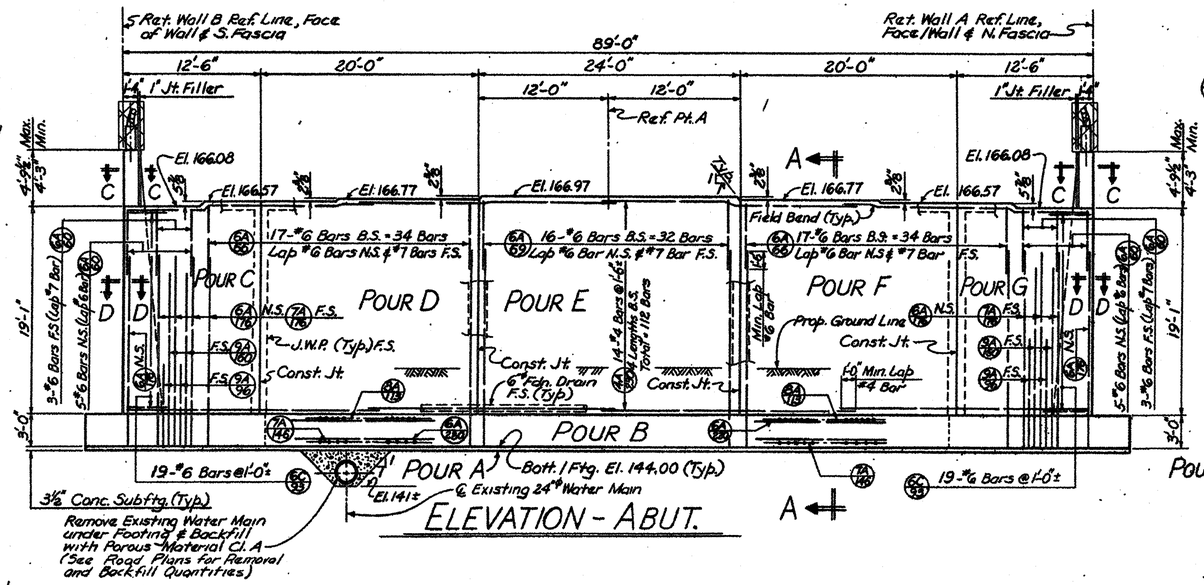
MDOT JOB NO. 86173A | STRUCTURE NO. R01 of 82-22-54

EX ABUTMENT A DETAILS
(REMOVAL)

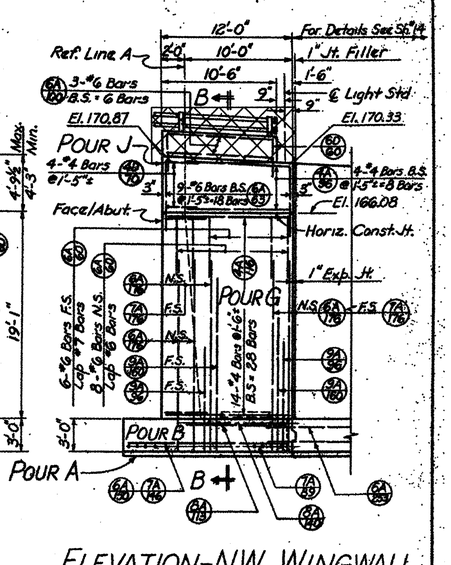
DATE: 04/16/08
DLZ JOB NO. 0642-6090-00
SHEET NO. 10 OF 60



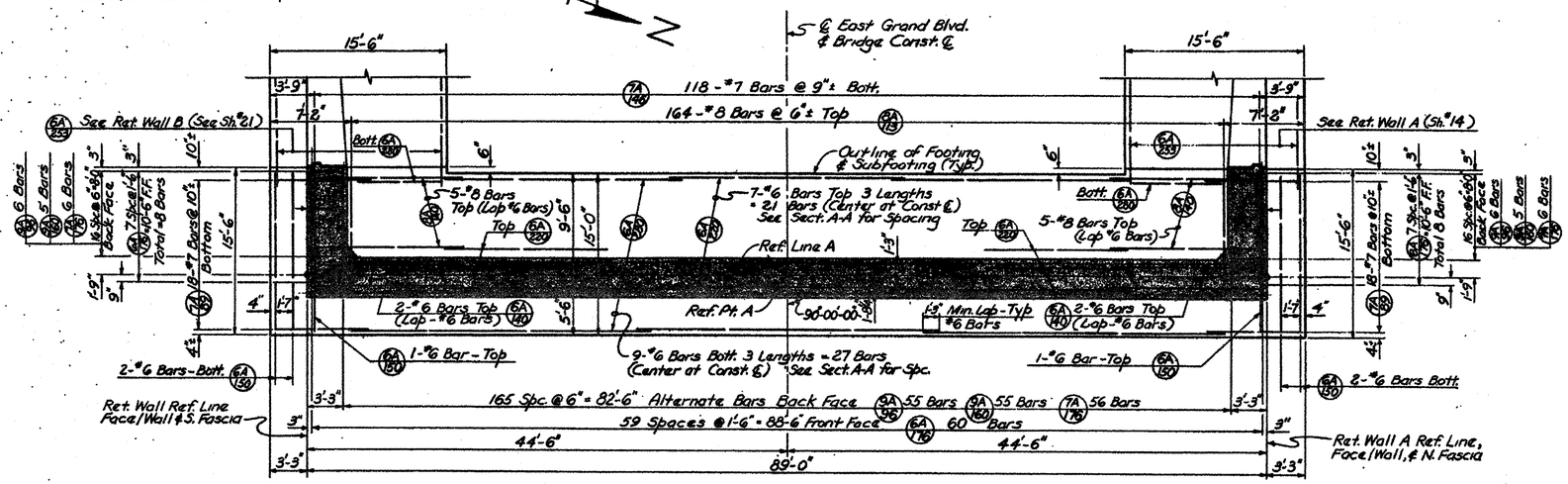
ELEVATION-S.W. WINGWALL



ELEVATION - ABUT.



ELEVATION-N.W. WINGWALL



PLAN - FOOTING

CONCRETE QUANTITIES

Pour	Grade	Cu. Yds.
A	A	15.6
B	A(6AA)	160.8
C	"	41.1
D	"	40.1
E	"	48.8
F	"	40.1
G	"	41.1
H	"	3.0
J	A(6AA)	3.0
Total Grade A Concrete Subfooting = 15.6 C.Y.		
Total Gr. A(6AA) Concrete Substructure = 378.0 C.Y.		

REMOVAL SHEET

JOB NUMBER 86173A

THE ONLY ITEMS OF WORK TO BE DONE FROM THIS SHEET ARE IDENTIFIED BY THE LEGEND BOX BELOW, LABELED WITH THIS PROJECT'S JOB NUMBER.

PROPOSED WORK

DENOTES REMOVAL PORTIONS

Work this Sheet with Sh.#10 & #29

T4000(3)

REVISIONS

DRAWN BY E. PLATZ TRACED BY | CHECKED BY C.D.K. DESIGNED BY | DATE 5-7-72 DATE

CORRECT Robert Cummins SQUAD LEADER

CORRECT ASSIST. ENGINEER OF DESIGN

APPROVED ENGINEER OF DESIGN

BOARD OF WAYNE COUNTY ROAD COMMISSIONERS DESIGN DIVISION

EAST GRAND BOULEVARD OVER GRAND TRUNK RAILROAD GRADE SEPARATION ABUTMENT A DETAILS (CONT'D)

COUNTY PROJECT 50823

ISSUE NO. 1 DATE 4-3-72

COUNTY JOB 508

SHEET NO. 11

FILE

REVISIONS	DESCRIPTION	DATE	BY

DLZ

CITY OF DETROIT

EAST GRAND BLVD OVER DETROIT CONNECTING RAILROAD

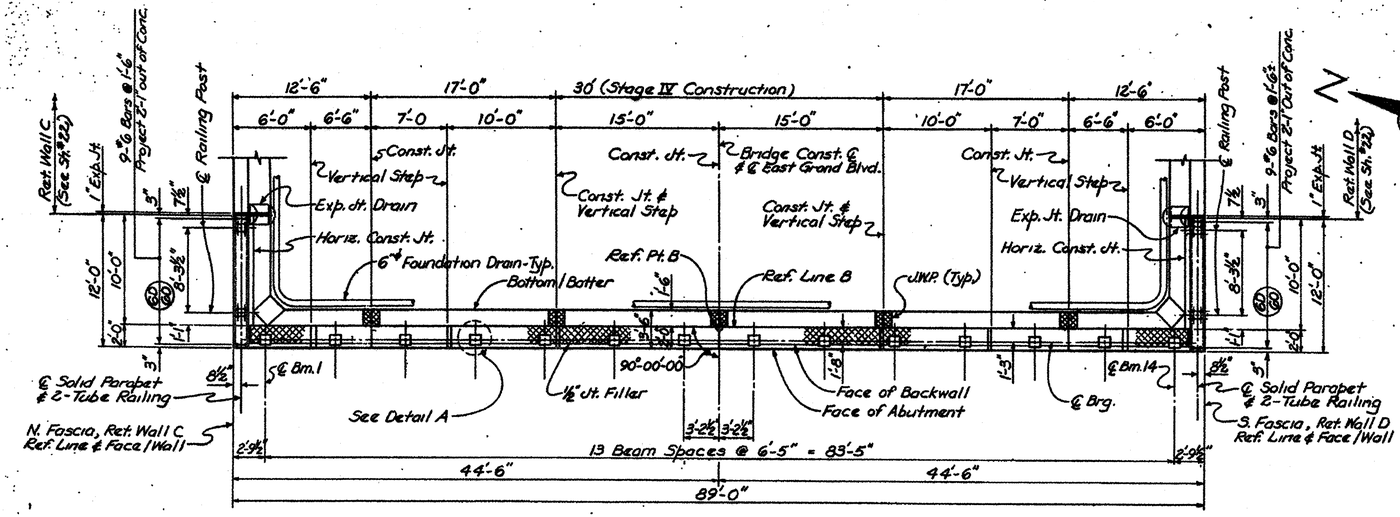
MDOT JOB NO. 86173A | STRUCTURE NO. R01 of 82-22-54

EX ABUTMENT A DETAILS (REMOVAL)

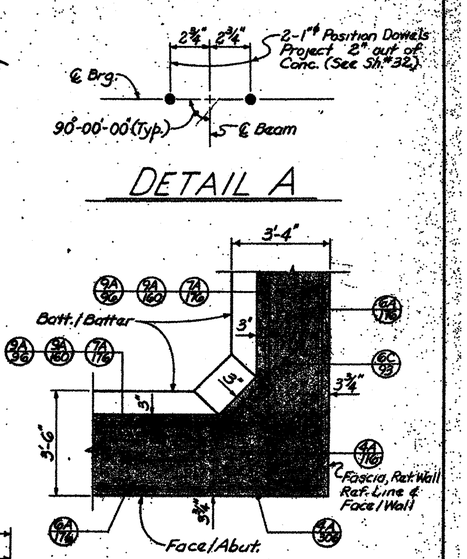
DATE: 04/16/08

DLZ JOB NO. 0642-6090-00

SHEET NO. 11 OF 60

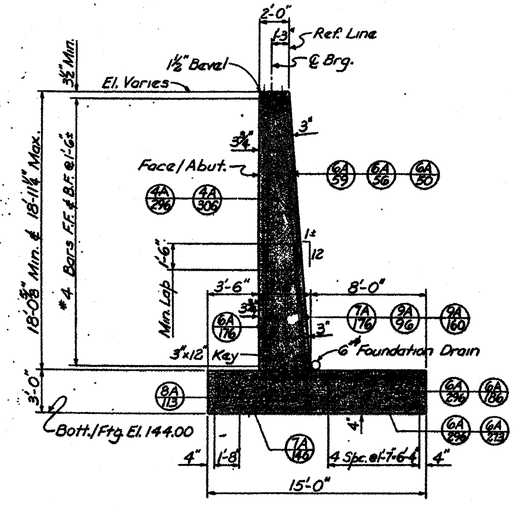


PLAN - ABOVE FOOTING

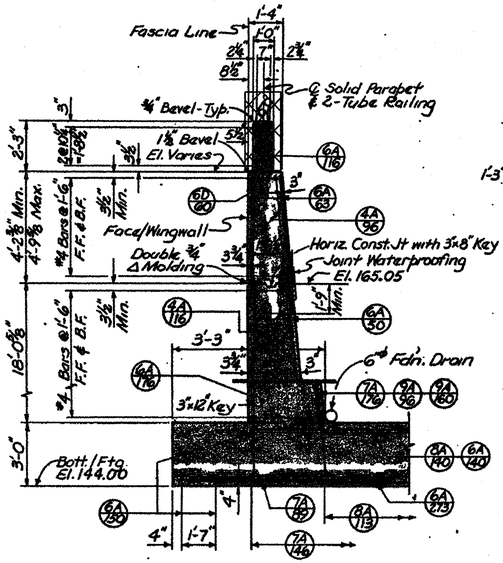


DETAIL A

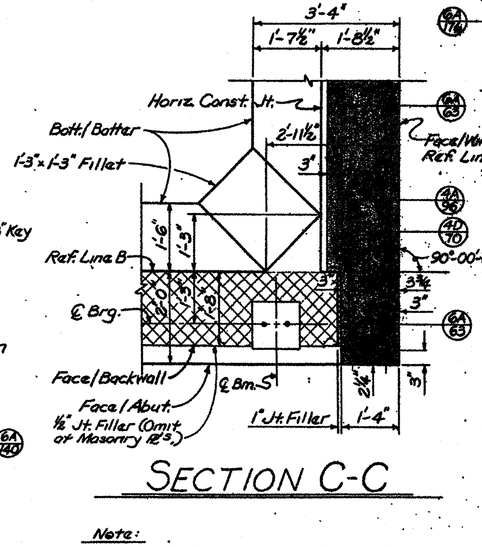
SECTION D-D



SECTION A-A



SECTION B-B



SECTION C-C

Note:
South Corner shown in Section C-C & Section D-D. North Corner Similar but Opposite Hand.

REMOVAL SHEET

JOB NUMBER 86173A

THE ONLY ITEMS OF WORK TO BE DONE FROM THIS SHEET ARE IDENTIFIED BY THE LEGEND BOX BELOW, LABELED WITH THIS PROJECT'S JOB NUMBER.

PROPOSED WORK

DENOTES REMOVAL PORTIONS

Work this sheet with Sh. #13 & #29

T4000(3)

REVISIONS	DRAWN BY E. PLATZ	CHECKED BY C.D.K.	DATE 3-14-72	CORRECT
	TRACED BY	DIRECTED BY	BASE MAP	ASSIST. ENGINEER OF DESIGN
	CORRECT Robert Cummings SQUAD LEADER			APPROVED ENGINEER OF DESIGN

BOARD OF
WAYNE COUNTY ROAD COMMISSIONERS
DESIGN DIVISION

EAST GRAND BOULEVARD OVER GRAND TRUNK RAILROAD GRADE SEPARATION
ABUTMENT B DETAILS

COUNTY PROJECT 508
SHEET NO. 12
DATE 4-3-72

FILE

REVISIONS	DESCRIPTION	DATE	BY

DLZ

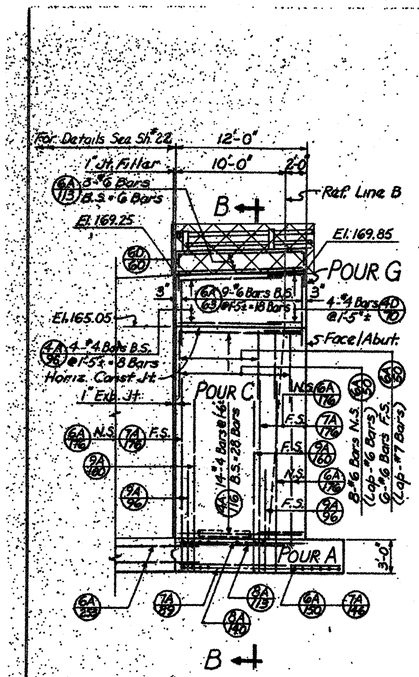
CITY OF DETROIT

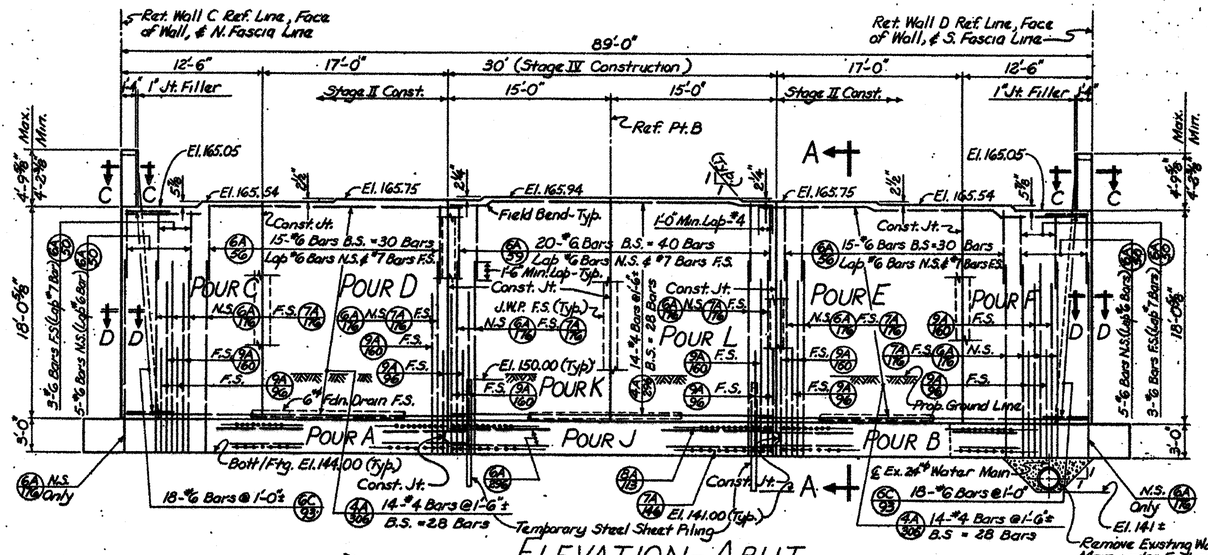
EAST GRAND BLVD OVER
DETROIT CONNECTING RAILROAD

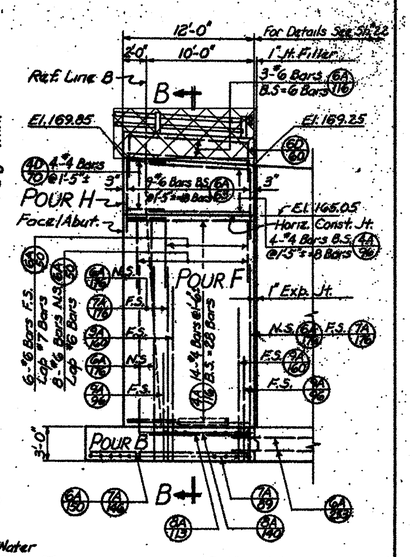
MDOT JOB NO. 86173A | STRUCTURE NO. R01 of 82-22-54

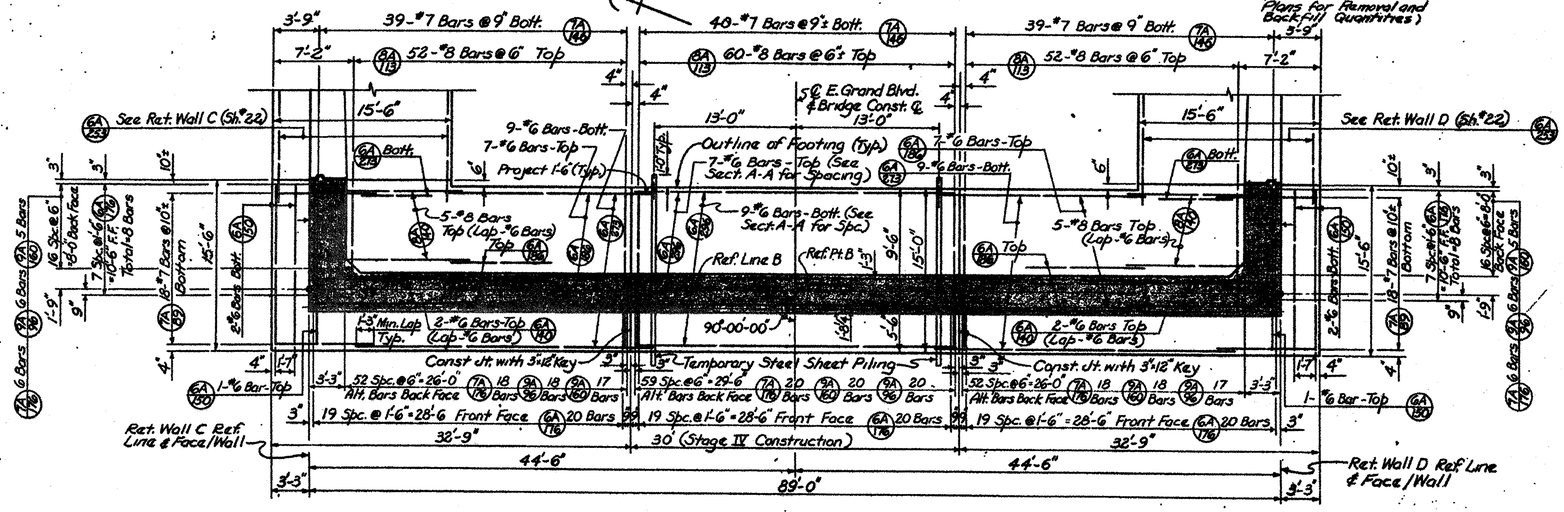
EX ABUTMENT B DETAILS
(REMOVAL)

DATE: 04/16/08
DLZ JOB NO. 0642-6090-00
SHEET NO. 12 OF 60









CONCRETE QUANTITIES		
Pour	Grade	Cu. Yd.
A	A(6AA)	55.4
B	A(6AA)	55.4
C	A(6AA)	38.9
D	A(6AA)	32.3
E	A(6AA)	32.3
F	A(6AA)	39.4
G	A(6AA)	3.0
H	A(6AA)	3.0
J	A(6AA)	50.0
K	A(6AA)	28.9
L	A(6AA)	28.9
Total Gr. A(6AA) Concrete Substructure = 367.5 C.Y.		

REMOVAL SHEET

JOB NUMBER 86173A

THE ONLY ITEMS OF WORK TO BE DONE FROM THIS SHEET ARE IDENTIFIED BY THE LEGEND BOX BELOW, LABELED WITH THIS PROJECT'S JOB NUMBER.

PROPOSED WORK

DENOTES REMOVAL PORTIONS

Work this Sheet with Sh.#12 & #29 T4000(3)

REVISIONS	DRAWN BY	CHECKED BY	DATE	
	E. PLATZ	C.D.K.	3-7-72	CORRECT
	TRACED BY	CHECKED BY	BASE	ASSIST. ENGINEER OF DESIGN
				APPROVED
				CORRECT
				SQUAD LEADER
				ENGINEER OF DESIGN

BOARD OF
WAYNE COUNTY ROAD COMMISSIONERS
DESIGN DIVISION

EAST GRAND BOULEVARD OVER GRAND TRUNK RAILROAD GRADE SEPARATION
ABUTMENT B DETAILS (CONT'D)

COUNTY PROJECT	COUNTY JOB
	508
MILE NO.	SHEET NO.
DATE 4-3-72	13

REVISIONS	DESCRIPTION	DATE	BY

DLZ

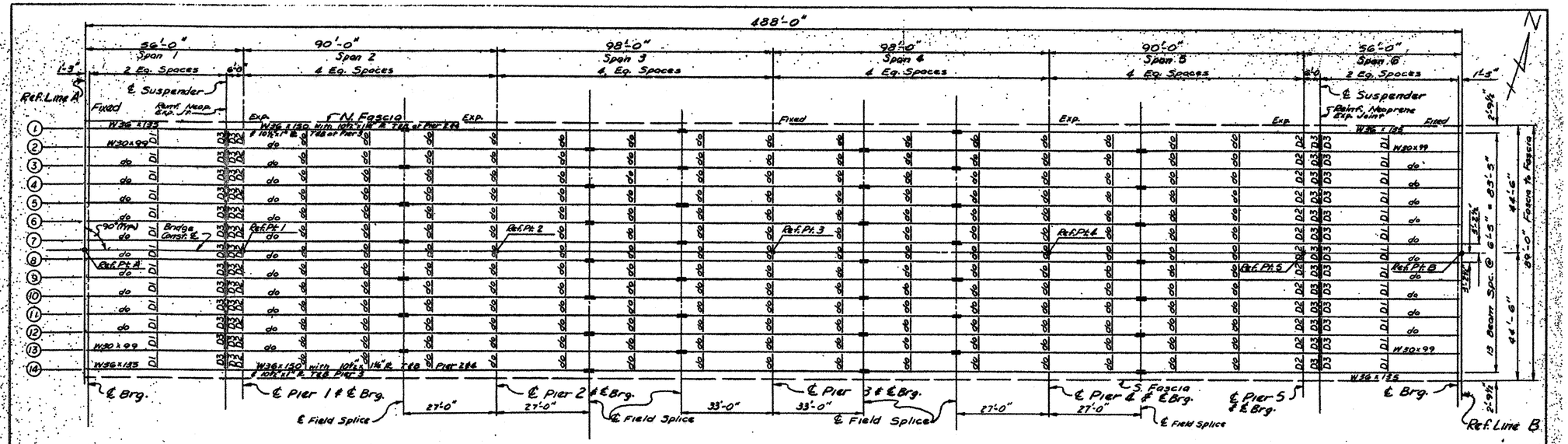
CITY OF DETROIT

EAST GRAND BLVD OVER
DETROIT CONNECTING RAILROAD

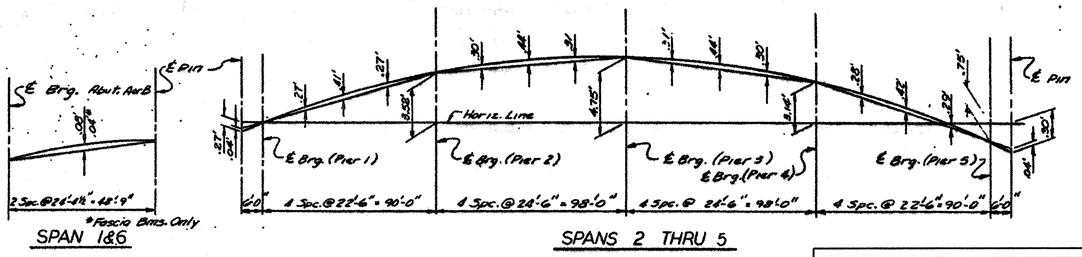
MDOT JOB NO. 86173A | STRUCTURE NO. R01 of 82-22-54

EX ABUTMENT B DETAILS
(REMOVAL)

DATE: 04/16/08
DLZ JOB NO. 0642-6090-00
SHEET NO. 13 OF 60



ERECTION DIAGRAM



SPAN 1&6

SPANS 2 THRU 5

CAMBER DIAGRAM

Deflections due to Steel Wt Only
- @ Span #1 = .01'
- @ Spans 2&5 = .03'
- @ Spans 3&4 = .01'

EXISTING

FOR INFORMATION ONLY
DO NOT WORK FROM THIS SHEET.
THE INFORMATION SHOWN HERE IS FOR REFERENCE ONLY. NO PAY ITEMS ARE SHOWN.

Note:
The quantity "Structural Steel Furnishing and Fabricating" includes
A588 Steel = 1,239,213 Lbs.
Bronze = 68 Lbs.
Lead = 919 Lbs.
Total = 1,240,200 Lbs.

QUANTITIES		
ITEM	UNIT	AMOUNT
Structural Steel - Furnishing & Fabricating	Lbs.	1,240,200
Structural Steel - Erection	Lbs.	1,240,200
Shear Developers	Lump Sum	

NOTES

FABRICATION: Michigan Department of State Highways Standard Specifications for Highway Construction - 19 Edition.

DESIGN: A.A.S.H.O. Specifications for Design of Highway Bridges - 1959 Edition and A.A.S.H.O. Standard Specifications for Highway Bridges, current edition (HS20-44 Loading).

CONNECTIONS: All Shop connections shall be welded as shown on the plans. Field Connections, splices shall be bolted with 7/8" ø high-strength bolts other connections shall be 3/4" ø high-strength bolts.

MATERIAL: All structural steel shall be A.S.T.M. A-588, Anchor bolts maybe A.S.T.M. A307

GALVANIZING: All steel material used for bearings, with exception of portion welded to beams, shall be galvanized in accordance with ASTM Designation A123. Galvanizing shall be applied after fabrication of bearing. Mill scale and foreign material shall be removed prior to galvanizing.

SOLE PLATES: Sole plates 3" or more in thickness may be built up by welding together plates not less than 1-1/2" in thickness. Edges must be beveled 1/4" and welded with a continuous weld for the full perimeter. Welds shall be ground flush with faces of plates.

CAMBER: The beams in all spans are to have a camber as shown. This camber is to be measured with the beam lying on its side. Allowable camber tolerance for rolled beams is ± 1-4". Heating is to be used, if necessary, to assure camber permanency within the above limitations. Dead load deflections of the beams alone are as shown.

MAGNETIC PARTICLE INSPECTION: Magnetic Particle inspection of welds is required and shall consist of 100% inspection of not less than one fabricated section selected at random for each ten sections or fractions thereof.

ANCHOR BOLTS: Anchor Bolts and Position Dowels shall be galvanized in accordance with ASTM Designation A 153. Anchor Bolts and Position Dowels are included in the Structural Steel Weights.

BRONZE: Bronze for washers shall be ASTM B100, Alloy No. 510 or No. 835.

PINS: Steel for Pins shall be ASTM A588, ASTM A235 Class G or ASTM A108 having a minimum yield point of 50,000 psi.

REVISIONS	DRAWN BY	DESIGNED BY	DATE	CORRECT
MDSH Revisions 6-1-72	SCHOENHARR TRACED BY	Hodkinson CHECKED BY	1-18-72	ASSIST. ENGINEER OF DESIGN
	CORRECT Robert Cummings SQUAD LEADER			APPROVED ENGINEER OF DESIGN

BOARD OF
WAYNE COUNTY ROAD COMMISSIONERS
DESIGN DIVISION

Work this sheet with sheets # 3/6 # 32

EAST GRAND BOULEVARD OVER
GRAND TRUNK RAILROAD
GRADE SEPARATION
STRUCTURAL STEEL DETAILS

T4000(3)

COUNTY PROJECT	COUNTY JOB
	508
WIRE NO. 2	SHEET NO.
DATE 5-1-72	30

FILE

REVISIONS

DESCRIPTION	DATE	BY

DLZ

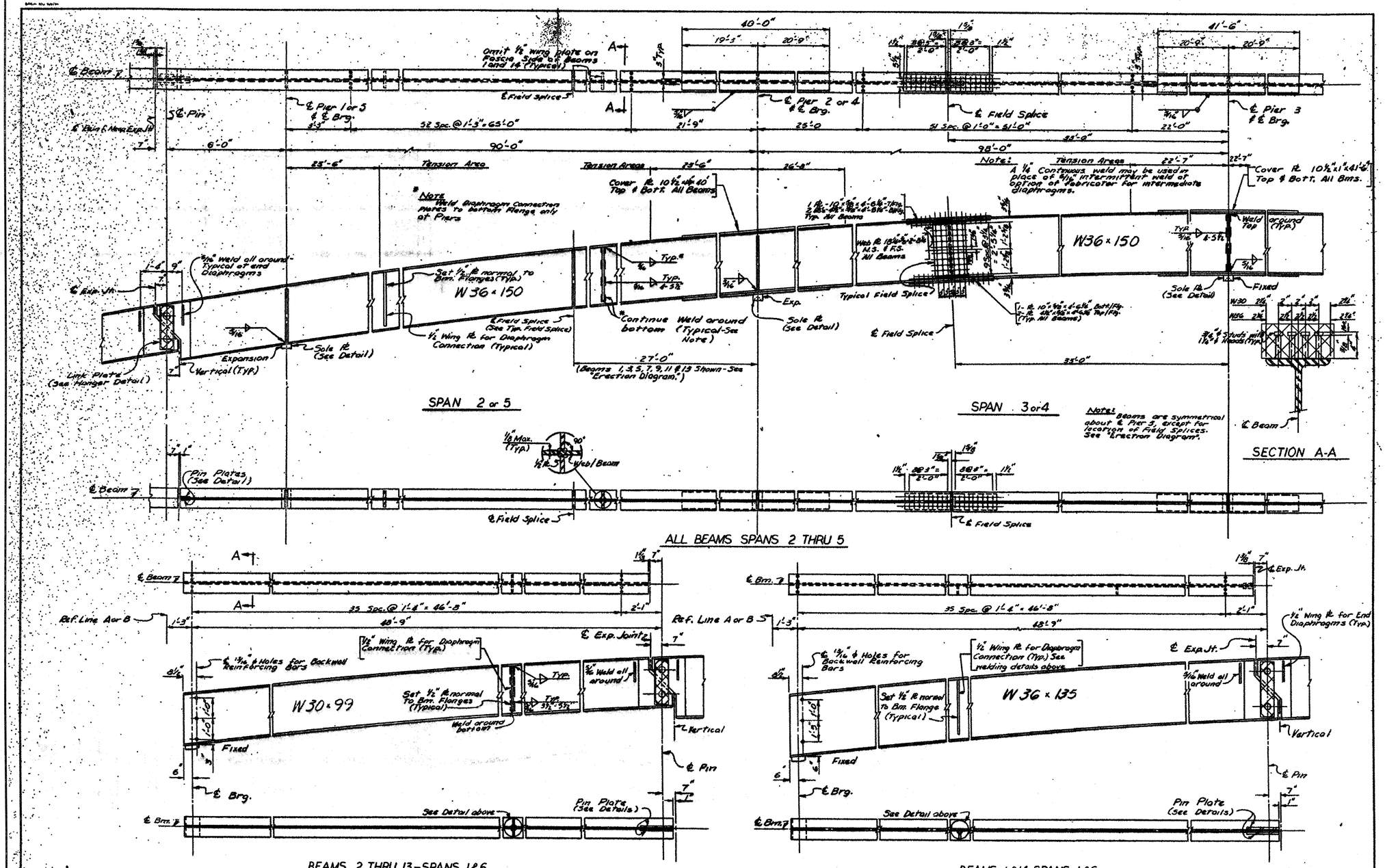
CITY OF DETROIT

EAST GRAND BLVD OVER
DETROIT CONNECTING RAILROAD

MDOT JOB NO. 86173A | STRUCTURE NO. R01 of 82-22-54

EX STRUCTURAL STEEL DETAILS

DATE: 04/16/08
DLZ JOB NO. 0642-6090-00
SHEET NO. 14 OF 60



REVISIONS

M.D.S.H. Revised 5-17-72

DRAWN BY Schoenheider — CHECKED BY Hotchkiss — DATE 1-18-72 — CORRECT

TRACED BY — CHECKED BY — DATE — CORRECT

Robert Commissiong — SQUAD LEADER

ASSIST. ENGINEER OF DESIGN — APPROVED — ENGINEER OF DESIGN

BOARD OF
WAYNE COUNTY ROAD COMMISSIONERS
DESIGN DIVISION

EAST GRAND BOULEVARD OVER
GRAND TRUNK RAILROAD
GRADE SEPARATION
STRUCTURAL STEEL DETAILS (CONT'D)

T4000(3)

Work this sheet with Sht. # 30 & 32

COUNTY PROJECT	COUNTY JOB
ISSUE NO. 7 DATE 5-1-72	508 SHEET NO. 31

REMOVAL SHEET

JOB NUMBER 86173A

THE ONLY ITEMS OF WORK TO BE DONE FROM THIS SHEET ARE IDENTIFIED BY THE LEGEND BOX BELOW, LABELED WITH THIS PROJECT'S JOB NUMBER.

PROPOSED WORK

DENOTES REMOVAL PORTIONS

REVISIONS

DESCRIPTION	DATE	BY

DLZ

CITY OF DETROIT

EAST GRAND BLVD OVER
DETROIT CONNECTING RAILROAD

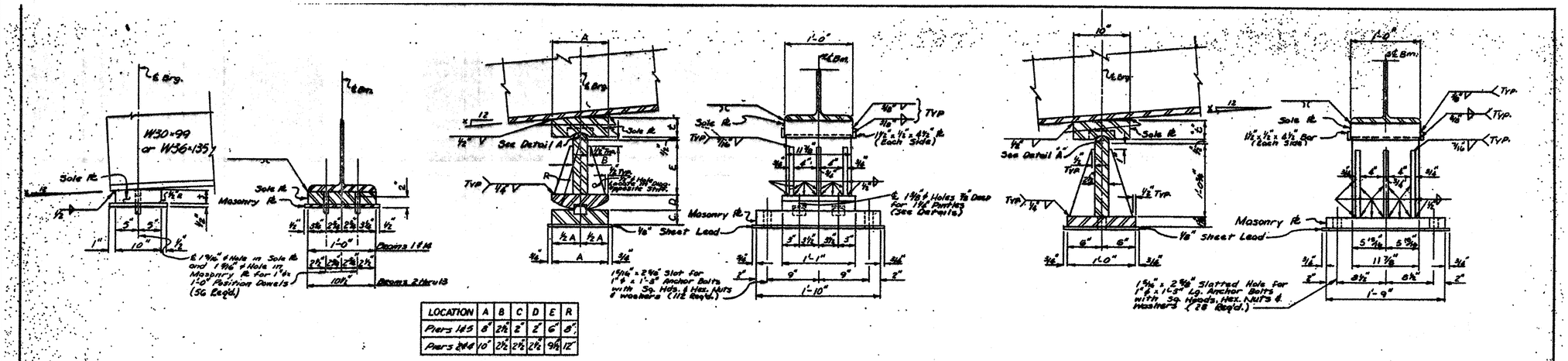
MDOT JOB NO. 86173A | STRUCTURE NO. R01 of 82-22-54

EX STRUCTURAL STEEL DETAILS (REMOVAL)

DATE: 04/16/08

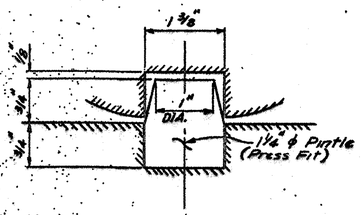
DLZ JOB NO. 0642-6090-00

SHEET NO. 15 OF 60

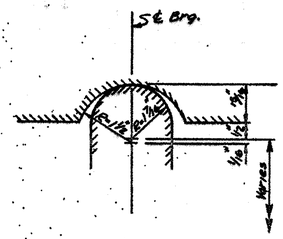


LOCATION	A	B	C	D	E	R
Piers 1 & 5	8"	2½	2"	2"	6"	8"
Piers 2 & 4	10"	2½	2½	2½	9½	12"

FIXED BEARING DETAILS–ABUTMENTS

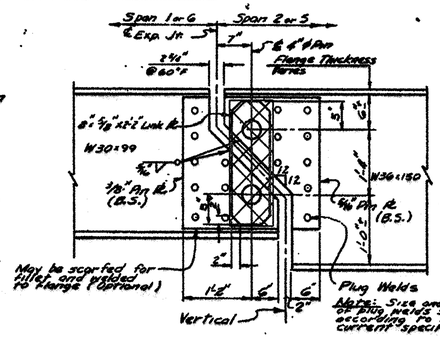


PINTLE DETAIL

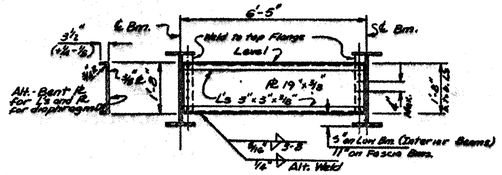


DETAIL 'A'

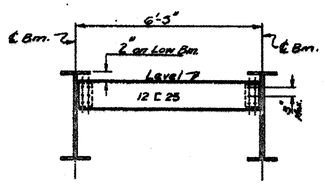
EXPANSION BEARING DETAILS – PIERS 1,2 & 5



HANGER DETAILS



DIAPHRAGM D1



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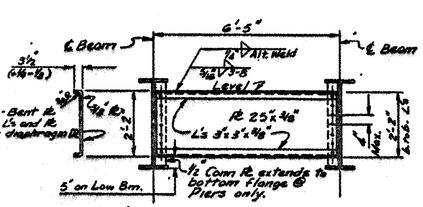

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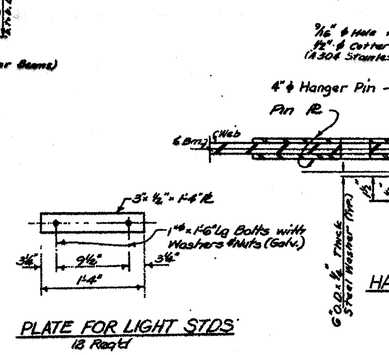
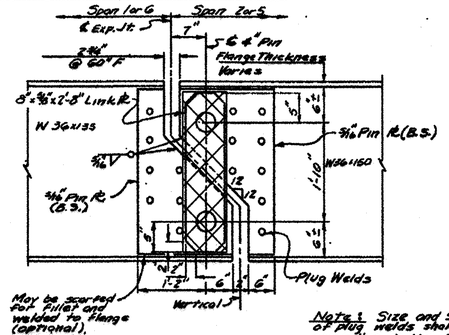


PLATE FOR LIGHT STDS
18 Req'd

HANGER PIN DETAILS

FIXED BEARING DETAILS – PIER 3



HANGER DETAILS

SOLE PLATE SLOPES	
LOCATION / BEAMS	'X' FOR ALL BEAMS
ABUT. & PIER 1	+ 9/16"
PIER 2	+ 9/16"
PIER 3	0"
PIER 4	- 3/8"
PIER 5 & ABUT. 8	- 5/8"

SOLE PLATE THICKNESSES			
LOCATION / BEAMS	ABUT. A OR B 't'	PIERS 1 OR 5 't'	PIERS 2,3 OR 4 't'
1,2,4,6,9,11,13 & 14	2"	2½"	3"
3 AND 12	3⅛"	3⅝"	4⅛"
5,7,8 AND 10	3"	3½"	4"

REMOVAL SHEET

JOB NUMBER 86173A

THE ONLY ITEMS OF WORK TO BE DONE FROM THIS SHEET ARE IDENTIFIED BY THE LEGEND BOX BELOW, LABELED WITH THIS PROJECT'S JOB NUMBER.

PROPOSED WORK

DENOTES REMOVAL PORTIONS

REVISIONS	DESIGNED BY Schoenherr	CHECKED BY Hodkinson	DATE 1-18-72	CORRECT
	TRACED BY	DESIGNED BY		ASSIST. ENGINEER OF DESIGN
	CORRECT Robert Clemens SQUAD LEADER			APPROVED ENGINEER OF DESIGN

BOARD OF
WAYNE COUNTY ROAD COMMISSIONERS
DESIGN DIVISION

Work this sheet with sheets #30 & #31

T4000(3)

EAST GRAND BOULEVARD OVER
GRAND TRUNK RAILROAD
GRADE SEPARATION
STRUCTURAL STEEL DETAILS (CONT'D)

COUNTY PROJECT	COUNTY JOB
	508
ISSUE NO. 1	SHEET NO. 32
DATE 4-3-72	

REVISIONS	DESCRIPTION	DATE	BY

DLZ

CITY OF DETROIT

EAST GRAND BLVD OVER
DETROIT CONNECTING RAILROAD

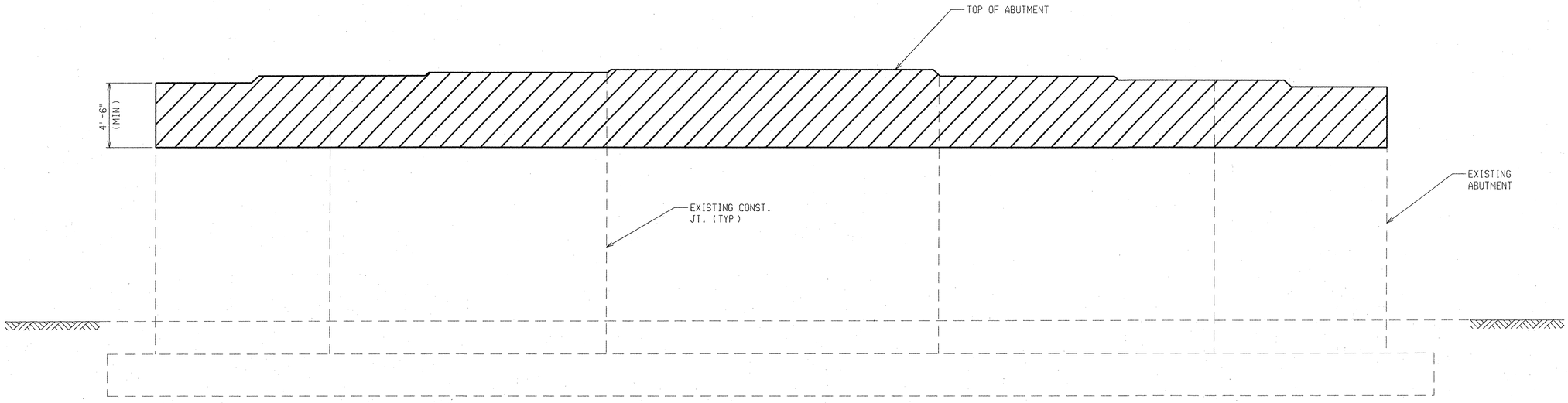
MDOT JOB NO. 86173A | STRUCTURE NO. R01 of 82-22-54

EX STRUCTURAL STEEL DETAILS
(REMOVAL)

DATE: 04/16/08

DLZ JOB NO. 0642-6090-00

SHEET NO. 16 OF 60



TYICAL ABUTMENT ELEVATION

SCALE: NONE

MISCELLANEOUS QUANTITIES		
ABUTMENTS	PIERS	
450	50	Cft Hand Chipping, Other Than Deck
890	100	Sft Patch, Forming
17	2	Cyd Patching Conc, C-L
340	15	Syd Water Repellent Treatment, Penetrating
	200	Ft Structural Crack, Repr
	200	Ft Flushing Cracks, Water

NOTES:

FORMS FOR LARGE PATCHES SHALL BE INSTALLED IN 2'-0" TO 4'-0" HIGH SECTIONS WITH THE TOP OF THE FORM NO MORE THAN 4'-0" ABOVE THE LEVEL OF CONCRETE AS THE POUR PROGRESSES.

DENOTES AREAS OF THE ABUTMENTS TO BE REPAIRED.

QUANTITIES FOR THE PIERS ARE UNDISTRIBUTED QUANTITIES AND THE REPAIRS TO THE PIERS SHALL BE AS DIRECTED BY THE ENGINEER.

REVISIONS	DESCRIPTION	DATE	BY

DLZ

CITY OF DETROIT

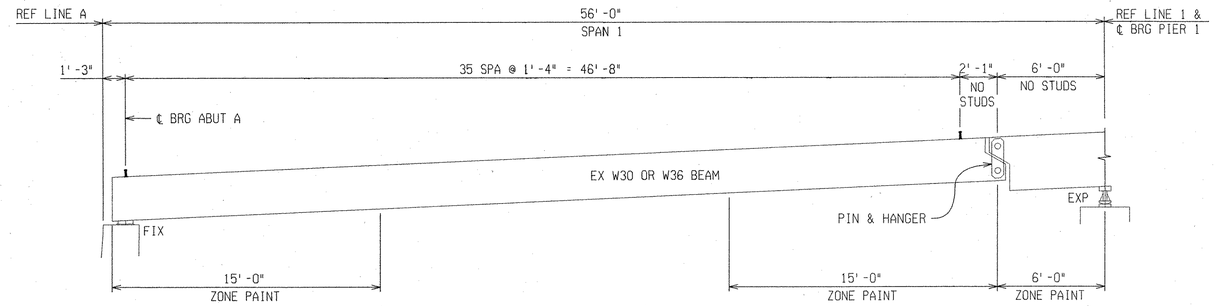
EAST GRAND BLVD OVER
DETROIT CONNECTING RAILROAD

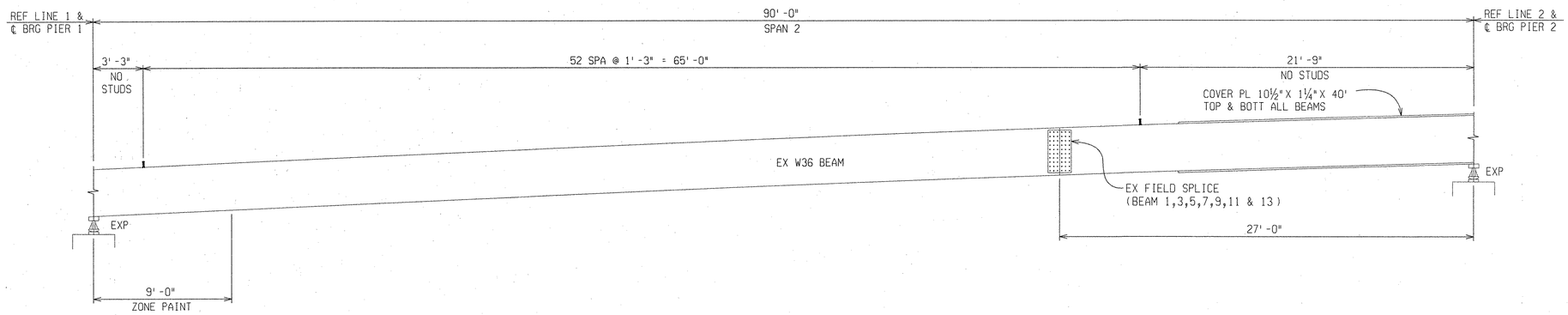
MDOT JOB NO. 86173A | STRUCTURE NO. R01 of 82-22-54

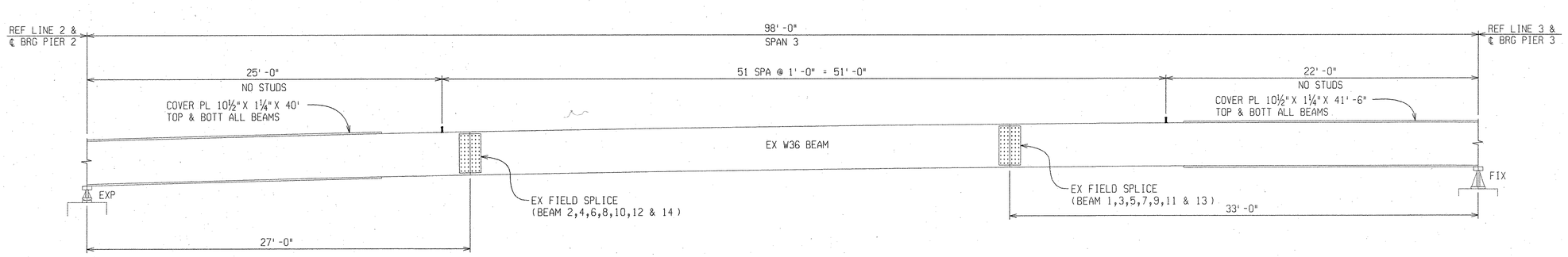
SUBSTRUCTURE REPAIR DETAILS

DATE: 04/16/08
DLZ JOB NO. 0642-6090-00
SHEET NO. 17 OF 60

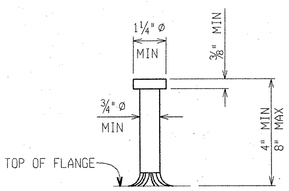
DATE: 07/02/07
DATE: 07/02/07 CORRECTED BY:KCK
DATE: 06/27/07 CHECKED BY: KCK
DRAWN BY: DAF
FILE NAME: east grand ab1.dgn



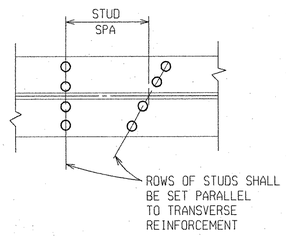




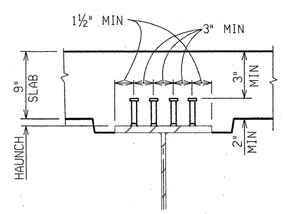
SHEAR DEVELOPER SPACING



STUD DETAIL



PLAN



SECTION

STUD SHEAR DEVELOPER DETAILS

NOTES:

SHEAR DEVELOPERS SHALL BE ¾" DIAMETER STUDS.

IF EXISTING SHEAR DEVELOPERS DO NOT INTERFERE WITH PROPOSED SHEAR DEVELOPERS AND REINFORCEMENT, THEY MAY BE CLEANED AND LEFT IN PLACE INSTEAD OF REMOVED. THE CONTRACTOR SHALL INSTALL ALL PROPOSED SHEAR DEVELOPERS REGARDLESS OF WHETHER OR NOT THE EXISTING SHEAR DEVELOPERS REMAIN.

THIS BRIDGE HAS UNCOATED A588 STRUCTURAL STEEL. THE ADDITIONAL EFFORT TO CLEAN THE STRUCTURAL STEEL WILL NOT BE PAID FOR SEPARATELY, BUT WILL BE CONSIDERED INCLUDED IN THE BID ITEMS.

SEE SUBSECTION 715 OF THE STANDARD SPECIFICATIONS FOR PROTECTION OF WORK AND ENVIRONMENT DURING THE BLAST CLEANING OF THIS STRUCTURE.

AFTER THE REMOVAL OF THE EXISTING CONCRETE BACKWALL, WHEN THE BEARINGS AT THE ABUTMENTS ARE EXPOSED, THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH THE OPPORTUNITY TO INSPECT THE BEARINGS FOR EXCESSIVE DETERIORATION.

THE SOLE PLATES AND MASONRY PLATES OF THE BEARINGS AT THE ABUTMENTS SHALL BE CLEANED AND COATED AFTER THE REMOVAL OF THE EXISTING CONCRETE BACKWALL AND PRIOR TO POURING THE PROPOSED BACKWALL. (INCLUDED IN THE BID ITEM "Steel Structure, Coating, Partial Type 4 (R01 of 82-22-54)")

THE ESTIMATED AREA OF STRUCTURAL STEEL TO BE COATED IS 3,855 SQUARE FEET.

THE CONTRACTOR SHALL TAKE NECESSARY MEASURES TO AVOID OVERSPRAY ON ADJACENT SUBSTRUCTURE AND SUPERSTRUCTURE CONCRETE SURFACES. (INCLUDED IN THE BID ITEM "Steel Structure, Coating, Partial Type 4 (R01 of 82-22-54)")

REVISIONS	DESCRIPTION	DATE	BY

DLZ

CITY OF DETROIT

EAST GRAND BLVD OVER
DETROIT CONNECTING RAILROAD

MDOT JOB NO. 86173A | STRUCTURE NO. R01 of 82-22-54

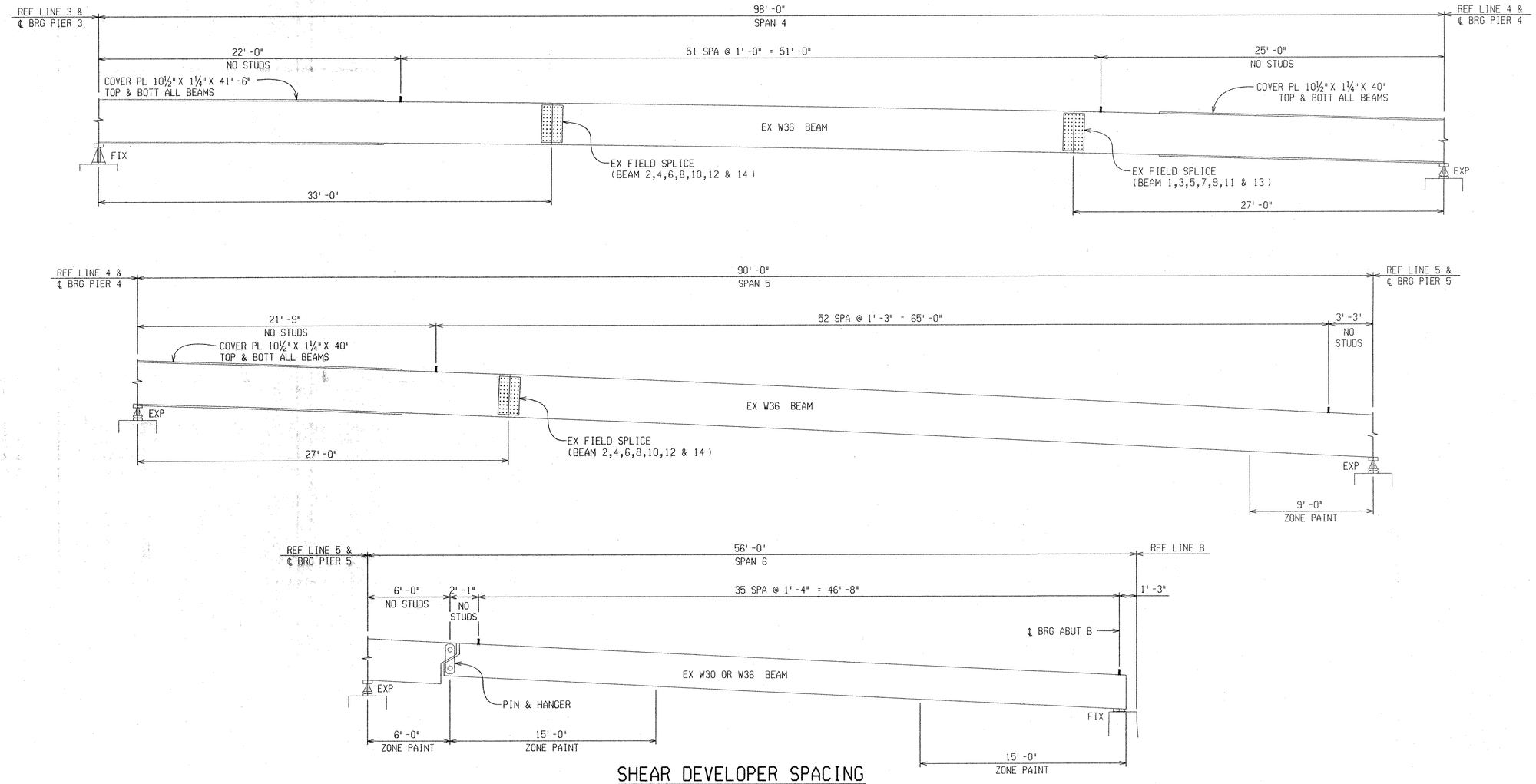
STRUCTURAL STEEL DETAILS

DATE: 04/16/08

DLZ JOB NO. 0642-6090-00

SHEET NO. 18 OF 60

DATE: 07/02/07 DATE: 07/02/07 CORRECTED BY:KCK DATE: 06/25/07 CHECKED BY: KCK DRAWN BY: DW FILE NAME: east grand pg1.dgn



SHEAR DEVELOPER SPACING

MISCELLANEOUS QUANTITIES

1	LS	Shear Developers (R01 of 82-22-54)
1	LS	Steel Structure, Cleaning, Partial, Type 4 (R01 of 82-22-54)
1	LS	Steel Structure, Coating Partial, Type 4 (R01 of 82-22-54)

REVISIONS

DESCRIPTION	DATE	BY

DLZ

CITY OF DETROIT

EAST GRAND BLVD OVER
DETROIT CONNECTING RAILROAD

MDOT JOB NO. 86173A | STRUCTURE NO. R01 of 82-22-54

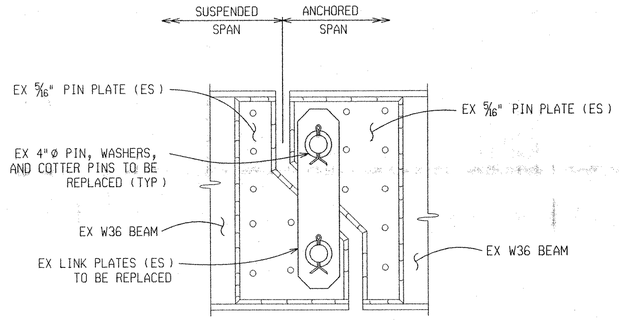
STRUCTURAL STEEL DETAILS

DATE: 04/16/08
DLZ JOB NO. 0642-6090-00
SHEET NO. 19 OF 60

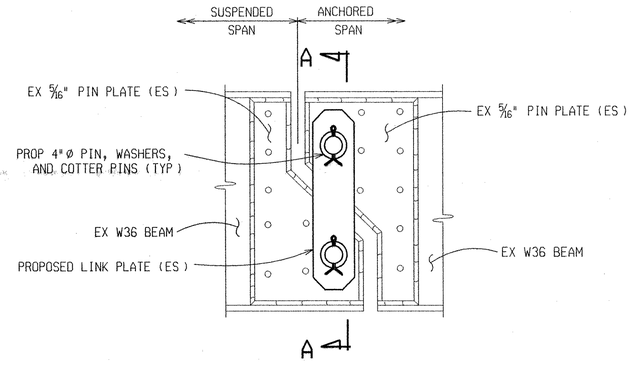
DATE: 07/02/07
DATE: 07/02/07 CORRECTED BY:KCK
DATE: 06/25/07 CHECKED BY: KCK
DRAWN BY: DW
FILE NAME: east grand pg9.dgn

MISCELLANEOUS QUANTITIES

112	Ea	Bushing
4110	Lb	Structural Steel, Furn and Fab, Pin and Hanger
28	Ea	Hanger Assembly, Field Measurement
28	Ea	Hanger Assembly, Rem and Erect
28	Ea	Support, Suspension, Temp



PIN & HANGER ELEVATION (EXISTING)



PIN & HANGER ELEVATION (PROPOSED)

NOTES:

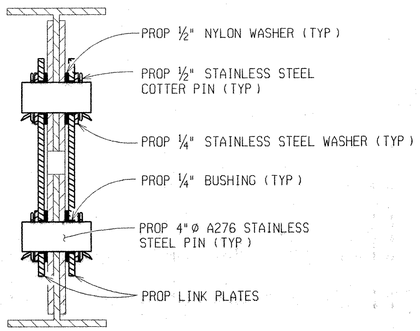
THE AREA WITHIN 3 FEET EACH SIDE OF THE CENTERLINE OF THE HANGER ASSEMBLY SHALL BE COATED PRIOR TO INSTALLING THE NEW LINK PLATES AND PINS. PROPOSED LINK PLATES SHALL BE SHOP COATED.

THE PROTECTION OF WORK AND ENVIRONMENT DURING BLAST CLEANING OF WEBS BEHIND AND AROUND HANGER ASSEMBLIES SHALL BE ACCORDING TO SUBSECTION 715 OF THE STANDARD SPECIFICATIONS. (INCLUDED IN THE BID ITEM "Hanger Assembly, Rem and Erect")

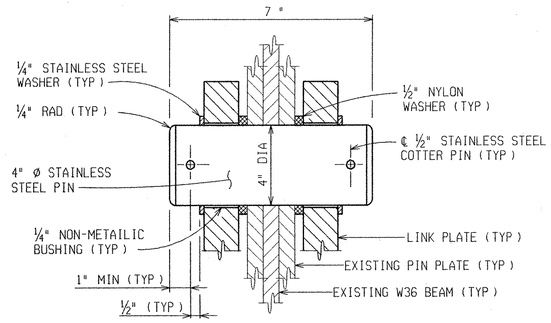
WELDING ON EXISTING BEAMS WILL NOT BE PERMITTED.

TEMPORARY SUPPORTS SHALL NOT REMAIN LOADED FOR A PERIOD GREATER THAN FOUR WEEKS.

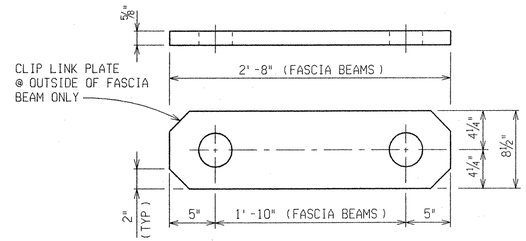
ALTERNATE DESIGNS OF THE TEMPORARY SUPPORT SHALL BE BASED ON LOADS AS FOLLOWS:
5 TON VERTICAL GIRDER LOAD.



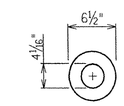
SECTION A-A



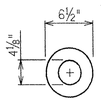
PROPOSED PIN DETAIL
(8 REQ'D)



LINK PLATE
(8 REQ'D FASCIA BEAMS)



¼" STAINLESS STEEL WASHER
ALL FASCIA BEAMS
(16 REQ'D)



½" NYLON WASHER
ALL FASCIA BEAMS
(16 REQ'D)

REVISIONS	DESCRIPTION	DATE	BY

DLZ

CITY OF DETROIT

EAST GRAND BLVD OVER DETROIT CONNECTING RAILROAD

MDOT JOB NO. 86173A | STRUCTURE NO. R01 of 82-22-54

PIN AND HANGER DETAILS (FASCIA BEAMS)

DATE: 04/16/08

DLZ JOB NO. 0642-6090-00

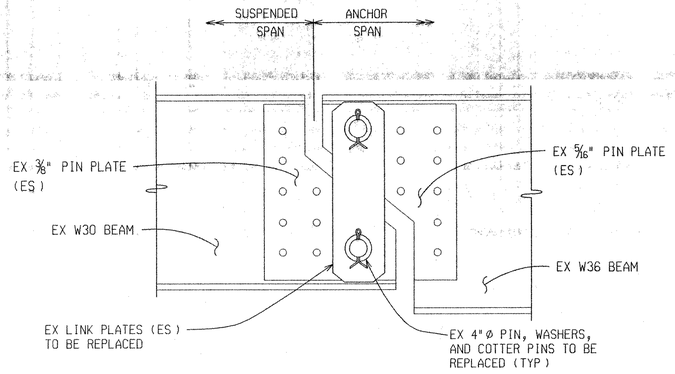
SHEET NO. 20 OF 60

DATE: 07/01/07 CORRECTED BY: KCK

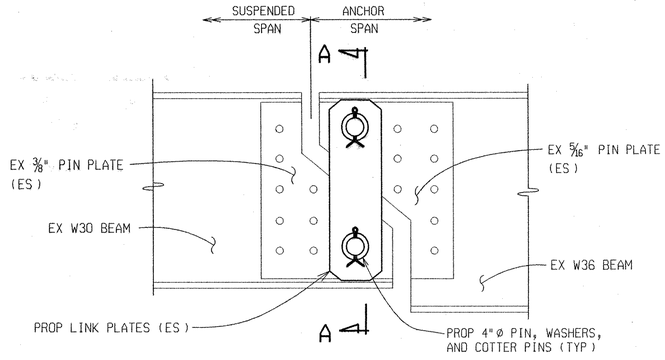
DATE: 03/19/07 CHECKED BY: KCK

DRAWN BY: JP

FILE NAME: east grand pr2.dgn



PIN & HANGER ELEVATION (EXISTING)



PIN & HANGER ELEVATION (PROPOSED)

NOTES:

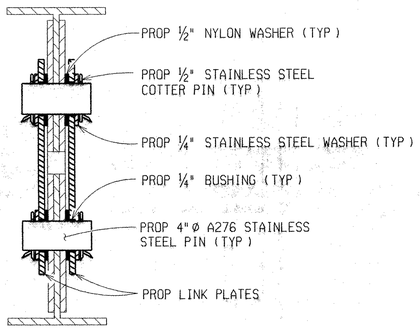
THE AREA WITHIN 3 FEET EACH SIDE OF THE CENTERLINE OF THE HANGER ASSEMBLY SHALL BE COATED PRIOR TO INSTALLING THE NEW LINK PLATES AND PINS. PROPOSED LINK PLATES SHALL BE SHOP COATED.

THE PROTECTION OF WORK AND ENVIRONMENT DURING BLAST CLEANING OF WEBS BEHIND AND AROUND HANGER ASSEMBLIES SHALL BE ACCORDING TO SUBSECTION 715 OF THE STANDARD SPECIFICATIONS. (INCLUDED IN THE BID ITEM "Hanger Assembly, Rem and Erect")

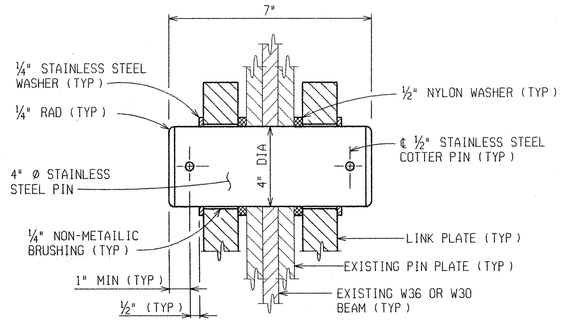
WELDING ON EXISTING BEAMS WILL NOT BE PERMITTED.

TEMPORARY SUPPORTS SHALL NOT REMAIN LOADED FOR A PERIOD GREATER THAN FOUR WEEKS.

ALTERNATE DESIGNS OF THE TEMPORARY SUPPORT SHALL BE BASED ON LOADS AS FOLLOWS:
5 TON VERTICAL GIRDER LOAD.

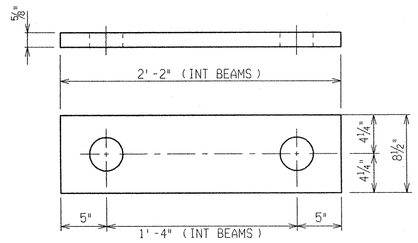


SECTION A-A



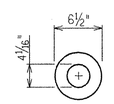
PROPOSED PIN DETAIL

(48 REQ'D)



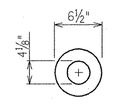
LINK PLATE

(48 REQ'D INTERIOR BEAMS)



¼" STAINLESS STEEL WASHER

ALL INTERIOR BEAMS
(96 REQ'D)



½" NYLON WASHER

ALL INTERIOR BEAMS
(INCLUDED IN THE PAY ITEM "Structural Steel, Furn and Fab, Pin and Hanger")
(96 REQ'D)

REVISIONS	DESCRIPTION	DATE	BY

DLZ

CITY OF DETROIT

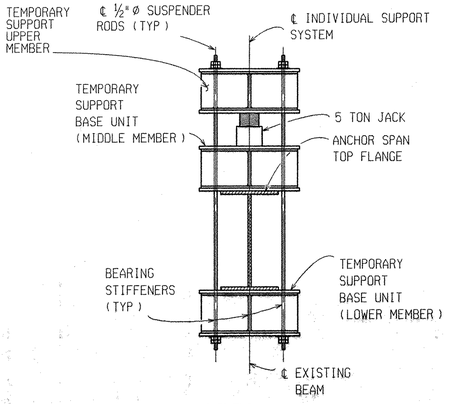
EAST GRAND BLVD OVER DETROIT CONNECTING RAILROAD

MDOT JOB NO. 86173A | STRUCTURE NO. R01 of 82-22-54

PIN AND HANGER DETAILS (INTERIOR BEAMS)

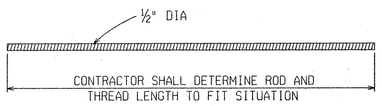
DATE: 04/16/08
DLZ JOB NO. 0642-6090-00
SHEET NO. 21 OF 60

DATE: 07/01/07
DATE: 07/01/07 CORRECTED BY: KCK
DATE: 03/19/07 CHECKED BY: KCK
DRAWN BY: JP
FILE NAME: east grand pr2.dgn



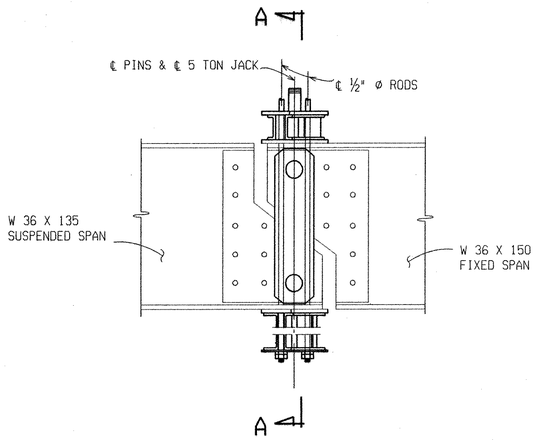
SECTION A-A

(TYPICAL ALL BEAMS)



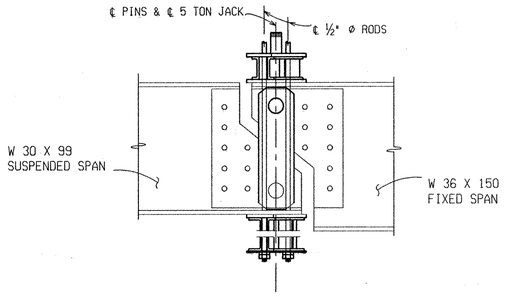
SUSPENDER ROD DETAIL

2 REQUIRED PER ASSEMBLY W/8 HEAVY HEX NUTS & 4 HARDENED WASHER PER ROD



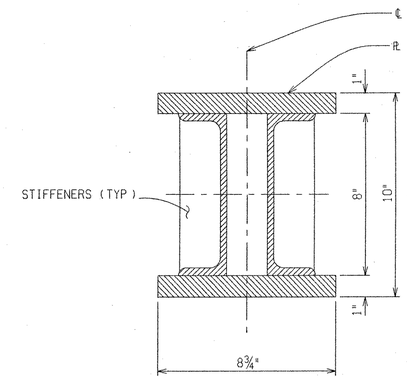
TEMPORARY SUPPORT

FASCIA BEAMS

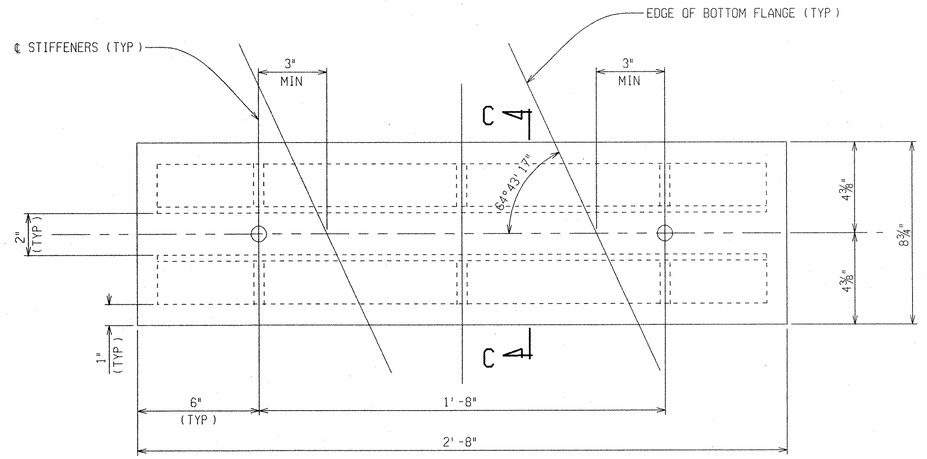


TEMPORARY SUPPORT

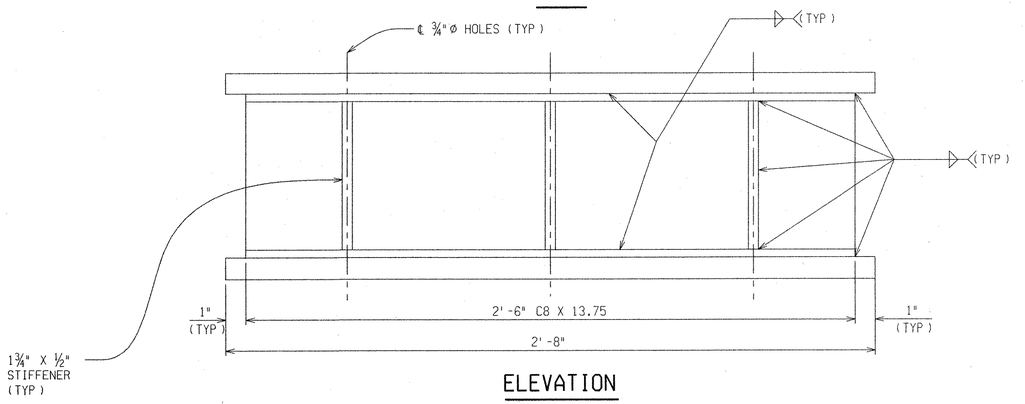
INTERIOR BEAMS



SECTION C-C



PLAN



ELEVATION

ASSEMBLY MEMBER DETAILS

(OMIT OUTSIDE STIFFENERS ON MIDDLE MEMBERS ONLY)

REVISIONS	DESCRIPTION	DATE	BY

DLZ

CITY OF DETROIT

EAST GRAND BLVD OVER DETROIT CONNECTING RAILROAD

MDOT JOB NO. 86173A | STRUCTURE NO. R01 of 82-22-54

PIN AND HANGER DETAILS

DATE: 04/16/08

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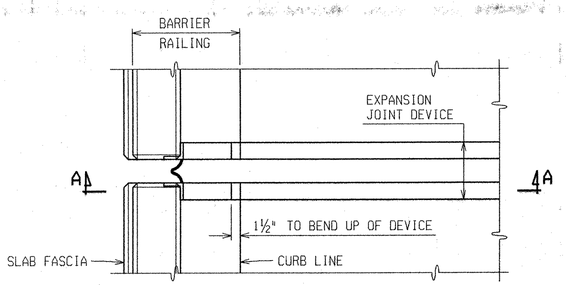
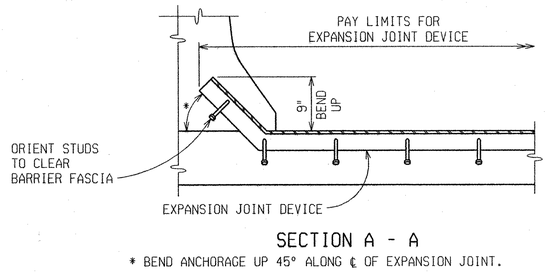
SHEET NO. 22 OF 60

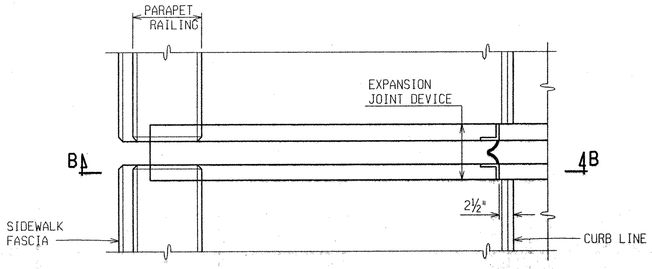


PLAN AT BARRIER RAILING

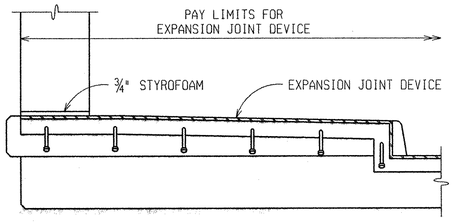


SECTION A - A

* BEND ANCHORAGE UP 45° ALONG ℄ OF EXPANSION JOINT.



PLAN AT PARAPET RAILING WITH SIDEWALK



SECTION B-B

NOTES:

JOINT TYPES

THE EXPANSION JOINT DEVICE SHALL BE OF A TYPE THAT INCLUDES A CONTINUOUS NEOPRENE (OR EQUIVALENT) SEAL ACROSS THE DECK. UNLESS OTHERWISE NOTED ON THE PLANS, THE CONTRACTOR HAS THE OPTION OF USING ANY OF THE DEVICES LISTED BELOW:

DEVICE	MANUFACTURER
WABO STRIP SEAL - TYPE M	WATSON-BOWMAN & ACME, INC.
WABO STRIP SEAL - TYPE A	WATSON-BOWMAN & ACME, INC.
STEELFLEX-SSA2	D.S. BROWN
STEELFLEX-SSCM	D.S. BROWN
ONFLEX 40 SS	STRUCTURAL RUBBER PRODUCTS CO.

THE MODEL OF THE JOINT TYPE SELECTED SHALL BE SUITABLE TO ACCOMMODATE THE TOTAL MOVEMENT NOTED ON THE PLANS.

COMPLETE WORKING DRAWINGS OF ALL DETAILS OF FABRICATION OF THE EXPANSION JOINT DEVICE SHALL BE SUBMITTED FOR REVIEW IN ACCORDANCE WITH STANDARD SPECIFICATION 104.02. THIS REQUIREMENT IS WAIVED FOR EXPANSION JOINT DEVICES FOR WHICH A SET OF STANDARD INSTALLATION DETAILS HAS BEEN APPROVED. STANDARD INSTALLATION DETAILS CAN BE OBTAINED FROM THE DESIGN SUPPORT AREA.

FABRICATION AND INSTALLATION

THE EXPANSION JOINT SHALL BE SHOP FABRICATED TO CONFORM TO THE CONTOUR OF THE BRIDGE DECK, BARRIERS, ETC. IT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS SUBJECT TO NOTES HEREIN AND THE APPROVAL OF THE ENGINEER.

THE TOP OF THE EXPANSION JOINT DEVICE SHALL BE SET ⅛" - ¼" BELOW THE CONCRETE SLAB (PAVEMENT) WITH A TOLERANCE OF ± ⅛".

THE STEEL ANCHORAGE FOR STRIP SEAL GLANDS SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH SUBSECTION 707.03C.16 OF THE STANDARD SPECIFICATIONS.

THE AREA OF THE STEEL ANCHORAGE AND SEALING GLAND WHICH WILL BE IN CONTACT WITH A SEALANT, OR LUBRICANT-ADHESIVE SHALL BE CLEANED WITH TOLUENE OR OTHER APPROVED SOLVENT.

WHERE THE SEALING GLAND IS LOCKED INTO A STEEL ANCHORAGE, A LUBRICANT-ADHESIVE CONFORMING TO STANDARD SPECIFICATION 914.04D SHALL BE REQUIRED BETWEEN THE SEAL AND STEEL ANCHORAGE.

IN THE EVENT THAT SPLICING IS REQUIRED OF THE SEALING GLAND, IT SHALL BE SPLICED BY AN APPROVED METHOD (SUCH AS COLD VULCANIZATION) BY A TRAINED REPRESENTATIVE OF THE MANUFACTURER.

DETAILS AT CURBS OR BARRIERS

THE DETAILS ON THIS SHEET SHOW AN APPROVED MEANS OF TERMINATING THE EXPANSION JOINT DEVICE AT CURBS OR BARRIERS. VARIATIONS OR ALTERNATIVE SCHEMES WILL BE CONSIDERED AND MAY BE USED IF APPROVED BY THE ENGINEER.

MATERIALS

THE COST OF ALL MATERIALS AND LABOR REQUIRED FOR PROPER INSTALLATION OF THE EXPANSION JOINT AND THE TERMINAL ASSEMBLIES AT THE CURBS, SIDEWALKS, OR BARRIERS IS INCLUDED IN THE PAYMENT FOR THE EXPANSION JOINT DEVICE.

STRUCTURE NUMBER	ANGLE OF CROSSING TO NEAREST 10°	LOCATION OF JOINT	MIN. TOT. TRAVEL ALONG CENTERLINE OF BRIDGE	REQUIRED LENGTH OF EXPANSION JOINT DEVICE
R01	90°	SPAN 1 EB	3/16"	43'-8"
R01	90°	SPAN 1 WB	3/16"	43'-8"
R01	90°	SPAN 6 EB	3/16"	43'-8"
R01	90°	SPAN 6 WB	3/16"	43'-8"

QUANTITY		
ITEM	UNIT	AMOUNT
Expansion Joint Device	Ft	175

DATE: 07/02/07 CORRECTED BY: KCK
DATE: 06/25/07 CHECKED BY: KCK
DRAWN BY: DW
FILE NAME: east grand ej.dgn

REVISIONS	DESCRIPTION	DATE	BY

DLZ

CITY OF DETROIT

EAST GRAND BLVD OVER DETROIT CONNECTING RAILROAD

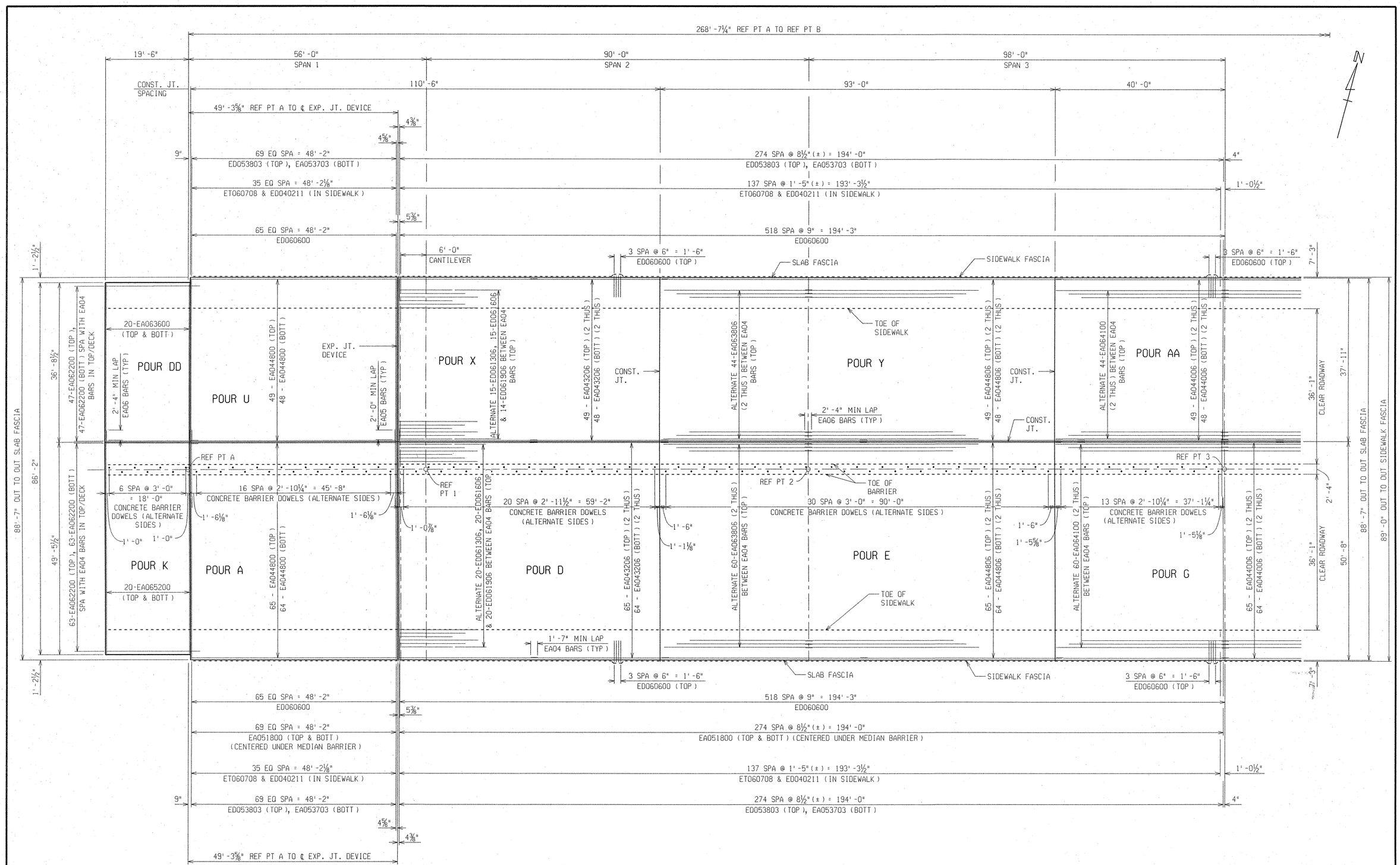
MDOT JOB NO. 86173A | STRUCTURE NO. R01 of 82-22-54

EXPANSION JOINT DETAILS

DATE: 04/16/08

DLZ JOB NO. 0642-6090-00

SHEET NO. 23 OF 60



REVISIONS	DESCRIPTION	DATE	BY

DLZ

CITY OF DETROIT

EAST GRAND BLVD OVER
DETROIT CONNECTING RAILROAD

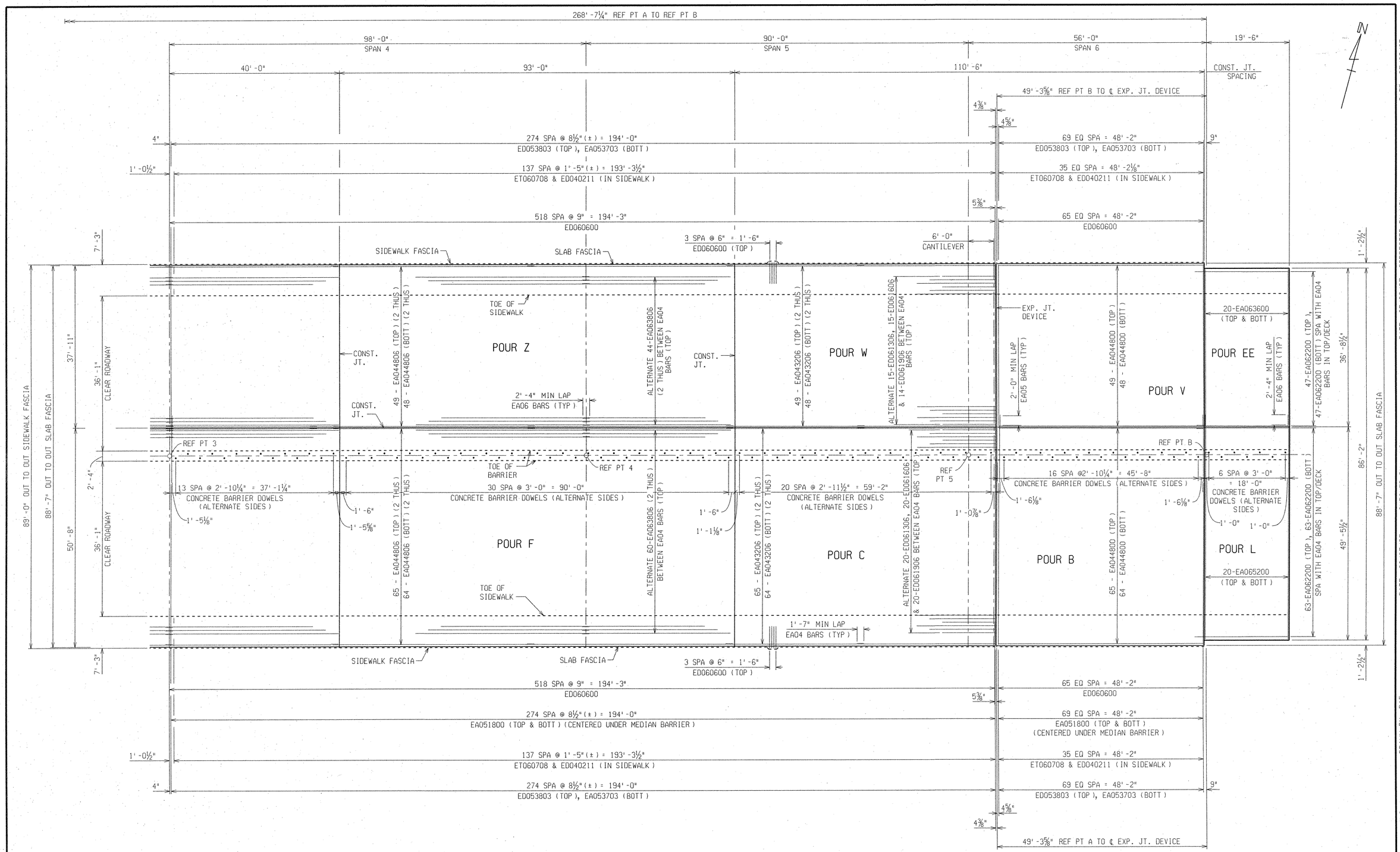
MDOT JOB NO. 86173A | STRUCTURE NO. R01 of 82-22-54

SUPERSTRUCTURE DETAILS

DATE: 04/16/08

DLZ JOB NO. 0642-6090-00

SHEET NO. 24 OF 60



DATE: 07/02/07 CORRECTED BY: KCK

DATE: 06/27/07 CHECKED BY: KCK

DRAWN BY: DAF

FILE NAME: east grand dk2.dgn

REVISIONS	DESCRIPTION	DATE	BY

DLZ

CITY OF DETROIT

EAST GRAND BLVD OVER
DETROIT CONNECTING RAILROAD

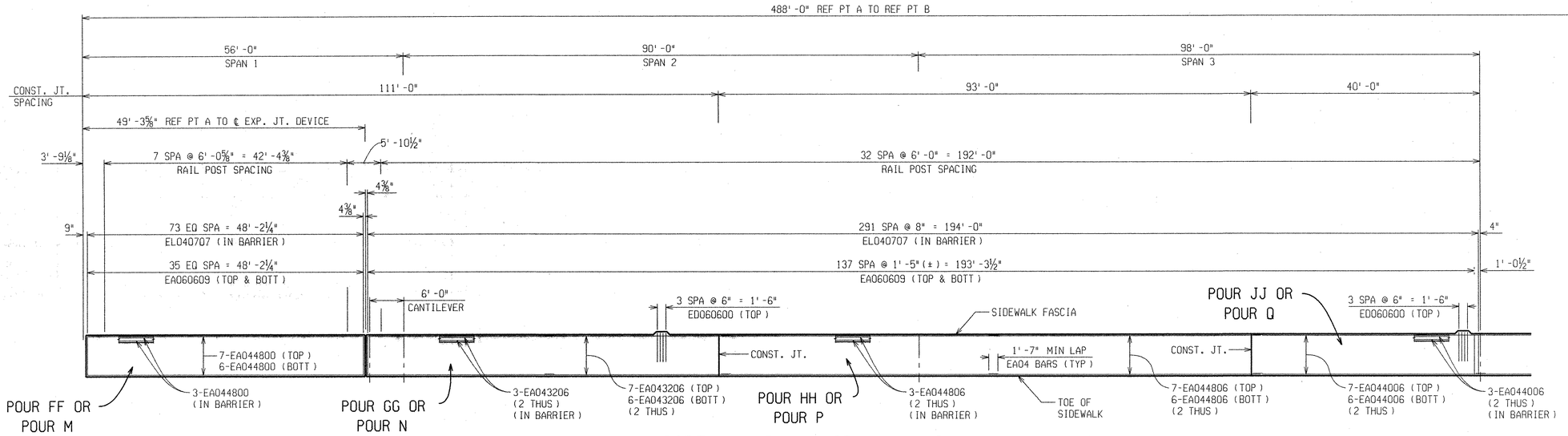
MDOT JOB NO. 86173A | STRUCTURE NO. R01 of 82-22-54

SUPERSTRUCTURE DETAILS

DATE: 04/16/08

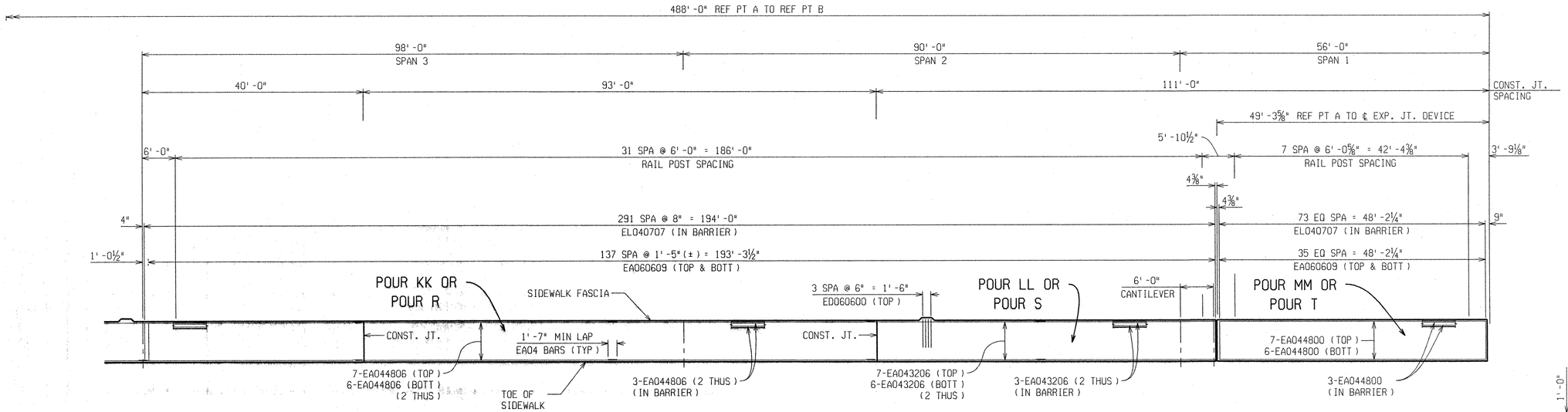
DLZ JOB NO. 0642-6090-00

SHEET NO. 25 OF 60



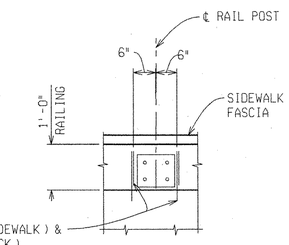
SIDEWALK PLAN (SPAN 1 - 3)

NORTH SIDEWALK SHOWN, SOUTH SIDEWALK SIMILAR



SIDEWALK PLAN (SPAN 4 - 6)

NORTH SIDEWALK SHOWN, SOUTH SIDEWALK SIMILAR



RAILING POST DETAIL

(TYP 162 POSTS ON THE BRIDGE)

REVISIONS	DESCRIPTION	DATE	BY

DLZ

CITY OF DETROIT

EAST GRAND BLVD OVER DETROIT CONNECTING RAILROAD

MDOT JOB NO. 86173A | STRUCTURE NO. R01 of 82-22-54

SUPERSTRUCTURE DETAILS

DATE: 04/16/08

DLZ JOB NO. 0642-6090-00

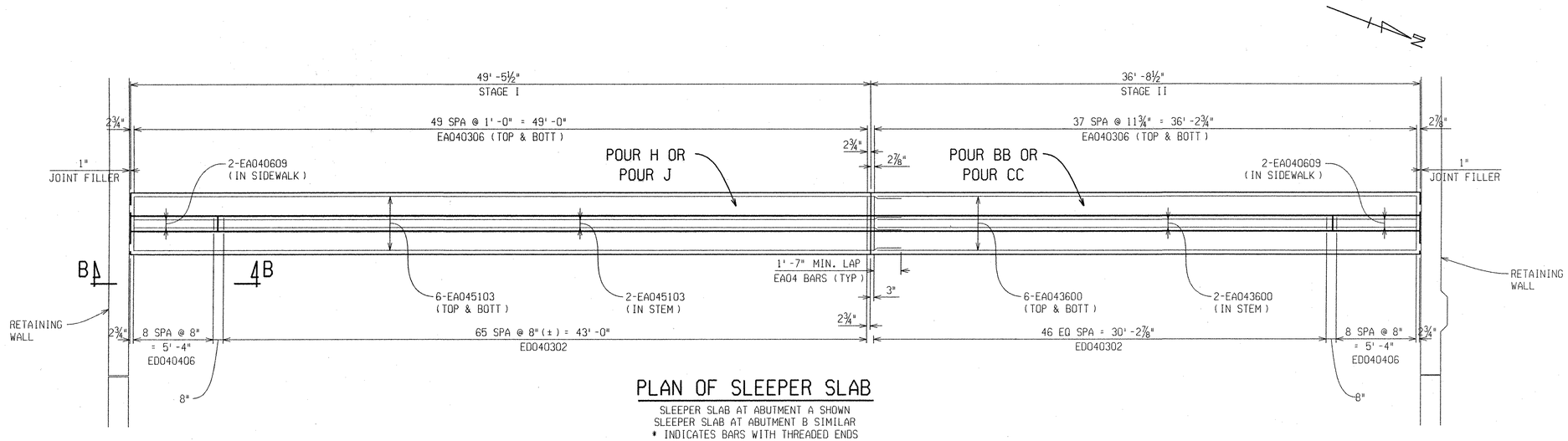
SHEET NO. 26 OF 60

DATE: 07/06/07 CORRECTED BY: KCK

DATE: 07/02/07 CHECKED BY: KCK

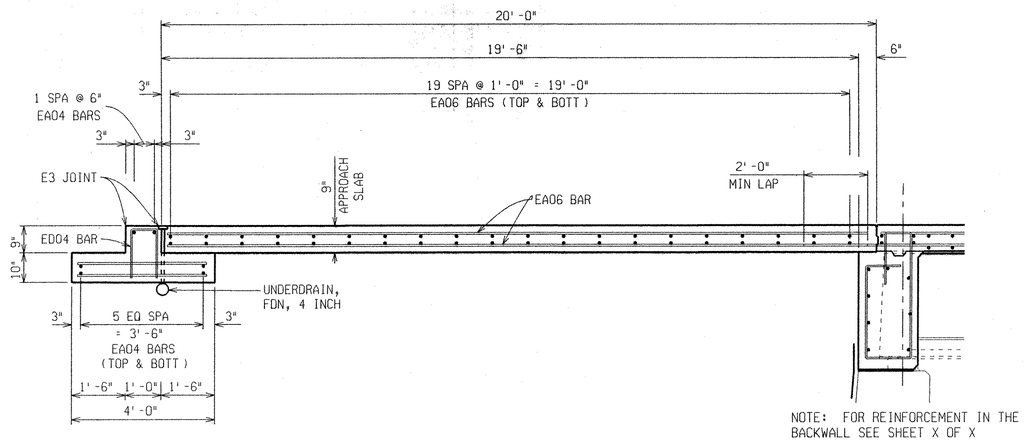
DATE: 06/27/07 DRAWN BY: DAF

FILE NAME: east grand dk3.dgn



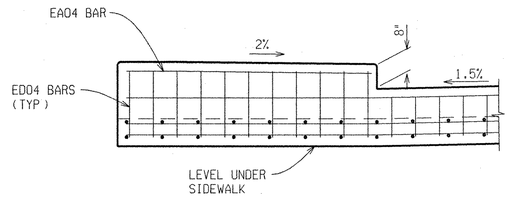
PLAN OF SLEEPER SLAB

SLEEPER SLAB AT ABUTMENT A SHOWN
SLEEPER SLAB AT ABUTMENT B SIMILAR
* INDICATES BARS WITH THREADED ENDS



NOTE: FOR REINFORCEMENT IN THE BACKWALL SEE SHEET X OF X

APPROACH SLAB SECTION



SECTION B-B

REVISIONS	DESCRIPTION	DATE	BY

DLZ

CITY OF DETROIT

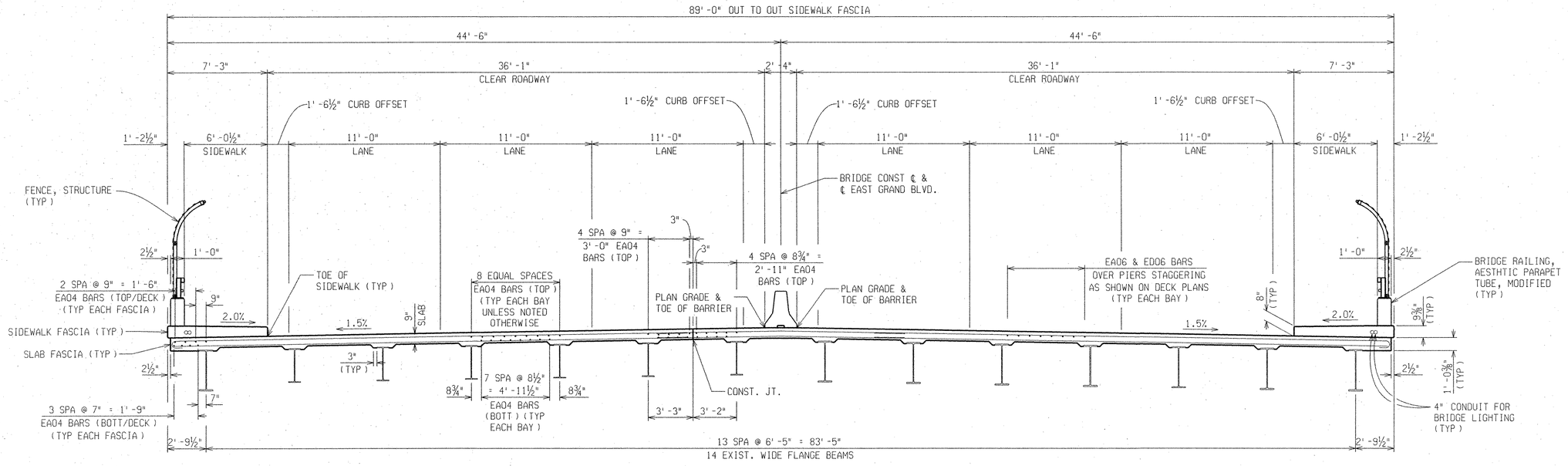
EAST GRAND BLVD OVER
DETROIT CONNECTING RAILROAD

MDOT JOB NO. 86173A | STRUCTURE NO. R01 of 82-22-54

SUPERSTRUCTURE DETAILS

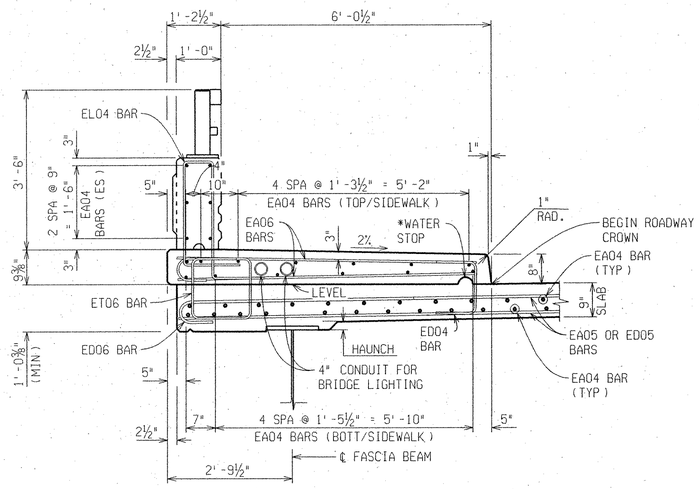
DATE: 04/16/08
DLZ JOB NO. 0642-6090-00
SHEET NO. 27 OF 60

DATE: 07/06/07
DATE: 07/06/07 CORRECTED BY:KCK
DATE: 07/06/07 CHECKED BY: KCK
DRAWN BY: DW
FILE NAME: east grand dk4.dgn



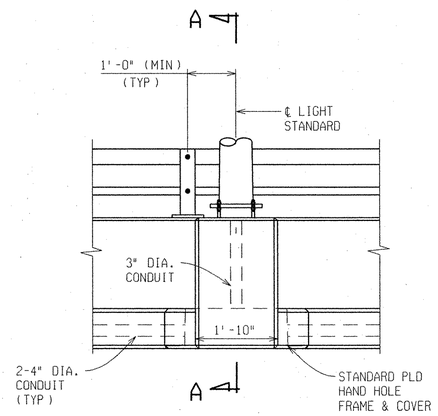
TYPICAL DECK SECTION

(LOOKING UPSTATION)

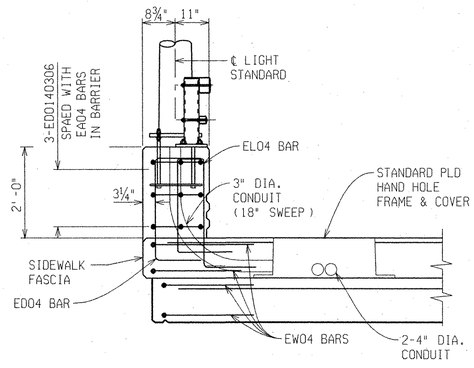


TYPICAL SIDEWALK SECTION

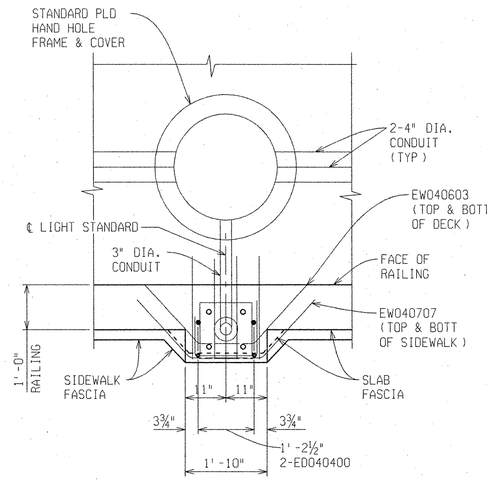
* 2" HIGH x 4" LONG (±), FORMING NOT REQUIRED



ELEVATION



SECTION A-A



PLAN

LIGHT STANDARD DETAIL

(TYP 6 LIGHT STANDARDS)
THE LIGHT STANDARD ANCHOR BOLT ASSEMBLIES ARE INCLUDED IN THE PAYMENT FOR "Bridge Railing, Aesthetic Parapet Tube, Modified".

REVISIONS	DESCRIPTION	DATE	BY

DLZ

CITY OF DETROIT

EAST GRAND BLVD OVER DETROIT CONNECTING RAILROAD

MDOT JOB NO. 86173A | STRUCTURE NO. R01 of 82-22-54

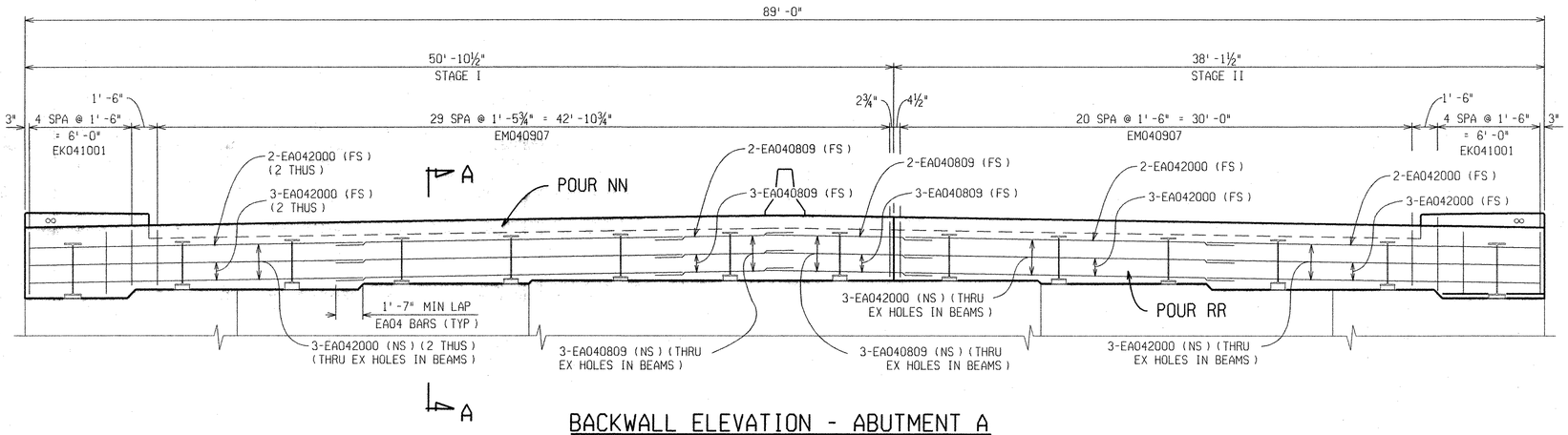
SUPERSTRUCTURE DETAILS

DATE: 04/16/08

DLZ JOB NO. 0642-6090-00

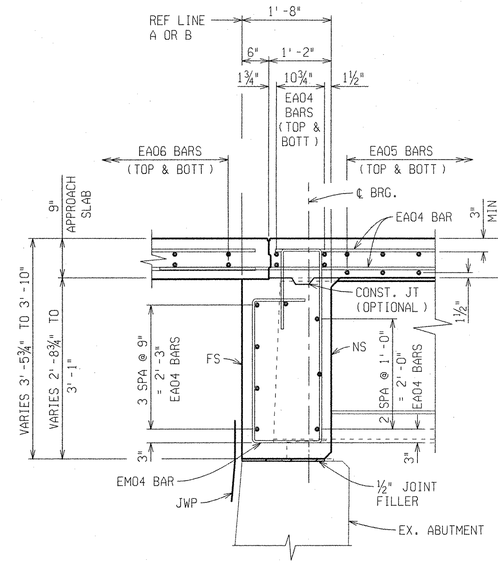
SHEET NO. 28 OF 60

DATE: 07/02/07 DATE: 07/02/07 CORRECTED BY:KCK DATE: 06/25/07 CHECKED BY: KCK DRAWN BY: DW FILE NAME: east grand dk5.dgn



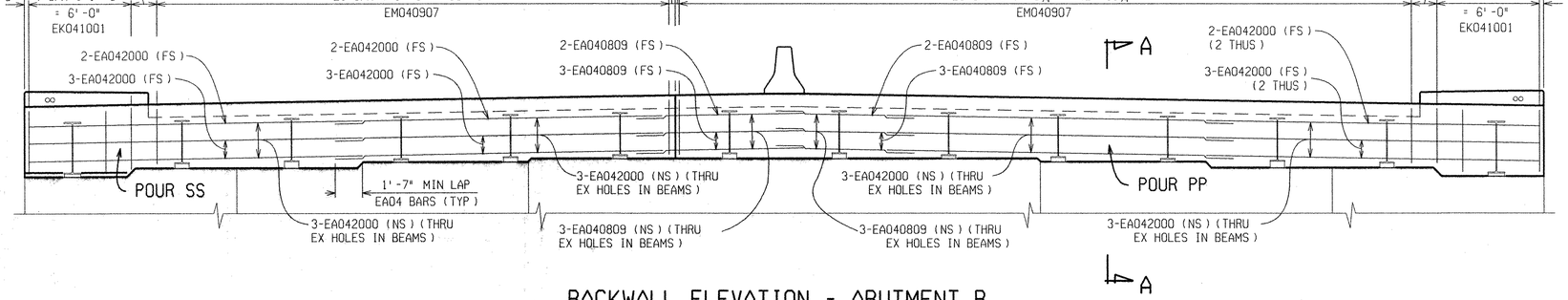
BACKWALL ELEVATION - ABUTMENT A

* INDICATES BARS WITH THREADED END



SECTION A-A

NOTE: FOR REINFORCEMENT IN THE APPROACH SLAB SEE SHEET 23 AND 24



BACKWALL ELEVATION - ABUTMENT B

* INDICATES BARS WITH THREADED END

REVISIONS	DESCRIPTION	DATE	BY

DLZ

CITY OF DETROIT

EAST GRAND BLVD OVER DETROIT CONNECTING RAILROAD

MDOT JOB NO. 86173A | STRUCTURE NO. R01 of 82-22-54

SUPERSTRUCTURE DETAILS

DATE: 04/16/08

DLZ JOB NO. 0642-6090-00

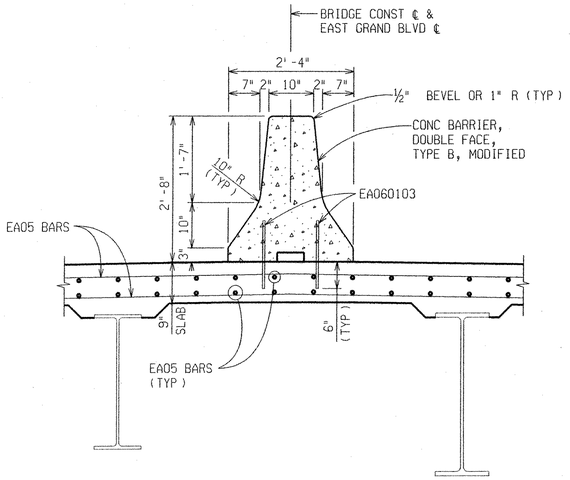
SHEET NO. 29 OF 60

DATE: 07/03/07 CORRECTED BY: KCK

DATE: 07/02/07 CHECKED BY: KCK

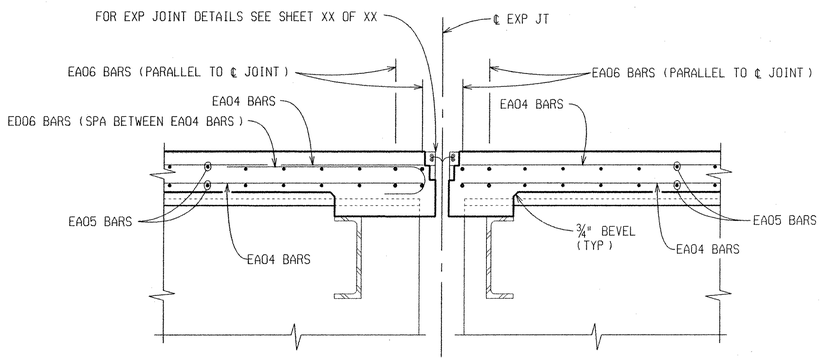
DRAWN BY: DW

FILE NAME: east grand dk6.dgn



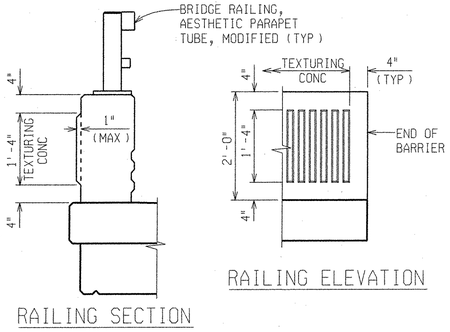
TYPICAL CONCRETE BARRIER SECTION

* FOR DOWEL SPACING SEE PLAN OF SLAB. COST OF DOWELS SHALL BE INCLUDED IN THE COST OF "Conc Barrier, Double Face, Type B, Modified".



SECTION THRU EXPANSION JOINT

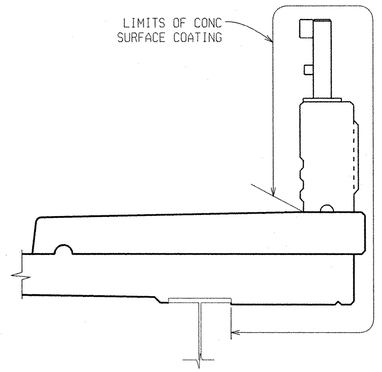
(SPAN 1 AND 6)



RAILING SECTION

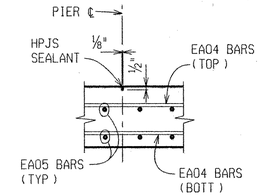
RAILING ELEVATION

RAILING RUSTICATION DETAILS



TYPICAL FASCIA

CONCRETE SURFACE COATING



SECTION THRU CONTROL JOINT

PROVIDE JOINT OVER EACH PIER ALONG PIER ℄

MISCELLANEOUS QUANTITIES

350	Ft	Joint, Expansion, E3
1551	Cyd	Superstructure Conc
1	LS	Superstructure Conc, Form, Finish, and Cure (R01 of 82-22-54)
976	Ft	Bridge Railing, Aesthtec Parapet Tube, Modified
529	Ft	Conc Barrier, Double Face, Type B, Modified
976	Sft	Fence, Structure

SUPERSTRUCTURE CONC, QUANTITIES

POUR	CYD	POUR	CYD
A	68.9	W	64.9
B	68.9	X	64.9
C	86.7	Y	98.0
D	86.7	Z	98.0
E	130.9	AA	84.3
F	130.9	BB	5.6
G	112.6	CC	5.6
H	7.5	DD	20.4
J	7.5	EE	20.4
K	27.5	FF	9.5
L	27.5	GG	11.9
M	9.5	HH	18.0
N	11.9	JJ	15.5
P	18.0	KK	18.0
Q	15.5	LL	11.9
R	18.0	MM	9.5
S	11.9	NN	11.6
T	9.5	PP	11.6
U	51.5	RR	8.8
V	51.5	SS	8.8
		TOTAL	1550.1

NOTES:

JWP DENOTES JOINT WATERPROOFING.

A RUBBED SURFACE FINISH ON THE VERTICAL AND TOP CONCRETE SURFACES OF THE PARAPET RAILING IS REQUIRED ON THIS STRUCTURE.

FOR DETAILS OF LIGHT STANDARD ANCHOR BOLT ASSEMBLIES, SEE STANDARD PLAN B-103-SERIES.

"EDGE" OR "GROOVE" DENOTES EDGING OR GROOVING WITH AN APPROVED TOOL.

DECK POURS ARE TO BE MADE IN THE FOLLOWING SEQUENCE: SOUTH PORTION-POURS NN AND PP SHALL BE MADE FIRST IN ANY ORDER, THEN POURS A AND B SHALL BE MADE IN ANY ORDER, POURS C AND D SHALL THEN BE MADE IN ANY ORDER, THEN POURS E AND F SHALL BE MADE IN ANY ORDER, POUR G SHALL THEN BE MADE, THEN POURS H AND J SHALL BE MADE IN ANY ORDER, POURS K AND L SHALL THEN BE MADE IN ANY ORDER AND POURS M THROUGH T SHALL BE MADE LAST IN ANY ORDER. NORTH PORTION-POURS RR AND SS SHALL BE MADE FIRST IN ANY ORDER, THEN POURS U AND V SHALL BE MADE IN ANY ORDER, POUR W AND X SHALL THEN BE MADE IN ANY ORDER, THEN POURS Y AND Z SHALL BE MADE IN ANY ORDER, POUR AA SHALL THEN BE MADE, THEN POURS BB AND CC SHALL BE MADE IN ANY ORDER, POURS DD AND EE SHALL THEN BE MADE IN ANY ORDER AND POURS FF THROUGH MM SHALL BE MADE LAST IN ANY ORDER.

NO PORTION OF THE DECK FORMWORK SHALL ENCROACH ON THE EXISTING UNDERCLEARANCE.

LOW TEMPERATURE PROTECTION OF CONCRETE SHALL BE APPLIED ACCORDING TO SECTION 706.03J OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION. LOW TEMPERATURE PROTECTION OF CONCRETE WILL NOT BE PAID FOR SEPARATELY, BUT WILL BE INCLUDED IN THE BID ITEM "Superstructure Conc".

THE LIGHT STANDARD ANCHOR BOLT ASSEMBLIES ARE INCLUDED IN THE PAYMENT FOR "Bridge Railing, Aesthetic Parapet Tube, Modified".

THE CONTRACTOR MAY USE METAL STAY IN PLACE FORMS. IF USED, THE CONTRACTOR MAY OMIT THE POLYSTYRENE FROM THE CORRUGATIONS AND FILL THE FORMS FULL DEPTH. THE EXTRA CONCRETE REQUIRED TO FILL THE CORRUGATIONS WILL NOT BE PAID FOR.

THE CONTRACTOR IS TO PROVIDE A SAWED JOINT ½" DEEP BY ⅛" WIDE (MINIMUM) IN THE TOP OF SLAB AT TRANSVERSE CONSTRUCTION JOINTS AND AT LONGITUDINAL CONSTRUCTION JOINTS. THE JOINT IS TO BE SAWED WITHIN 4 HOURS OF REMOVING THE CURING AND IS TO BE FILLED WITH HOT-POURED JOINT SEALANT OR COLD-APPLIED JOINT SEALANT, SINGLE COMPONENT TYPE. (INCLUDED IN THE BID ITEM "Superstructure, Conc, Form, Finish and Cure (R01 of 82-22-54)")

REVISIONS	DESCRIPTION	DATE	BY

DLZ

CITY OF DETROIT

EAST GRAND BLVD OVER
DETROIT CONNECTING RAILROAD

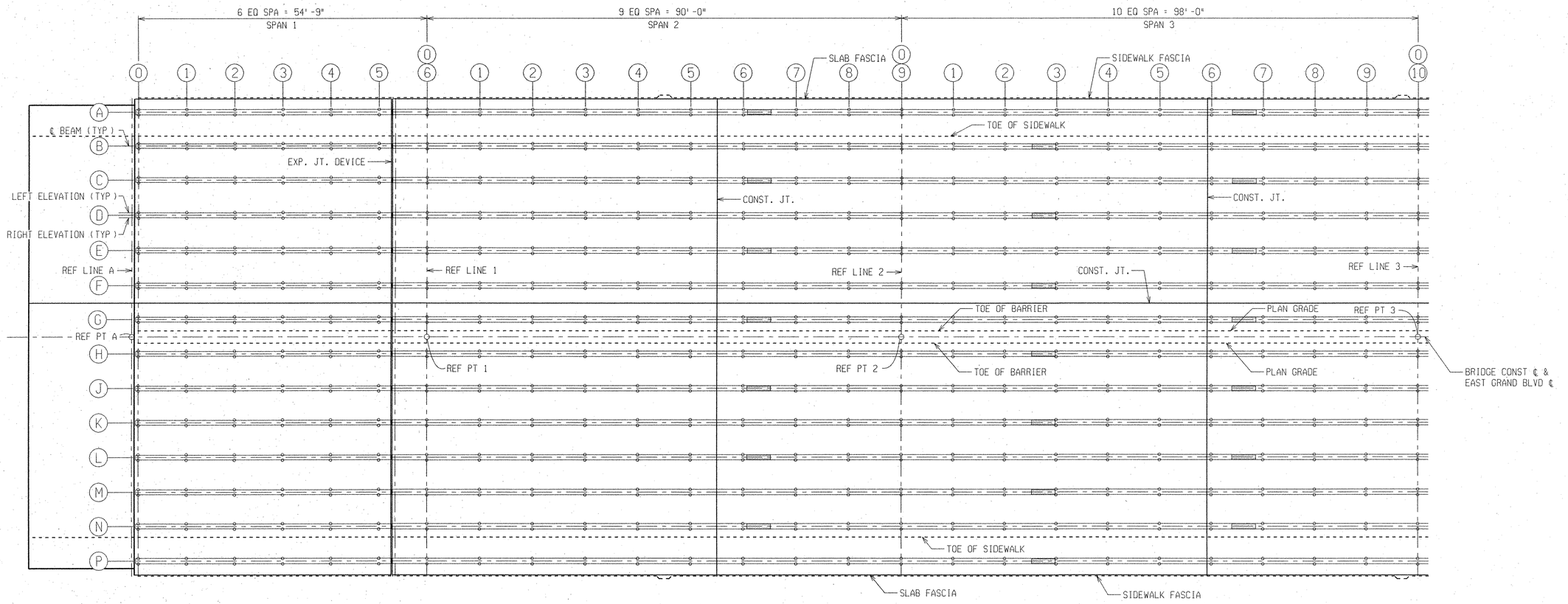
MDOT JOB NO. 86173A | STRUCTURE NO. R01 of 82-22-54

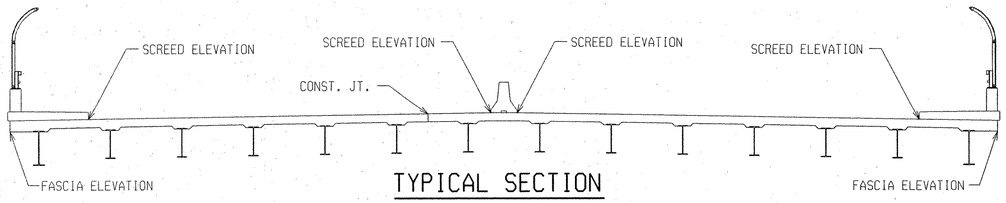
SUPERSTRUCTURE DETAILS

DATE: 04/16/08

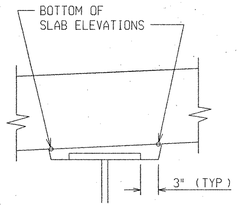
DLZ JOB NO. 0642-6090-00

SHEET NO. 30 OF 60





TYPICAL SECTION



TYPICAL SECTION @ BEAM

NOTES:

BOTTOM OF SLAB ELEVATIONS ARE AT RIGHT ANGLES TO THE BEAM CENTERLINE AND ARE BASED ON THE CONDITION THAT THE BEAMS AND DIAPHRAGMS ARE COMPLETELY ERECTED WITH NO OTHER LOADS APPLIED. NO TEMPORARY SUPPORTS ARE ALLOWED AT THIS TIME. THESE ELEVATIONS INCLUDE ALLOWANCE FOR VERTICAL CURVE AND DEFLECTION DUE TO FORMS, STEEL REINFORCEMENT, CONCRETE SLAB, AND BARRIERS.

SCREED ELEVATIONS ARE BASED ON THE CONDITION THAT NO SLAB CONCRETE HAS BEEN CAST AND THAT FORMWORK, SHEAR DEVELOPERS AND STEEL REINFORCEMENT ARE IN PLACE.

SCREEDS AFFECTED BY LOADS IN OTHER SPANS ARE TO BE SET TO THE ELEVATIONS SHOWN BEFORE CASTING ANY CONCRETE. CONCRETE IN THE SUSPENDED SPANS IS TO BE CAST BEFORE CONCRETE ANCHOR SPANS.

TRANSVERSE FINISHING SHALL BE PARALLEL TO REFERENCE LINES.

SCREED RAILS FOR FINISHING OF STRUCTURAL CONCRETE SHALL BE LOCATED OVER THE FASCIA BEAMS.

REVISIONS	DESCRIPTION	DATE	BY

DLZ

CITY OF DETROIT

EAST GRAND BLVD OVER
DETROIT CONNECTING RAILROAD

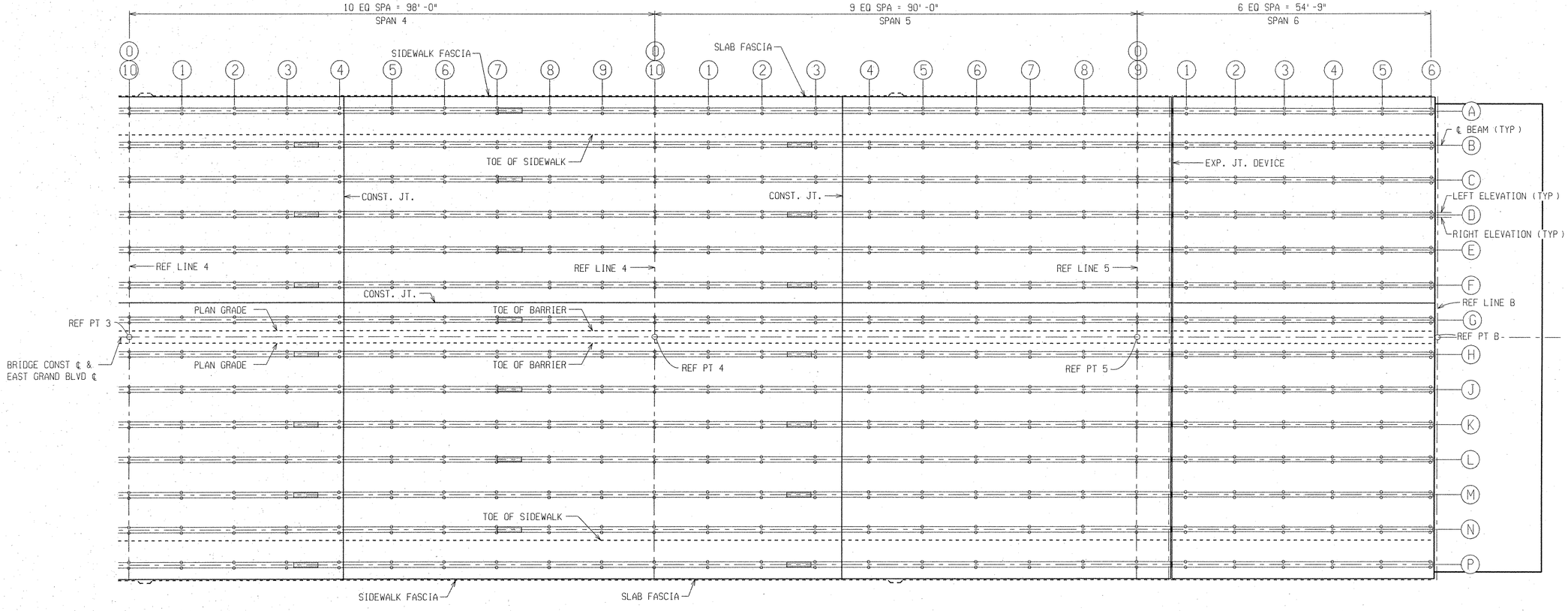
MDOT JOB NO. 86173A | STRUCTURE NO. R01 of 82-22-54

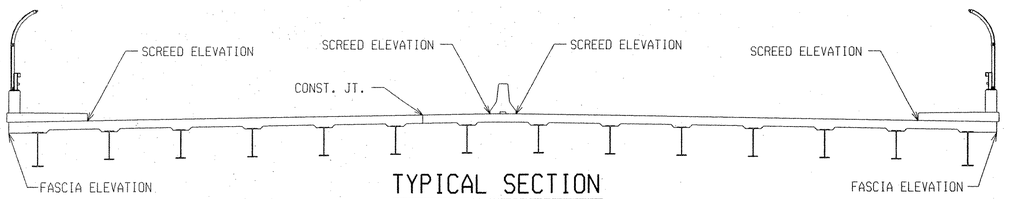
SLAB & SCREED DETAILS

DATE: 04/16/08

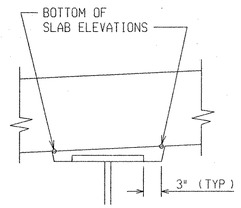
DLZ JOB NO. 0642-6090-00

SHEET NO. 31 OF 60





TYPICAL SECTION



TYPICAL SECTION @ BEAM

NOTES:

BOTTOM OF SLAB ELEVATIONS ARE AT RIGHT ANGLES TO THE BEAM CENTERLINE AND ARE BASED ON THE CONDITION THAT THE BEAMS AND DIAPHRAGMS ARE COMPLETELY ERECTED WITH NO OTHER LOADS APPLIED. NO TEMPORARY SUPPORTS ARE ALLOWED AT THIS TIME. THESE ELEVATIONS INCLUDE ALLOWANCE FOR VERTICAL CURVE AND DEFLECTION DUE TO FORMS, STEEL REINFORCEMENT, CONCRETE SLAB, AND BARRIERS.

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SCREEDS AFFECTED BY LOADS IN OTHER SPANS ARE TO BE SET TO THE ELEVATIONS SHOWN BEFORE CASTING ANY CONCRETE. CONCRETE IN THE SUSPENDED SPANS IS TO BE CAST BEFORE CONCRETE ANCHOR SPANS.

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REVISIONS	DESCRIPTION	DATE	BY

DLZ

CITY OF DETROIT

EAST GRAND BLVD OVER
DETROIT CONNECTING RAILROAD

MDOT JOB NO. 86173A | STRUCTURE NO. R01 of 82-22-54

SLAB & SCREED DETAILS

DATE: 04/16/08

DLZ JOB NO. 0642-6090-00

SHEET NO. 32 OF 60

SCREED ELEVATIONS

	0	1	2	3	4	5	6	7	8	9	0 10	1	2	3	4	5	6	7	8	0 9	1	2	3	4	5	6	7	8	9	10	11	12	13	0 14
EASTBOUND SIDEWALK	170.79	171.03	171.27	171.52	171.76	172.00	172.24	172.48	172.73	172.97	173.21	173.65	174.09	174.54	174.96	175.36	175.73	176.07	176.38	176.66	176.84	177.00	177.16	177.29	177.41	177.52	177.61	177.69	177.76	177.81	177.84	177.86	177.87	177.86
CONST JT	171.25	171.50	171.74	171.98	172.22	172.46	172.71	172.95	173.19	173.43	173.67	174.12	174.56	175.00	175.43	175.83	176.19	176.53	176.84	177.12	177.30	177.47	177.62	177.75	177.88	177.98	178.08	178.15	178.22	178.27	178.30	178.33	178.33	178.32
PLAN GRADE	170.58	170.85	171.11	171.37	171.62	171.86	172.10	172.33	172.55	172.76	173.00	173.46	173.93	174.40	174.84	175.23	175.58	175.90	176.19	176.45	176.67	177.38	177.55	177.71	177.86	177.99	178.10	178.20	178.31	178.36	178.40	178.42	178.42	178.42	178.40
WESTBOUND SIDEWALK	170.79	171.03	171.27	171.52	171.76	172.00	172.24	172.48	172.73	172.97	173.21	173.65	174.09	174.54	174.96	175.36	175.73	176.07	176.38	176.66	176.84	177.00	177.16	177.29	177.41	177.52	177.61	177.69	177.76	177.81	177.84	177.86	177.87	177.86

14 0	1	2	3	4	5	6	7	8	9	10	11	12	13	14 0	1	2	3	4	5	6	7	8	0 9	1	2	3	4	5	6	7	8	9	10	
177.86	177.84	177.80	177.75	177.69	177.61	177.51	177.41	177.28	177.15	177.00	176.83	176.65	176.46	176.25	175.92	175.57	175.19	174.78	174.34	173.87	173.38	172.88	172.38	172.11	171.84	171.57	171.30	171.03	170.75	170.48	170.21	169.94	169.67	EASTBOUND SIDEWALK
178.32	178.30	178.27	178.22	178.15	178.07	177.98	177.87	177.75	177.61	177.46	177.29	177.11	176.92	176.71	176.39	176.03	175.65	175.24	174.80	174.33	173.84	173.34	172.85	172.57	172.30	172.03	171.76	171.49	171.22	170.95	170.67	170.40	170.13	CONST JT
178.40	178.39	178.36	178.33	178.28	178.21	178.09	177.99	177.87	177.72	177.56	177.39	177.20	177.00	176.79	176.74	175.41	175.05	174.65	174.21	173.73	173.21	172.69	172.17	171.93	171.68	171.42	171.16	170.89	170.61	170.33	170.04	169.73	169.46	PLAN GRADE
177.86	177.84	177.80	177.75	177.69	177.61	177.51	177.41	177.28	177.15	177.00	176.83	176.65	176.46	176.25	175.92	175.57	175.19	174.78	174.34	173.87	173.38	172.88	172.38	172.11	171.84	171.57	171.30	171.03	170.75	170.48	170.21	169.94	169.67	WESTBOUND SIDEWALK

BOTTOM OF SLAB ELEVATIONS

		0	1	2	3	4	5	6	7	8	9	0 10	1	2	3	4	5	6	7	8	0 9	1	2	3	4	5	6	7	8	9	10	11	12	13	0 14
A	FASCIA	168.94	169.21	169.47	169.73	169.98	170.22	170.46	170.69	170.91	171.12	171.36	171.82	172.29	172.76	173.20	173.59	173.94	174.26	174.55	174.81	174.99	175.16	175.32	175.47	175.60	175.71	175.81	175.92	175.97	176.01	176.03	176.03	176.03	176.01
	RIGHT	169.24	169.50	169.77	170.02	170.27	170.52	170.75	170.98	171.21	171.41	171.66	172.12	172.59	173.05	173.49	173.89	174.24	174.55	174.84	175.11	175.29	175.46	175.62	175.76	175.89	176.01	176.10	176.21	176.26	176.30	176.32	176.32	176.32	176.31
B	LEFT	169.31	169.58	169.84	170.10	170.35	170.59	170.83	171.06	171.28	171.48	171.73	172.19	172.66	173.13	173.56	173.96	174.31	174.63	174.91	175.18	175.36	175.53	175.69	175.84	175.97	176.08	176.17	176.28	176.34	176.37	176.39	176.40	176.39	176.38
	RIGHT	169.33	169.60	169.86	170.12	170.37	170.61	170.85	171.08	171.30	171.51	171.75	172.21	172.68	173.15	173.59	173.98	174.33	174.65	174.94	175.20	175.38	175.55	175.71	175.86	175.99	176.10	176.20	176.31	176.36	176.40	176.42	176.42	176.42	176.40
C	LEFT	169.41	169.67	169.94	170.19	170.45	170.69	170.92	171.15	171.38	171.58	171.83	172.29	172.76	173.22	173.66	174.06	174.41	174.72	175.01	175.28	175.46	175.63	175.79	175.93	176.06	176.18	176.27	176.38	176.43	176.47	176.49	176.49	176.49	176.48
	RIGHT	169.43	169.69	169.96	170.22	170.47	170.71	170.94	171.17	171.40	171.60	171.85	172.31	172.78	173.24	173.68	174.08	174.43	174.74	175.03	175.30	175.48	175.65	175.81	175.96	176.09	176.20	176.29	176.40	176.46	176.49	176.51	176.52	176.51	176.50
D	LEFT	169.50	169.77	170.03	170.29	170.54	170.78	171.02	171.25	171.47	171.68	171.92	172.38	172.85	173.32	173.76	174.15	174.50	174.82	175.11	175.37	175.55	175.72	175.88	176.03	176.16	176.27	176.37	176.48	176.53	176.57	176.59	176.59	176.59	176.57
	RIGHT	169.52	169.79	170.05	170.31	170.56	170.80	171.04	171.27	171.49	171.70	171.94	172.41	172.88	173.34	173.78	174.17	174.53	174.84	175.13	175.39	175.57	175.75	175.90	176.05	176.18	176.29	176.39	176.50	176.55	176.59	176.61	176.61	176.61	176.59
E	LEFT	169.60	169.87	170.13	170.39	170.64	170.88	171.12	171.34	171.57	171.77	172.02	172.48	172.95	173.41	173.85	174.25	174.60	174.91	175.20	175.47	175.65	175.82	175.98	176.13	176.26	176.37	176.46	176.57	176.63	176.66	176.68	176.69	176.68	176.67
	RIGHT	169.62	169.89	170.15	170.41	170.66	170.90	171.14	171.36	171.59	171.79	172.04	172.50	172.97	173.44	173.88	174.27	174.62	174.94	175.22	175.49	175.67	175.84	176.00	176.15	176.28	176.39	176.49	176.59	176.65	176.69	176.70	176.71	176.71	176.69
F	LEFT	169.69	169.96	170.23	170.48	170.73	170.98	171.21	171.44	171.67	171.87	172.11	172.58	173.05	173.51	173.95	174.34	174.70	175.01	175.30	175.56	175.74	175.92	176.07	176.22	176.35	176.46	176.56	176.67	176.72	176.76	176.78	176.78	176.78	176.76
	RIGHT	169.72	169.98	170.25	170.50	170.75	171.00	171.23	171.46	171.69	171.89	172.14	172.60	173.07	173.53	173.97	174.37	174.72	175.03	175.32	175.59	175.77	175.94	176.10	176.24	176.37	176.49	176.58	176.69	176.75	176.78	176.80	176.81	176.80	176.79
G	LEFT	169.79	170.06	170.32	170.58	170.83	171.07	171.31	171.54	171.76	171.97	172.21	172.67	173.14	173.61	174.05	174.44	174.79	175.11	175.39	175.66	175.84	176.01	176.17	176.32	176.45	176.56	176.66	176.76	176.82	176.86	176.87	176.88	176.88	176.86
	RIGHT	169.81	170.08	170.34	170.60	170.85	171.09	171.33	171.56	171.78	171.99	172.23	172.69	173.16	173.63	174.07	174.46	174.81	175.13	175.42	175.68	175.86	176.03	176.19	176.34	176.47	176.58	176.68	176.79	176.84	176.88	176.90	176.90	176.90	176.88
H	LEFT	169.81	170.08	170.34	170.60	170.85	171.09	171.33	171.56	171.78	171.99	172.23	172.69	173.16	173.63	174.07	174.46	174.81	175.13	175.42	175.68	175.86	176.03	176.19	176.34	176.47	176.58	176.68	176.79	176.84	176.88	176.90	176.90	176.90	176.88
	RIGHT	169.79	170.06	170.32	170.58	170.83	171.07	171.31	171.54	171.76	171.97	172.21	172.67	173.14	173.61	174.05	174.44	174.79	175.11	175.39	175.66	175.84	176.01	176.17	176.32	176.45	176.56	176.66	176.76	176.82	176.86	176.87	176.88	176.88	176.86
J	LEFT	169.72	169.98	170.25	170.50	170.75	171.00	171.23	171.46	171.69	171.89	172.14	172.60	173.07	173.53	173.97	174.37	174.72	175.03	175.32	175.59	175.77	175.94	176.10	176.24	176.37	176.49	176.58	176.69	176.75	176.78	176.80	176.81	176.80	176.79
	RIGHT	169.69	169.96	170.23	170.48	170.73	170.98	171.21	171.44	171.67	171.87	172.11	172.58	173.05	173.51	173.95	174.34	174.70	175.01	175.30	175.56	175.74	175.92	176.07	176.22	176.35	176.46	176.56	176.67	176.72	176.76	176.78	176.78	176.78	176.76
K	LEFT	169.62	169.89	170.15	170.41	170.66	170.90	171.14	171.36	171.59	171.79	172.04	172.50	172.97	173.44	173.88	174.27	174.62	174.94	175.22	175.49	175.67	175.84	176.00	176.15	176.28	176.39	176.49	176.59	176.65	176.69	176.70	176.71	176.71	176.69
	RIGHT	169.60	169.87	170.13	170.39	170.64	170.88	171.12	171.34	171.57	171.77	172.02	172.48	172.95	173.41	173.85	174.25	174.60	174.91	175.20	175.47	175.65	175.82	175.98	176.13	176.26	176.37	176.46	176.57	176.63	176.66	176.68	176.69	176.68	176.67
L	LEFT	169.52	169.79	170.05	170.31	170.56	170.80	171.04	171.27	171.49	171.70	171.94	172.41	172.88	173.34	173.78	174.17	174.53	174.84	175.13	175.39	175.57	175.75	175.90	176.05	176.18	176.29	176.39	176.50	176.55	176.59	176.61	176.61	176.61	176.59
	RIGHT	169.50	169.77	170.03	170.29	170.54	170.78	171.02	171.25	171.47	171.68	171.92	172.38	172.85	173.32	173.76	174.15	174.50	174.82	175.11	175.37	175.55	175.72	175.88	176.03	176.16	176.27	176.37	176.48	176.53	176.57	176.59	176.59	176.59	176.57
M	LEFT	169.43	169.69	169.96	170.22	170.47	170.71	170.94	171.17	171.40	171.60	171.85	172.31	172.78	173.24	173.68	174.08	174.43	174.74	175.03	175.30	175.48	175.65	175.81	175.96	176.09	176.20	176.29	176.40	176.46	176.49	176.51	176.52	176.51	176.50
	RIGHT	169.41	169.67	169.94	170.19	170.45	170.69	170.92	171.15	171.38	171.58	171.83	172.29	172.76	173.22	173.66	174.06	174.41	174.72	175.01	175.28	175.46	175.63	175.79	175.93	176.06	176.18	176.27	176.38	176.43	176.47	176.49	176.49	176.49	176.48
N	LEFT	169.33	169.60	169.86	170.12	170.37	170.61	170.85	171.08	171.30	171.51	171.75	172.21	172.68	173.15	173.59	173.98	174.33	174.65	174.94	175.20	175.38	175.55	175.71	175.86	175.99	176.10	176.20	176.31	176.36	176.40	176.42	176.42	176.42	176.40
	RIGHT	169.31	169.58	169.84	170.10	170.35	170.59	170.83	171.06	171.28	171.48	171.73	172.19	172.66	173.13	173.56	173.96	174.31	174.63	174.91	175.18	175.36	175.53	175.69	175.84	175.97	176.08	176.17	176.28	176.34	176.37	176.39	176.40	176.39	176.38
P	LEFT	169.24	169.50	169.76	170.02	170.27	170.52	170.75	170.98	171.20	171.41	171.65	172.12	172.59	173.05	173.49	173.89	174.24	174.55	174.84	175.11	175.29	175.46	175.62	175.76	175.89	176.01	176.10	176.21	176.26	176.30	176.32	176.32	176.32	176.31
	FASCIA	168.94	169.48	169.74	170.00	170.25	170.50	170.73	170.96	171.18	171.39	171.63	171.82	172.29	172.76	173.20	173.59	173.94	174.26	174.55	174.81	174.99	175.16	175.32	175.47	175.60	175.71	175.81	175.92	175.97	176.01	176.03	176.03	176.03	176.01

14 0	1	2	3	4	5	6	7	8	9	10	11	12	13	14 0	1	2	3	4	5	6	7	8	0 9	1	2	3	4	5	6	7	8	9	10	
176.01	176.00	175.97	175.94	175.89	175.82	175.71	175.60	175.48	175.33	175.17	175.00	174.81	174.61	174.40	174.10	173.77	173.41	173.01	172.57	172.09	171.57	171.05	170.54	170.29	170.04	169.78	169.52	169.25	168.97	168.69	168.40	168.09	167.82	FASCIA
176.31	176.29	176.27	176.23	176.18	176.12	176.00	175.89	175.77	175.63	175.47	175.29	175.10	174.90	174.69	174.39	174.06	173.70	173.30	172.87	172.38	171.87	171.34	170.83	170.58	170.33	170.08	169.81	169.54	169.26	168.98	168.69	168.38	168.11	RIGHT
176.38	176.36	176.34	176.30	176.26	176.19	176.07	175.97	175.84	175.70	175.54	175.36	175.17	174.98	174.76	174.46	174.13	173.77	173.38	172.94	172.46	171.94	171.42	170.90	170.66	170.41	170.15	169.89	169.62	169.34	169.05	168.76	168.46	168.19	LEFT
176.40	176.39	176.36	176.33	176.28	176.21	176.09	175.99	175.87	175.72	175.56	175.39	175.20	175.00	174.79	174.49	174.16	173.80	173.40	172.96	172.48	171.96	171.44	170.92	170.68	170.43	170.17	169.91	169.64	169.36	169.07	168.78	168.48	168.21	RIGHT
176.48	176.46	176.44	176.40	176.35	176.29	176.17	176.06	175.94	175.80	175.64	175.46	175.27	175.07	174.86	174.56	174.23	173.87	173.47	173.04	172.55	172.04	171.51	171.00	170.75	170.50	170.25	169.98	169.71	169.43	169.15	168.86	168.55	168.28	LEFT
176.50	176.48	176.46	176.42	176.37	176.31	176.19	176.09	175.96	175.82	175.66	175.48	175.29	175.09	174.88	174.58	174.25	173.89	173.50	173.06	172.58	172.06	171.54	171.02	170.77	170.52	170.27	170.00	169.73	169.45	169.17	168.88	168.57	168.30	RIGHT
176.57	176.56	176.53	176.50	176.45	176.38	176.26	176.16	176.04	175.89	175.73	175.56	175.37	175.17	174.96	174.66	174.33	173.97	173.57	173.13	172.65	172.13	171.61	171.09	170.85	170.60	170.34	170.08	169.81	169.53	169.25	168.96	168.65	168.38	LEFT
176.59	176.58	176.55	176.52	176.47	176.40	176.29	176.18	176.06	175.91	175.76	175.58	175.39	175.19	174.98	174.68	174.35	173.99	173.59	173.15	172.67	172.16	171.63	171.12	170.87	170.62	170.36	170.10	169.83	169.55	169.27	168.98	168.67	168.40	RIGHT
176.67	176.65	176.63	176.59	176.54	176.48	176.36	176.26	176.13	175.99	175.83	175.65	175.46	175.26	175.05	174.75	174.42	174.06	173.67	173.23	172.75	172.23	171.71	171.19	170.94	170.69	170.44	170.18	169.90	169.63	169.34	169.05	168.74	168.48	LEFT
176.69	176.68	176.65	176.62	176.57	176.50	176.38	176.28	176.15	176.01	175.85	175.68	175.49	175.29	175.08	174.77	174.44	174.08	173.69	173.25	172.77	172.25	171.73	171.21	170.97	170.72	170.46	170.20	169.93	169.65	169.36	169.07	168.76	168.50	RIGHT
176.76	176.75	176.72	176.69	176.64	176.57	176.46	176.35	176.23	176.08	175.93	175.75	175.56	175.36	175.15	174.85	174.52	174.16	173.76	173.32	172.84	172.33	171.80	171.29	171.04	170.79	170.54	170.27	170.00	169.72	169.44	169.15	168.84	168.57	LEFT
176.79	176.77	176.75	176.71	176.66	176.60	176.48	176.38	176.25	176.11	175.95	175.77	175.58	175.38	175.17	174.87	174.54	174.18	173.78	173.35	172.87	172.35	171.82	171.31	171.06	170.81	170.56	170.29	170.02	169.74	169.46	169.17	168.86	168.59	RIGHT
176.86	176.85	176.82	176.79	176.74	176.67	176.55	176.45	176.32	176.18	176.02	175.85	175.66	175.46	175.25	174.94	174.61	174.25	173.86	173.42	172.94	172.42	171.90	171.38	171.14	170.89	170.63	170.37	170.10	169.82	169.53	169.25	168.94	168.67	LEFT
176.88	176.87	176.84	176.81	176.76	176.69	176.58	176.47	176.35	176.20	176.04	175.87	175.68	175.48	175.27	174.97	174.64	174.28	173.88	173.44	172.96	172.44	171.92	171.41	171.16	170.91	170.65	170.39	170.12	169.84	169.55	169.27	168.96	168.69	RIGHT
176.88	176.87	176.84	176.81	176.76	176.69	176.58	176.47	176.35	176.20	176.04	175.87	175.68	175.48	175.27	174.97	174.64	174.28	173.88	173.44	172.96	172.44	171.92	171.41	171.16	170.91	170.65	170.39	170.12	169.84	169.55	169.27	168.96	168.69	LEFT
176.86	176.85	176.82	176.79	176.74	176.67	176.55	176.45	176.32	176.18	176.02	175.85	175.66	175.46	175.25	174.94	174.61	174.25	173.86	173.42	172.94	172.42	171.90	171.38	171.14	170.89	170.63	170.37	170.10	169.82	169.53	169.25	168.94	168.67	RIGHT
176.79	176.77	176.75	176.71	176.66	176.60	176.48	176.38	176.25	176.11	175.95	175.77	175.58	175.38	175.17	174.87	174.54	174.18	173.78	173.35	172.87	172.35	171.82	171.31	171.06	170.81	170.56	170.29	170.02	169.74	169.46	169.17	168.86	168.59	LEFT
176.76	176.75	176.72	176.69	176.64	176.57	176.46	176.35	176.23	176.08	175.93	175.75	175.56	175.36	175.15	174.85	174.52	174.16	173.76	173.32	172.84	172.33	171.80	171.29	171.04	170.79	170.54	170.27	170.00	169.72	169.44	169.15	168.84	168.57	RIGHT
176.69	176.68	176.65	176.62	176.57	176.50	176.38	176.28	176.15	176.01	175.85	175.68	175.49	175.29	175.08	174.77	174.44	174.08	173.69	173.25	172.77	172.25	171.73	171.21	170.97	170.72	170.46	170.20	169.93	169.65	169.36	169.07	168.76	168.50	LEFT
176.67	176.65	176.63	176.59	176.54	176.48	176.36	176.26	176.13	175.99	175.83	175.65	175.46	175.26	175.05	174.75	174.42	174.06	173.67	173.23	172.75	172.23	171.71	171.19	170.94	170.69	170.44	170.18	169.90	169.63	169.34	169.05	168.74	168.48	RIGHT
176.59	176.58	176.55	176.52	176.47	176.40	176.29	176.18	176.06	175.91	175.76	175.58	175.39	175.19	174.98	174.68	174.35	173.99	173.59	173.15	172.67	172.16	171.63	171.12	170.87	170.62	170.36	170.10	169.83	169.55	169.27	168.98	168.67	168.40	LEFT
176.57	176.56	176.53	176.50	176.45	176.38	176.26	176.16	176.04	175.89	175.73	175.56	175.37	175.17	174.96	174.66	174.33	173.97	173.57	173.13	172.65	172.13	171.61	171.09	170.85	170.60	170.34	170.08	169.81	169.53	169.25	168.96	168.65	168.38	RIGHT
176.50	176.48	176.46	176.42	176.37	176.31	176.19	176.09	175.96	175.82	175.66	175.48	175.29	175.09	174.88	174.58	174.25	173.89	173.50	173.06	172.58	172.06	171.54	171.02	170.77	170.52	170.27	170.00	169.73	169.45	169.17	168.88	168.57	168.30	LEFT
176.48	176.46	176.44	176.40	176.35	176.29	176.17	176.06	175.94	175.80	175.64	175.46	175.27	175.07	174.86	174.56	174.23	173.87	173.47	173.04	172.55	172.04	171.51	171.00	170.75	170.50	170.25	169.98	169.71	169.43	169.15	168.86	168.55	168.28	RIGHT
176.40	176.39	176.36	176.33	176.28	176.21	176.09	175.99	175.87	175.72	175.56	175.39	175.20	175.00	174.79	174.49	174.16	173.80	173.40	172.96	172.48	171.96	171.44	170.92	170.68	170.43	170.17	169.91	169.64	169.36	169.07	168.78	168.48	168.21	LEFT
176.38	176.36	176.34	176.30	176.26	176.19	176.07	175.97	175.84	175.70	175.54	175.36	175.17	174.98	174.76	174.46	174.13	173.77	173.38	172.94	172.46	171.94	171.42	170.90	170.66	170.41	170.15	169.89	169.62	169.34	169.05	168.76	168.46	168.19	RIGHT
176.31	176.29	176.27	176.23	176.18	176.12	176.00	175.89	175.77	175.63	175.47	175.29	175.10	174.90	174.69	174.39	174.06	173.70	173.30	172.87	172.38	171.87	171.34	170.83	170.58	170.33	170.07	169.81	169.54	169.26	168.98	168.69	168.38	168.11	LEFT
176.01	176.00	175.97	175.94	175.89	175.82	175.71	175.60	175.48	175.33	175.17	175.00	174.81	174.61	174.40	174.10	173.77	173.41	173.01	172.57	172.09	171.57	171.05	170.54	170.56	170.31	170.05	169.79	169.52	169.24	168.96	168.67	168.36	168.09	FASCIA

REVISIONS	DESCRIPTION	DATE	BY

DLZ

CITY OF DETROIT

EAST GRAND BLVD OVER DETROIT CONNECTING RAILROAD

MDOT JOB NO. 86173A | STRUCTURE NO. R01 of 82-22-54

SLAB & SCREED DETAILS

DATE: 04/16/08

DLZ JOB NO. 0642-6090-00

SHEET NO. 33 OF 60

SUPERSTRUCTURE - STAGE I

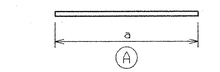
BAR	DIMENSIONS a	b	c	d	e	f	g	h	NO. REQ'D	TOTAL WT.
EA040306	3'-6"								200	468
EA040609	6'-9"								4	19
EA040809	8'-9"								16	94
EA042000	20'-0"								32	428
EA043206	32'-6"								592	12853
EA044006	40'-6"								296	8008
EA044800	48'-0"								296	9491
EA044806	48'-6"								592	19180
EA045103	51'-3"								28	959
EA051800	18'-0"								1380	25909
EA053703	37'-3"								690	26808
EA060609	6'-9"								696	7057
EA062200	22'-0"								252	8328
EA063806	38'-6"								240	13879
EA064100	41'-0"								240	14780
EA065200	52'-0"								80	6249
ED040211	0'-10 3/4"	1'-1 1/2"	0'-10 3/4"						348	679
ED040302	1'-4"	0'-6"	1'-4"						132	280
ED040400	1'-1"	1'-10"	1'-1"						12	33
ED040406	2'-0"	0'-6"	2'-0"						18	55
ED053803	37'-3"	0'-6"	0'-6"						690	27528
ED060600	5'-0"	0'-6"	0'-6"						1198	10797
ED061306	12'-6"	0'-6"	0'-6"						40	812
ED061606	15'-6"	0'-6"	0'-6"						40	992
ED061906	18'-6"	0'-6"	0'-6"						40	1172
EK041001	3'-5 1/12"	0'-10 1/4"	1'-0 1/4"	1'-3 1/2"					10	67
EL040707	2'-6"	0'-7"	2'-2"	1'-2"	1'-2"	0'-0"	0'-7"		1056	5350
EM040907	0'-10 1/4"	2'-11 1/2"	1'-3 1/2"	1'-11 1/2"	1'-0 1/4"	1'-6"			60	385
ET060708	1'-0"	1'-4"	1'-2 7/8"	1'-8"	0'-6 1/4"	0'-8"			672	7739
EW040603	0	1'-8 1/2"	1'-3"	1'-8 1/2"	0	1'-10"	2'-6"	2'-6"	16	67
EW040707	0	2'-0 1/2"	1'-7"	2'-0 1/2"	0	2'-2 3/8"	3'-0"	3'-0"	16	82

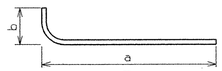
SUPERSTRUCTURE - STAGE II

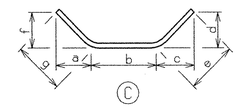
BAR	DIMENSIONS a	b	c	d	e	f	g	h	NO. REQ'D	TOTAL WT.
EA040306	3'-6"								152	356
EA040609	6'-9"								4	19
EA042000	20'-0"								16	214
EA043206	32'-6"								464	10074
EA043600	36'-0"								28	674
EA044006	40'-6"								232	6277
EA044800	48'-0"								232	7439
EA044806	48'-6"								464	15033
EA053703	37'-3"								690	26808
EA060609	6'-9"								696	7057
EA062200	22'-0"								188	6213
EA063600	36'-0"								80	4326
EA063806	38'-6"								176	10178
EA064100	41'-0"								88	5420
ED040211	0'-10 3/4"	1'-1 1/2"	0'-10 3/4"						348	679
ED040302	1'-4"	0'-6"	1'-4"						94	199
ED040400	1'-1"	1'-10"	1'-1"						12	33
ED040406	2'-0"	0'-6"	2'-0"						18	55
ED053803	37'-3"	0'-6"	0'-6"						690	27528
ED060600	5'-0"	0'-6"	0'-6"						1194	10761
ED061306	12'-6"	0'-6"	0'-6"						30	609
ED061606	15'-6"	0'-6"	0'-6"						30	744
ED061906	18'-6"	0'-6"	0'-6"						28	821
EK041001	3'-5 1/12"	0'-10 1/4"	1'-0 1/4"	1'-3 1/2"					10	67
EL040707	2'-6"	0'-7"	2'-2"	1'-2"	1'-2"	0'-0"	0'-7"		1056	5350
EM040907	0'-10 1/4"	2'-11 1/2"	1'-3 1/2"	1'-11 1/2"	1'-0 1/4"	1'-6"			42	269
ET060708	1'-0"	1'-4"	1'-2 7/8"	1'-8"	0'-6 1/4"	0'-8"			672	7739
EW040603	0	1'-8 1/2"	1'-3"	1'-8 1/2"	0	1'-10"	2'-6"	2'-6"	20	84
EW040707	0	2'-0 1/2"	1'-7"	2'-0 1/2"	0	2'-2 3/8"	3'-0"	3'-0"	20	102

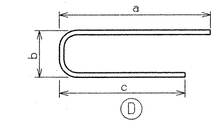
APPROACH

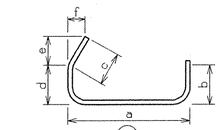
EA042200	22'-0"								2	30
EA042206	22'-6"								108	1624
EA042306	23'-6"								7	110
EA042503	25'-3"								576	9716
EA060109	1'-9"								768	2019
ED040300	1'-0"	1'-0"	1'-0"						1609	3225
EK040801	0'-7"	1'-7"	2'-5"	2'-11"					2404	12981

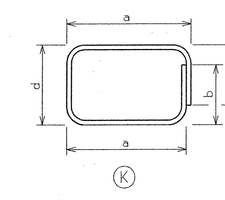


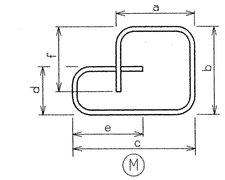


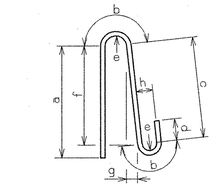


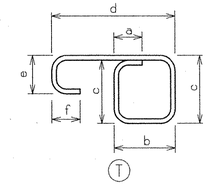


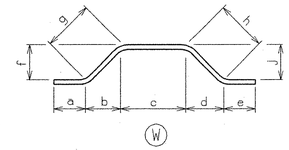


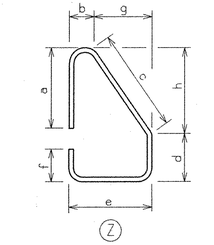












EPOXY COATED
BAR SIZE
BAR LENGTH (FT)
BAR LENGTH (IN)

EA064700

BAR SHAPE

BAR LEGEND

MISCELLANEOUS QUANTITIES

395,381 Lb	Reinforcement, Steel, Epoxy Coated

NOTE:

REINFORCEMENT SHALL BE BUNDLED AND TAGGED AS TO THE LOCATION AS SHOWN ON THIS SHEET.

REVISIONS	DESCRIPTION	DATE	BY

DLZ

CITY OF DETROIT

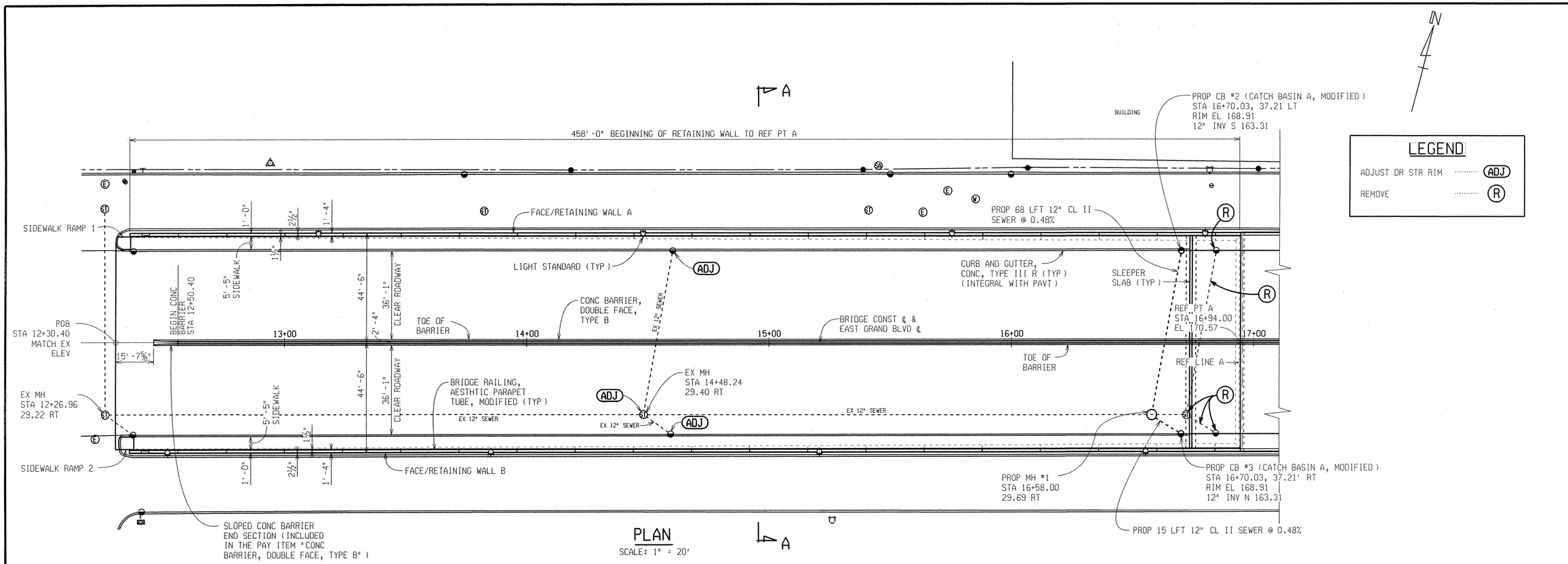
EAST GRAND BLVD OVER
DETROIT CONNECTING RAILROAD

MDOT JOB NO. 86173A | STRUCTURE NO. R01 of 82-22-54

STEEL REINFORCEMENT DETAILS

DATE: 04/16/08
DLZ JOB NO. 0642-6090-00
SHEET NO. 34 OF 60

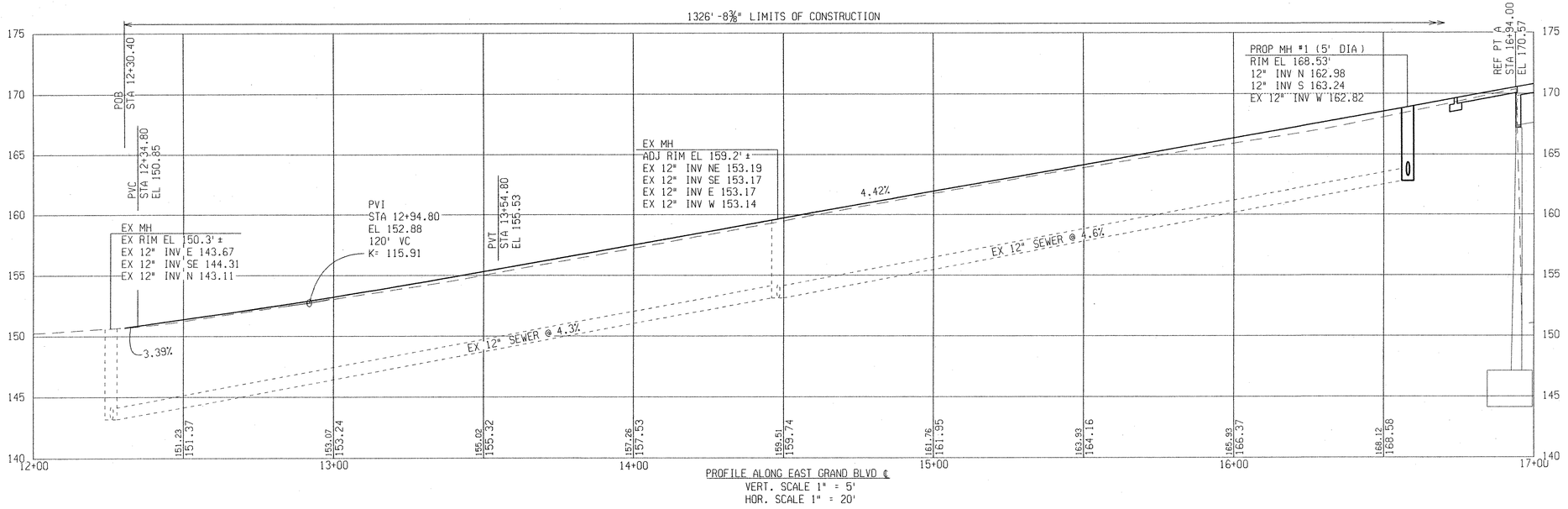
DATE: 12/30/04
DRAWN BY: bmw
FILE NAME: whittaker rs.dgn



PLAN
SCALE: 1" = 20'

LEGEND

ADJUST DR STR RIM	ADJ
REMOVE	R

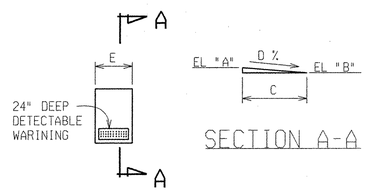


PROFILE ALONG EAST GRAND BLVD ℄
VERT. SCALE 1" = 5'
HOR. SCALE 1" = 20'

SIDEWALK RAMP, ADA, MODIFIED*

RAMP	TYPE	A	B	C	D	E
1	R	150.99	150.09	12'-0"	8.3%	5'-0"
2	R	150.99	149.99	12'-0"	8.3%	5'-0"

*SEE MDOT STANDARD PLAN R-28-F FOR DETAILS



SECTION A-A

SIDEWALK RAMP TYPE R

REVISIONS	DESCRIPTION	DATE	BY

DLZ

CITY OF DETROIT

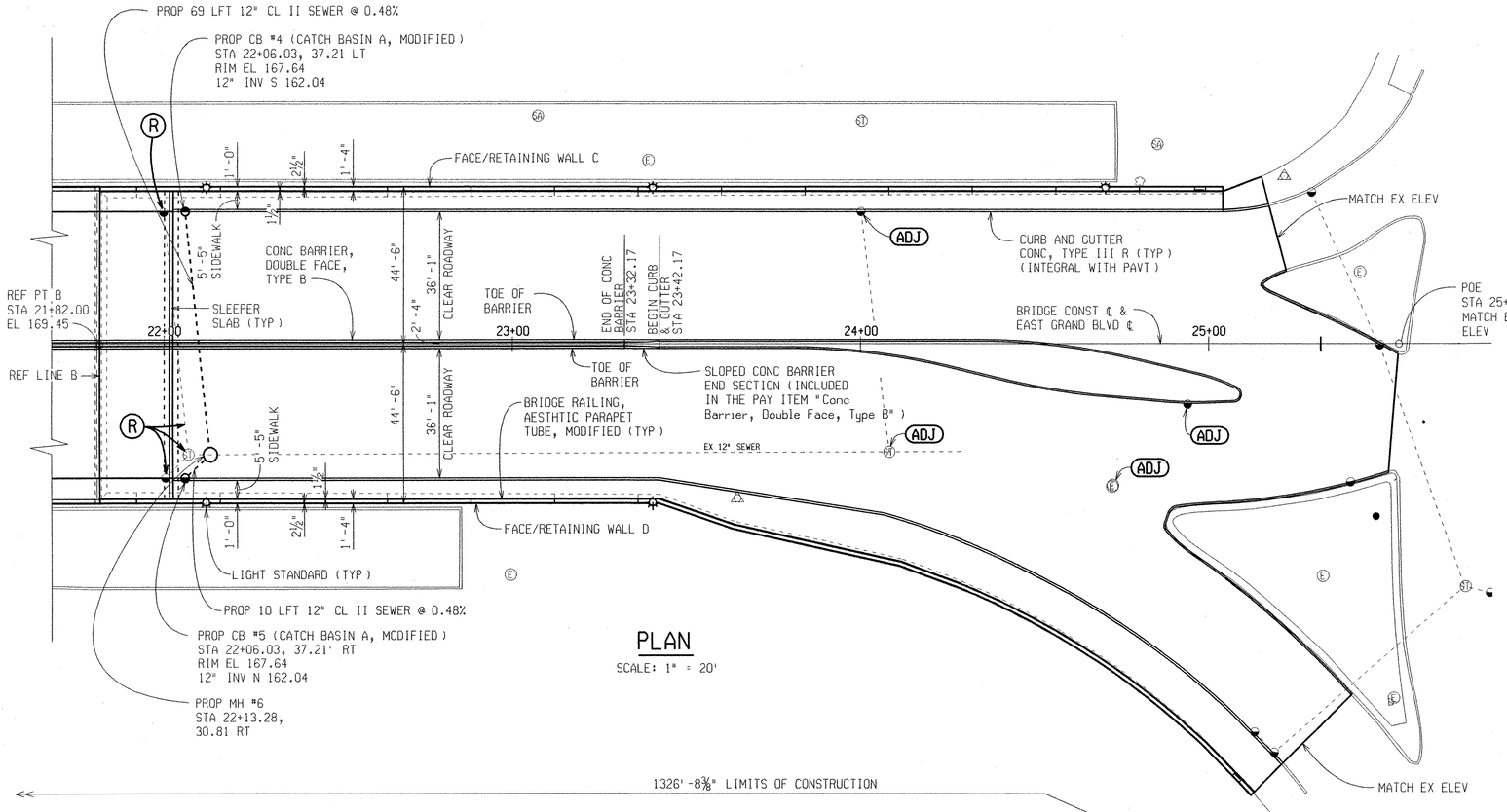
EAST GRAND BLVD OVER
DETROIT CONNECTING RAILROAD

MDOT JOB NO. 86173A | STRUCTURE NO. R01 of 82-22-54

APPROACH DETAILS

DATE: 04/16/08
DLZ JOB NO. 0642-6090-00
SHEET NO. 35 OF 60

DATE: 07/05/07
CORRECTED BY: DLW
DATE: 07/05/07
CHECKED BY: KCK
DATE: 07/02/07
DRAWN BY: DLW
FILE NAME: east grand appl.dgn



PROFILE ALONG EAST GRAND BLVD ℄
VERT. SCALE 1" = 5'
HOR. SCALE 1" = 20'

MISCELLANEOUS QUANTITIES

1	LS	Mobilization, Max
6	Ea	Dr Structure, Rem
185	Ft	Sewer, Rem, Less Than 24 inch
1400	Ft	Fence, Rem
1070	Syd	Sidewalk, Rem
1700	Ft	Curb, Rem, Modified
7438	Syd	Pavt, Rem Modified
4600	Cyd	Excavation, Earth
3100	Cyd	Granular Material, Cl II, Modified
7251	Syd	Aggregate Base, 4 inch
162	Ft	Sewer, Cl C 76 IV, 12 inch, Tr Det B, Modified
2	Ea	Dr Structure, 60 inch Dia
4	Ea	Catch Basin A, Modified
2700	Lb	Dr Structure Cover, Modified
7	Ea	Dr Structure cover, Adj, Case 2, Modified
6670	Syd	Conc Pavt with Integral Curb, Reinf, 9 inch, Modified
120	Sft	Sidewalk Ramp, ADA
9000	Sft	Sidewalk, Conc, 4 inch Modified
570	Ft	Conc Barrier, Double Face, Type B
1400	Sft	Fence, Structure
103	Cyd	Substructure Conc
1592	Ft	Bridge Railing, Aesthtic Parapet Tube, Mobified
1835	Ea	Adhesive anchoring of Vertical Bar, ¾ inch
162	Ft	Video Taping Sewer and Culv Pipe
100	Cyd	Non Haz Contaminated Material Handling and Disposal, LM
1400	Ft	Pavt Mrkg, Thermopl, 4 inch, White
2800	Ft	Pavt Mrkg, Thermopl, 4 inch, Yellow

NOTES:

PROPOSED PAVEMENT MARKINGS SHALL MATCH THE EXISTING PAVEMENT MARKINGS, AND SHALL BE ACCORDING TO CITY OF DETROIT D.P.W. TRAFFIC ENGINEERING DIVISION STANDARDS.

REVISIONS	DESCRIPTION	DATE	BY

DLZ

CITY OF DETROIT

EAST GRAND BLVD OVER DETROIT CONNECTING RAILROAD

MDOT JOB NO. 86173A | STRUCTURE NO. R01 of 82-22-54

APPROACH DETAILS

DATE: 04/16/08

DLZ JOB NO. 0642-6090-00

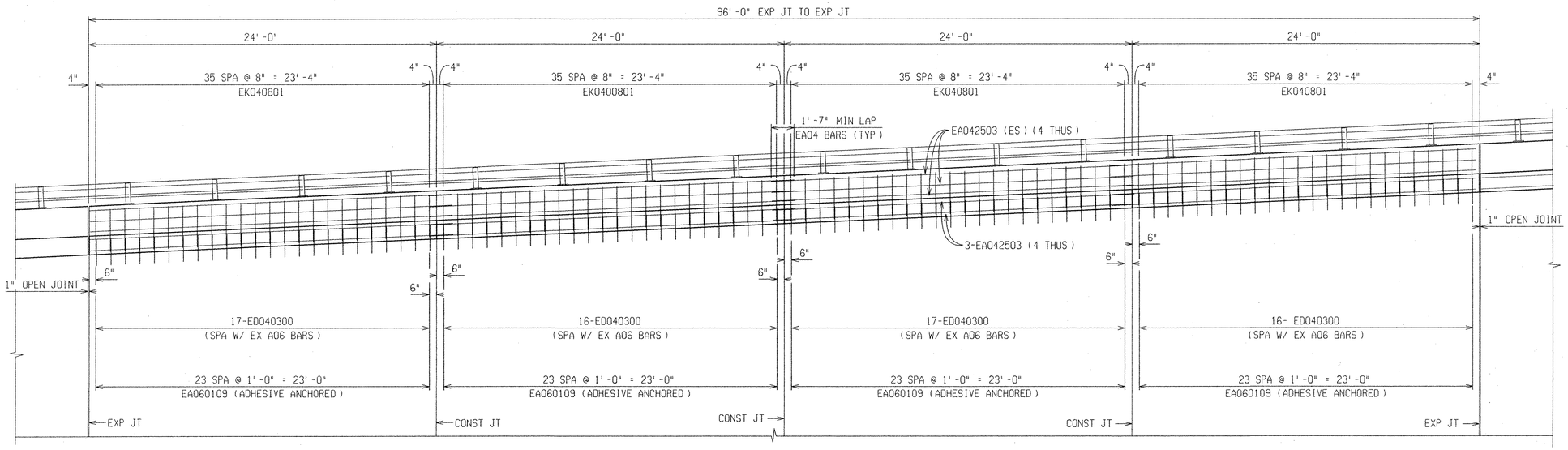
SHEET NO. 36 OF 60

DATE: 07/02/07 CHECKED BY: KCK

DATE: 07/02/07 CORRECTED BY: DLW

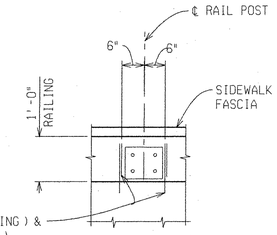
DATE: 07/02/07 DRAWN BY: DLW

FILE NAME: east grand app2.dgn



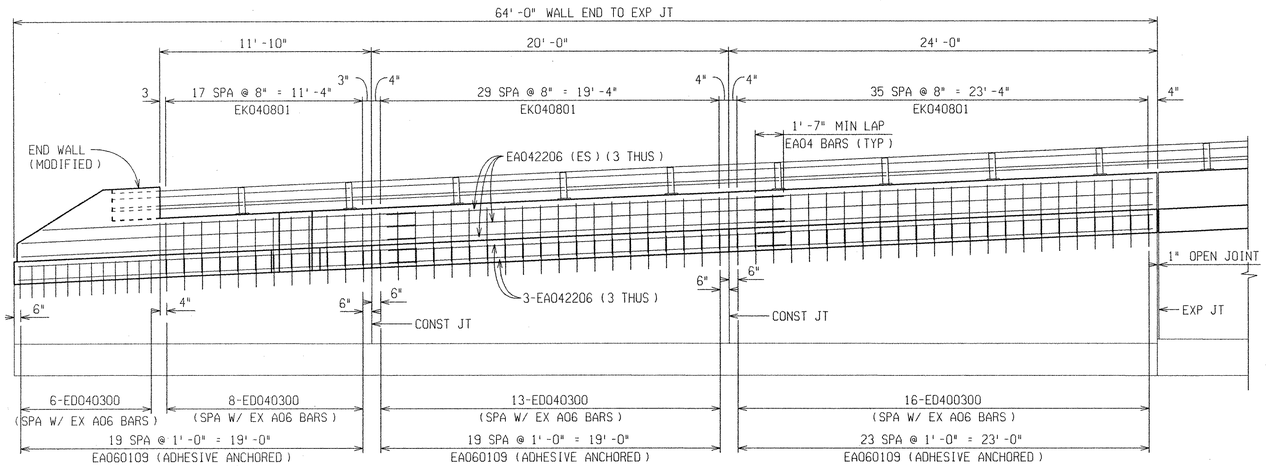
TYPICAL APPROACH RAILING DETAIL

(12 SECTIONS TOTAL)



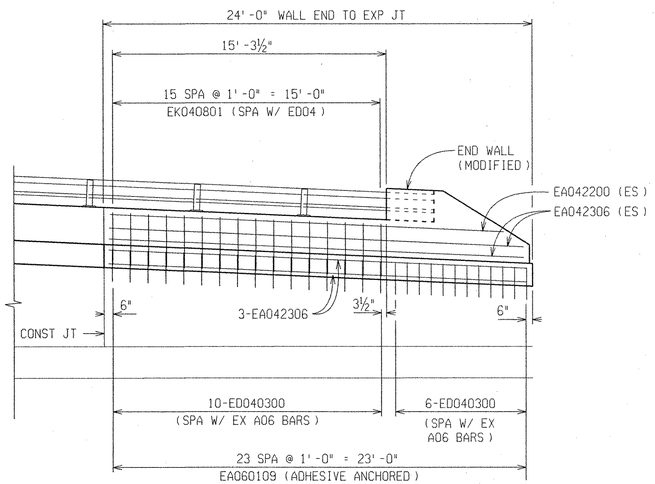
RAILING POST DETAIL

(TYP 203 POSTS
ON THE APPROACH)



TYPICAL APPROACH RAILING END DETAIL

(RETAINING WALL A, B & D)



TYPICAL APPROACH RAILING END DETAIL

(RETAINING WALL C)

NOTE:
FOR END BLOCK REINFORCEMENT SEE SHEET

REVISIONS	DESCRIPTION	DATE	BY

DLZ

CITY OF DETROIT

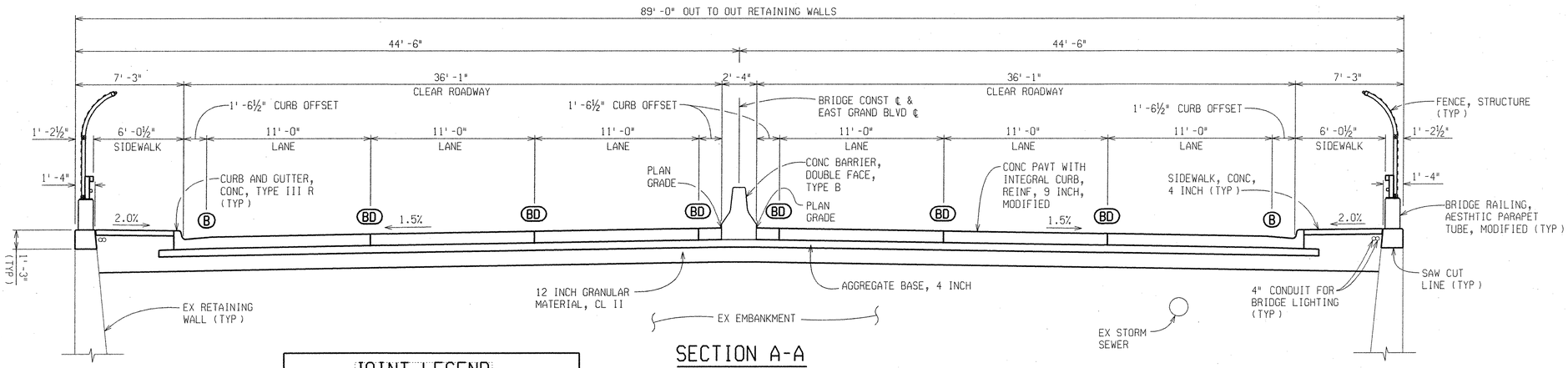
EAST GRAND BLVD OVER
DETROIT CONNECTING RAILROAD

MDOT JOB NO. 86173A | STRUCTURE NO. R01 of 82-22-54

APPROACH DETAILS

DATE: 04/16/08
DLZ JOB NO. 0642-6090-00
SHEET NO. 37 OF 60

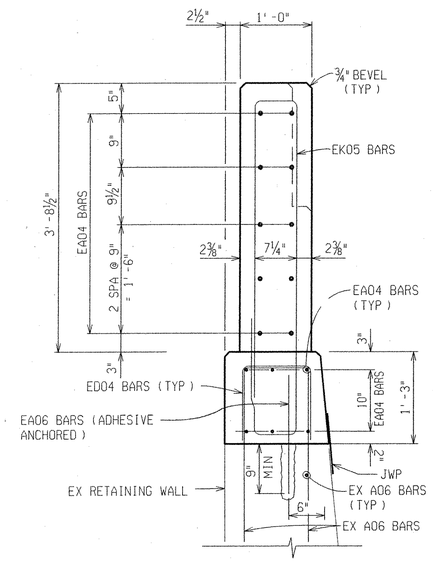
DATE: 07/02/07
DATE: 07/02/07 CORRECTED BY: DLW
DRAWN BY: DLW
CHECKED BY: KCK
FILE NAME: east grand st5.dgn



SECTION A-A

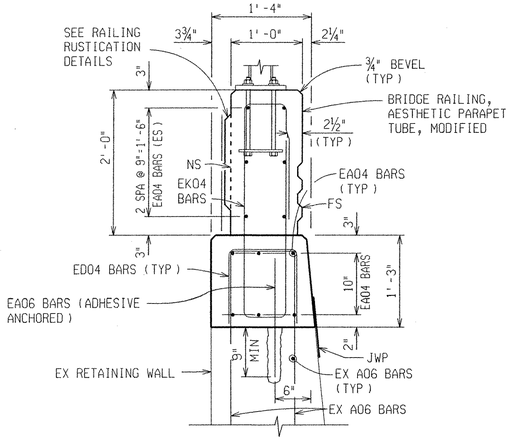
JOINT LEGEND

(B)	LONGITUDINAL BULKHEAD JOINT
(D)	LONGITUDINAL LANE TIE JOINT
(BD)	OPTION (B) OR (D) JOINT
(E5)	LONGITUDINAL EXPANSION JOINT WITHOUT TRANSVERSE ASSEMBLY

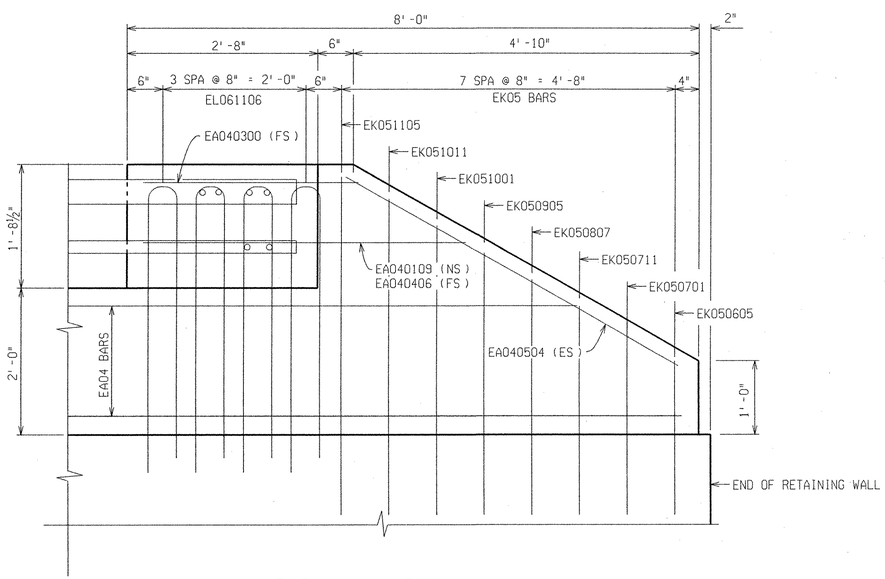


SECTION AT END WALL

(FULL CONCRETE AREA)



TYPICAL RAILING SECTION



END WALL DETAIL

(TYP 3 CORNERS)

REVISIONS	DESCRIPTION	DATE	BY

DLZ

CITY OF DETROIT

EAST GRAND BLVD OVER DETROIT CONNECTING RAILROAD

MDOT JOB NO. 86173A | STRUCTURE NO. R01 of 82-22-54

APPROACH DETAILS

DATE: 04/16/08

DLZ JOB NO. 0642-6090-00

SHEET NO. 38 OF 60

DATE: 07/02/07 CHECKED BY: KCK

DATE: 07/02/07 CORRECTED BY: DLW

DRAWN BY: DLW

FILE NAME: east grand st6.dgn

LEGEND SHEET

UNDERGROUND

- FIRE HYDRANT
- EXISTING MANHOLE
- EXISTING HANDHOLE
- EXISTING DUCT RUN
- ABANDON EXISTING DUCT RUN
- EXISTING DIRECT BURIAL OR PARKWAY CABLE
- ABANDON DIRECT BURIAL OR PARKWAY CABLE
- INSTALL DIRECT BURIAL CABLE (NO. AND SIZE WILL BE SHOWN)
- 5" E.C. — BUILD ENCASED CONDUIT (E.C.) (NO. AND SIZE WILL BE SHOWN)
- 2-3" D.B. — INSTALL DIRECT BURIAL CONDUIT (D.B.) (NO. AND SIZE WILL BE SHOWN)
- 2-4" J.B. — JACKED-BORED CONDUIT (J.B.) (NO. AND SIZE WILL BE SHOWN)
- BUILD NEW MANHOLE (2-WAY)
- BUILD NEW MANHOLE (3-WAY)
- BUILD NEW MANHOLE (4-WAY)
- BUILD NEW MANHOLE (CORNER)
- BUILD NEW HANDHOLE (ROUND OR SQUARE AS INDICATED ON PLANS).
- BUILD POLYMER CONCRETE HANDHOLE
- BUILD TYPE "S" HANDHOLE
- BUILD TYPE "D" HANDHOLE
- EXISTING UNDERGROUND-FED ST.LTG. UNIT AND FOUNDATION
- REMOVE UNDERGROUND-FED ST.LTG. UNIT AND FOUNDATION (EXCEPT AS OTHERWISE NOTED)
- INSTALL CODE 009-00 ST. LTG. STD. WITH 6FT. CLAMP-ON BRACKET ARMS (3'-0"RISE). ON BRIDGE OR RETAINING WALL INSTALL 250W. 240V. SODIUM VAPOR LUMINAIRE. SEE P.L.D DETAILS.
- SALVAGED UNDERGROUND-FED ST. LTG. UNIT ON NEW FOUNDATION.

DIAGRAMS

(U.G.-FED. ST. LTG. STD. SYMBOLS ARE THE SAME AS THE UNDERGROUND LEGEND ON THIS SHEET).

- M.H.1234 — PROPOSED MANHOLE
- M.H.5678 — EXISTING MANHOLE
- H.H. — PROPOSED HANDHOLE
- H.H. — EXISTING HANDHOLE
- M.H.9012 — PROPOSED MANHOLE IN SAME LOCATION AS EXISTING HOLE.
- EXISTING CABLE OR OVERHEAD LINE
- PROPOSED OVERHEAD LINE
- PROPOSED CABLE
- CABLE TO BE ABANDONED
- CABLE TO BE REMOVED
- DISCONNECT, INSULATE AND CAP CABLE END.
- SPLICE STRAIGHT THRU
- SPLICE
- POR. 301 A1-1 / POR. 24-26 — INDICATES NEW ST. LTG. STANDARD NUMBER / INDICATES OLD ST. LTG. STANDARD NUMBER
- (1) SECTION OF PROP. CONDUIT WITH PROP. CABLE
- (X) SECTION OF EXIST. CONDUIT WITH EXIST. CABLE
- (1X) SECTION OF EXIST. CONDUIT WITH EXIST. & PROP. CABLE
- 2-100mm(4") CONDUIT BROKEN OUT IN HANDHOLE
- 4-100mm(4") CONDUIT BY-PASSING HANDHOLE

6-100mm(4")

MULT. ST. LTG. CABLE — 1
COMMUNICATION CABLE — 2
SERIES ST. LTG. CABLE — 7
24KV. CABLE — 8
MULT. ST. LTG. FEEDER CABLE
3 — T.S. FEEDER CABLE
4 — T.S. INTERCONNECT CABLE
9 — T.S. CABLE
A — FUTURE CABLE
6 — PRI. DISTRIBUTION CABLE

12-4"

DIAGRAMS

- 1-#6 — INDICATES 2000V., 1-1/C #6 ST. LTG. CABLE
- 1/1 — INDICATES 2000V., 1-1/C #6 ST. LTG. CABLE & 1-#6 NEUTRAL.
- 2/1 — INDICATES 2000V., 2-1/C #6 ST. LTG. CABLES & 1-#6 NEUTRAL (ALL UNLABELED CABLE GROUPS ON WIRING DIAGRAM ARE SUCH.) 480/960V.
- 1-#2 — INDICATES 2000V., 1-1/C #2 ST. LTG. CABLE
- 1/1 — INDICATES 2000V., 1-1/C #2 ST. LTG. CABLE & 1-#2 NEUTRAL.
- 2/1 — INDICATES 2000V., 2-1/C #2 ST. LTG. CABLES & 1-#2 NEUTRAL (ALL UNLABELED CABLE GROUPS ON WIRING DIAGRAM ARE SUCH.) 240/480V.
- 3/1 — INDICATES 2000V., 3-1/C #2 ST. LTG. CABLES & 1-#2 NEUTRAL.
- RM. — INDICATES REMOVE CABLES IN CONDUIT (REGARDLESS OF SIZE OR NUMBER OF CABLES IN THE CONDUIT.)
- 1-#8 — INSTALL 7500V., 1-1/C #8 L.C. ST. LTG. CABLE
- 2-#8 — INSTALL 7500V., 2-1/C #8 L.C. ST. LTG. CABLES

OVERHEAD

- C — INSTALL OVERHEAD ALLEY LTG. UNIT. WITH 1.83m BRACKET ARM.
- C 16' I — INSTALL OVERHEAD RESIDENTIAL LTG. (4.88m ARM WITH TYPE I 4-WAY LUMINAIRE SHOWN)
- C 10' II — INSTALL OVERHEAD RESIDENTIAL LTG. UNIT (3.048m. ARM WITH TYPE II 2-WAY LUMINAIRE SHOWN)
- O_T — EXISTING WOOD POLE or REMOVE IF NOTED (AMERITECH POLE SHOWN)
- $\bullet_C$ — REMOVE WOOD POLE (P.L.D. POLE SHOWN)
- $\circledcirc_C$ — REPLACE WOOD POLE (HEIGHT & CLASS AS INDICATED)
- INSTALL WOOD POLE (HEIGHT & CLASS AS INDICATED) (USE SALVAGED POLE WHERE INDICATED)
- E — EXISTING OVERHEAD ST. LTG. UNIT
- E — REMOVE OVERHEAD ST. LTG. UNIT (D.E. CO. POLE SHOWN)
- E — INSTALL OVERHEAD ST. LTG. UNIT WITH 8FT. MAIN ST. LTG. BRACKET ARM.
- EXISTING OVERHEAD LINE
- REMOVE OVERHEAD LINE
- INSTALL OVERHEAD LINE
- INSTALL AND LATER REMOVE OVERHEAD LINE
- 3/4" Anchor Guy — INSTALL GUY AND ANCHOR (3/8" GUY UNLESS OTHERWISE NOTED)
- REMOVE GUY AND ANCHOR ROD
- 3/8" Pole Guy — INSTALL POLE GUY (3/8" GUY UNLESS OTHERWISE NOTED)
- 1/4" Arm — INSTALL ARM GUY (1/4" GUY UNLESS OTHERWISE NOTED)
- P OR A — REMOVE GUY (POLE OR ARM GUY WILL BE INDICATED)
- RM. — MATERIALS TO BE REMOVED
- IN. — MATERIALS TO BE INSTALLED
- C.P. — CABLE POLE
- EX. — EXISTING MATERIALS
- M.S.S. — MAKE WOOD POLE SELF-SUPPORTING IN CRUSHED STONE
- XYZ — PHASES OF P.L.D. DISTRIBUTION WIRES OR EQUIPMENT
- E — D.E. CO. DISTRIBUTION WIRE
- e.s. — D.E. SECONDARY WIRE
- ctv — CABLE TELEVISION
- (C) — INSTALL SUSPENSION INSULATOR
- EXISTING C / PROPOSED C — P.L.D. DISTRIBUTION WIRE
- EXISTING Cs / PROPOSED Cs — P.L.D. SECONDARY WIRE
- EXISTING A / PROPOSED A — P.L.D. SERIES ST. LTG. WIRE
- EXISTING M / PROPOSED M — P.L.D. MULT. ST. LTG. WIRE

GENERAL

- BUILDING (STRUCTURE)
- GUARD RAIL (CONCRETE)
- GUARD RAIL (STEEL)
- CENTER LINE (CL)
- PROPERTY LINE (PL) OR RIGHT OF WAY (ROW)
- PAVEMENT JOINTLINE AND CURB
- CURB LINE
- EXISTING ROUND CATCH BASIN
- EXISTING RECTANGLE CATCH BASIN
- (S) S — EXISTING SEWER LINE, MANHOLE AND CATCH BASIN
- (E) E — EXISTING DETROIT EDISON UNDERGROUND LINE AND MANHOLE
- (T) T — EXISTING AMERITECH TELEPHONE UNDERGROUND LINE AND MANHOLE
- (G) G — EXISTING GAS LINE AND MANHOLE
- (W) W — EXISTING WATER LINE AND HANDHOLE
- (P) X — EXISTING DETROIT PUBLIC LIGHTING UNDERGROUND LINE AND HANDHOLE.
- (STM) STM — EXISTING DETROIT EDISON UNDERGROUND STEAM LINE
- (CTV) CTV — EXISTING CABLE TELEVISION
- EXISTING R.R. TRACKS
- EXISTING STREETCAR TRACKS
- EXISTING FENCE
- EXISTING PUBLIC TELEPHONE
- EXISTING TELEPHONE CONTROL BOX
- EXISTING TRANSFORMER OR NOTED AS REMOVE
- NEW TRANSFORMER
- EXISTING R.R. CROSSING GATE AND FLASHERS
- EXISTING R.R. FLASHERS
- EXISTING R.R. CROSSING MAST ARM AND FLASHERS
- EXISTING DOUBLE POST SIGN (TYPE SHOWN ON PLANS)
- INSTALL DOUBLE POST SIGN (TYPE SHOWN ON PLANS)
- EXISTING SINGLE POST SIGN (TYPE SHOWN ON PLANS)
- INSTALL SINGLE POST SIGN (TYPE SHOWN ON PLANS)
- EXISTING MAST ARM ROAD SIGN (TYPE SHOWN ON PLANS)

TRAFFIC SIGNAL

- POCH — POLE CONTACT HEIGHT OF TRAFFIC SIGNAL SPAN WIRE
- L.C.H. — LOWEST CONTACT HEIGHT OF TRAFFIC SIGNAL TO SPAN WIRE.
- ‡ — REMOVE HOOD AND INSTALL LAMPS (INCIDENTAL TO INSTALLATION OF TRAFFIC SIGNAL ON THIS CONTRACT)
- BACK-OUT LAMPS AND HOOD (SIGNALS INCLUDED IN THE INSTALLATION OF TRAFFIC SIGNAL ON THIS CONTRACT).
- EXISTING STOP BAR
- STOP BAR TO BE INSTALLED
- INSTALL 3-SECTION TRAFFIC SIGNAL (1-WAY SHOWN)
- INSTALL 3-SECTION TRAFFIC SIGNAL WITH SALVAGED HEADS (2-WAY SHOWN)
- REMOVE 3-SECTION TRAFFIC SIGNAL (3-WAY SHOWN)
- EXISTING 3-SECTION TRAFFIC SIGNAL (4-WAY SHOWN)
- INSTALL 3-SECTION 300mm(12")TRAFFIC SIGNAL (2-WAY SHOWN)
- EXISTING 1 OR 2-SECTION 300mm(12")TRAFFIC SIGNAL FLASHERS
- INSTALL 1 OR 2-SECTION 300mm(12")TRAFFIC SIGNAL FLASHERS
- INSTALL TWO-WAY ILLUMINATED CASE SIGN
- INSTALL TWO-WAY ILLUMINATED CASE SIGN (SALVAGED)
- REMOVE TWO-WAY ILLUMINATED CASE SIGN
- EXISTING TWO-WAY ILLUMINATED CASE SIGN
- INSTALL FOUR-WAY ILLUMINATED CASE SIGN
- INSTALL FOUR-WAY ILLUMINATED CASE SIGN (SALVAGED)
- REMOVE FOUR-WAY ILLUMINATED CASE SIGN
- EXISTING FOUR-WAY ILLUMINATED CASE SIGN
- INSTALL 2-SECTION, 300mm(12")PEDESTRIAN (WALK-DON'T WALK) TRAFFIC SIGNAL (2-WAY SHOWN)
- INSTALL 2-SECTION, 300mm(12")PEDESTRIAN (WALK-DON'T WALK) TRAFFIC SIGNAL WITH SALVAGED HEAD (2-WAY SHOWN)
- REMOVE 2-SECTION, PEDESTRIAN (WALK-DON'T WALK) TRAFFIC SIGNAL (1-WAY SHOWN)
- EXISTING 2-SECTION, 300mm(12")PEDESTRIAN (WALK-DON'T WALK) TRAFFIC SIGNAL (1-WAY SHOWN)
- INSTALL TRAFFIC SIGNAL CONTROLLER (NEW OR SALVAGED AS SHOWN) (EXCEPT AS OTHERWISE NOTED).
- INSTALL MAST ARM STD. & MAST ARM ON NEW FOUNDATION (EXCEPT AS OTHERWISE NOTED).
- INSTALL TRAFFIC SIGNAL PEDESTAL ON NEW FOUNDATION (EXCEPT AS OTHERWISE NOTED).
- INSTALL 9.14m(30') ANCHOR BASE STEEL STRAIN POLE ON NEW FOUNDATION (EXCEPT AS OTHERWISE NOTED).(USE 400mm[16"] BOLT CIRCLE FOR ALL NEW STRAIN POLES).
- EXISTING TRAFFIC SIGNAL CONTROLLER
- EXISTING MAST ARM STANDARD
- EXISTING PEDESTAL
- EXISTING STEEL STRAIN POLE
- INSTALL OVERHEAD PLASTIC JACKETED CABLE (P.J.)
- EXISTING OVERHEAD PLASTIC JACKETED CABLE (P.J.)
- REMOVE OVERHEAD PLASTIC JACKETED CABLE (P.J.)
- INSTALL JUNCTION BOX (J.B.)
- INSTALL SALVAGED JUNCTION BOX (J.B.)
- REMOVE JUNCTION BOX (J.B.)
- EXISTING JUNCTION BOX (J.B.)
- EXISTING LOOP DETECTOR
- INSTALL LOOP DETECTOR

CONTRACTOR TO FURNISH AND INSTALL ALL MATERIALS. P.L.D. SHALL APPROVE ALL SHOP DRAWINGS.

P.L.D. SPECIFICATIONS AND DETAILS SHALL BE USED FOR ALL MATERIALS AND INSTALLATION.

ALL LUMINAIRES WITH BALLASTS SHALL HAVE REGULATED BALLASTS ±10% V.

CAUTION!-CABLE FIREPROOFING MAY CONTAIN ASBESTOS

	PLAN INDEX
DRWG. NO.	SUB-TITLE
1	LEGEND
2	GENERAL INFORMATION
3 - 4	GENERAL PLANS
5	WIRING DIAGRAM
6 - 17	DETAILS

REVISIONS	Date	Description	Chkd. by

IMPROVEMENT OF STREET LIGHTING
EAST GRAND BOULEVARD BRIDGE
GENERAL PLAN

Designed by C.E.A.
Drawn by ---
Checked by ---

Consulting Engineering Associates, Inc.
16580 WYOMING AVE. DETROIT MICHIGAN 48221
TELEPHONE: (313) 341-5797 FAX: 341-0205

Disk File Name: RR-LG
Job File No.: CEA 138200

Scale
Checked by
Approved by

PUBLIC LIGHTING DEPARTMENT
CITY OF DETROIT

File No. 51-0686
Sheet No. 39 of 60
Date 3-03-08

TIME:$TIME$
DATE PLOTTED:$DATE$
Computer Plotter Table File

GENERAL INFORMATION

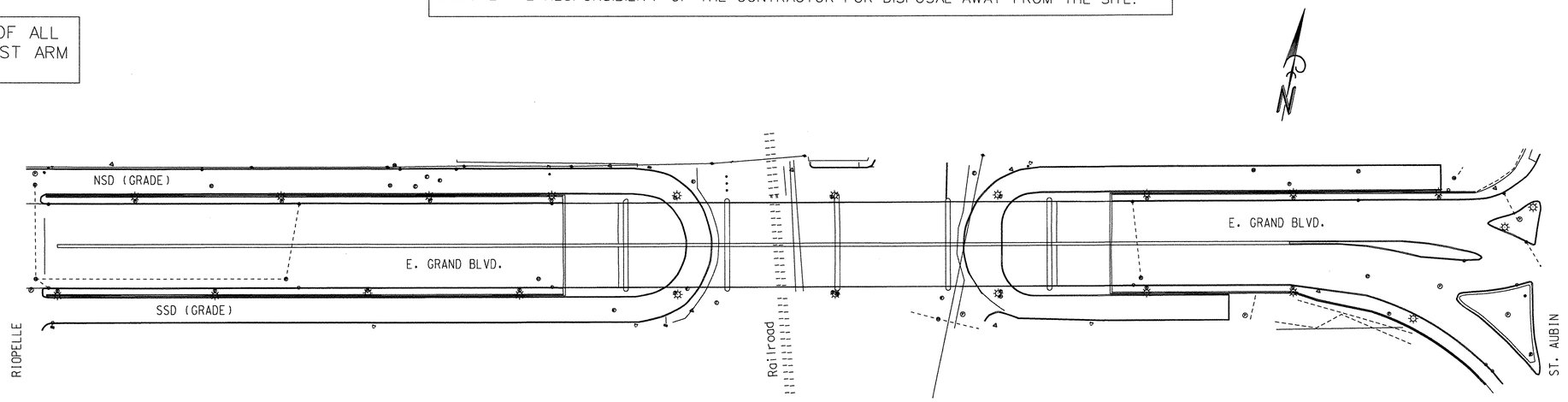
1. CALL MISS DIG (313) (647-7344) THREE WORKING DAYS PRIOR TO ANY EXCAVATION FOR THE LOCATIONS OF UNDERGROUND UTILITIES.
2. A MINIMUM CLEARANCE OF 0.915m(3.0') HORIZONTAL & 0.3048m(1.0') VERTICAL MUST BE MAINTAINED BETWEEN PROPOSED P.L.D. FACILITIES & EXISTING U.G. UTILITIES EXCEPT WATER WHICH REQUIRES A 1.07m(3.5') CLEARANCE.
3. CONTRACTOR TO NOTIFY MICHIGAN CONSOLIDATED GAS CO. AT (313) 491-6301 IF PROTECTIVE COATED GAS MAIN IS EXPOSED OR DAMAGED.
4. CONTRACTOR TO NOTIFY D.E. CO., AT 1-800-477-4747 IF PROTECTIVE COATING OF ANY D.E.CO. HIGH VOLTAGE UNDERGROUND LINE IS EXPOSED OR DAMAGED.
5. ALL EXISTING P.L.D. LIGHTING, TRAFFIC SIGNAL, PRIMARY, TRANSMISSION ETC. CIRCUITS SHALL ALWAYS BE MAINTAINED IN AN OPERATIONAL CONDITION (EXCEPT WHERE OTHERWISE NOTED). NOTIFY P.L.D. SYSTEM OPERATOR AT (313) 961-1364 48 HOURS PRIOR TO BEGINNING WORK ON P.L.D. CIRCUITS & KEEP OPERATOR INFORMED ON A DAILY BASIS.
6. EXISTING OVERHEAD & TRAFFIC SIGNAL FACILITIES ARE NOT NECESSARILY SHOWN ON PLANS.
7. CROSSARMS SHALL BE REMOVED AFTER ALL CONTACTS ARE REMOVED. (INCLUDED WITH THE REMOVAL OF OVERHEAD LINES).
8. ALL OVERHEAD WIRES & UNDERGROUND CABLES SHALL CONSIST OF COPPER CONDUCTORS AS PER SPECIFICATIONS.
9. ALL REMOVED WOOD POLES & CROSSARMS SHALL BE DELIVERED TO P.L.D. FOR DISPOSAL BY P.L.D.
10. ALL NEW ANCHOR GUYS SHALL BE INSTALLED ON A 1:1 RATIO OR AS NEARLY AS POSSIBLE (EXCEPT WHERE OTHERWISE NOTED). (STRUT GUYS ARE EXCEPTED).
11. ARM GUYS SHALL BE SIEMENS-MARTIN GRADE. ANCHOR AND POLE GUYS SHALL BE EXTRA HIGH STRENGTH GRADE.
12. INSTALL WOOD POLES SO AS NOT TO INTERFERE WITH TRAFFIC OR FUTURE CONSTRUCTION STAGES.
13. ALL SALVAGED WOOD POLES DIRECTED TO BE INSTALLED SHALL BE POLES PREVIOUSLY INSTALLED NEW ON THIS CONTRACT.
14. ALL TRANSFORMER POLES AND CABLE POLES SHALL BE FITTED UP WITH 3.048m(120") ARMS (EXCEPT WHERE OTHERWISE INDICATED).
15. INSTALLATION OF ARMS FOR EQUIPMENT, CUTOUTS, POTHEADS, TRANSFORMER, ETC. NOT SHOWN ON NEW CABLE AND TRANSFORMER POLES SHALL BE INSTALLED AS PER THE DETAIL DRWG. REQUIREMENT AND SHALL BE INCLUDED IN THE FITTING-UP OF THE CABLE AND/OR TRANSFORMER POLE.
16. ALL POTHEADS ON PRIMARY DISTRIBUTION CABLE POLES SHALL BE FLAT DIVERGENT CAPNUT TYPE.
17. WHERE A P.L.D. WOOD POLE WITH OTHER UTILITY CONTACTS IS TO BE REMOVED THE P.L.D. INSPECTOR WILL VERIFY IF THE POLE IS IN FACT TO BE REMOVED.
18. ALL TRAFFIC STREET SIGNS SUCH AS "NO PARKING", "NO STANDING" ETC. SHALL BE TRANSFERRED FROM OLD STD. OR POLE TO NEW STD. OR POLE AT SAME LOCATION OR IN CLOSE PROXIMITY BY D.P.W. NOTIFY DAVE BRUTON AT (313) 224-1042
19. ALL TRAFFIC SIGNALS SHALL BE MOUNTED WITH NEW STANDARD TRAFFIC SIGNAL BRACKETS & FITTINGS.
20. ALL TRAFFIC SIGNAL ITEMS, AS CALLED FOR ON PLANS, SHALL INCLUDE AS INCIDENTAL TO THE TRAFFIC SIGNAL ALL CABLES FROM THE CONTROLLER TO THE TRAFFIC SIGNALS & FOUNDATIONS AS INDICATED.
21. WHEN ENTERING PROPOSED CONDUIT INTO EXISTING MANHOLES & HANDHOLES EXERCISE CAUTION NOT TO DISTURB EXISTING CABLES. FOR ENTRANCE OF CONDUITS, WALLS MUST BE CORE DRILLED UNLESS AN ALTERNATE METHOD IS APPROVED IN WRITING BY A P.L.D. INSPECTOR.
22. ALL SALVAGED TRAFFIC SIGNALS DIRECTED TO BE INSTALLED SHALL BE TRAFFIC SIGNALS PREVIOUSLY INSTALLED NEW ON THIS CONTRACT. (EXCEPT AS OTHERWISE INDICATED).
23. FOR TRAFFIC SIGNAL SPAN WIRE USE 8mm(5/16") EXTRA HIGH STRENGTH GRADE AS PER SPECIFICATIONS.
24. SIDEWALK RAMPS SHALL BE CONSTRUCTED OF THE TYPE & LOCATION AS SHOWN ON THE PLANS OR AS DIRECTED BY THE CITY ENGINEERING DEPARTMENT PAVING INSPECTORS.
25. SEAL-END OF CABLE WHERE COILING OF CABLE IS CALLED FOR ON PLANS. (CONTRACTOR SHALL RECEIVE PAYMENT FOR COILED-UP LENGTHS OF CABLE).
26. CONTRACTOR SHALL DELIVER WHERE REQUIRED TO THE PUBLIC LIGHTING DEPARTMENT THE T.S. CONTROLLER FOR TIMING. CONTRACTOR SHALL PICK-UP CONTROLLER FROM P.L.D. WHEN READY FOR INSTALLATION.
27. PROPOSED T.S. SHALL BE PUT INTO OPERATION AT TIME OF REMOVAL OF EXISTING T.S. FACILITIES. CONTRACTOR SHALL NOTIFY THE P.L.D. INSPECTOR IF HE IS UNABLE TO MAINTAIN T.S. IN AN OPERABLE CONDITION AT ALL TIMES.
28. THE CANDLEPOWER DISTRIBUTION FOR ALL MERCURY VAPOR & SODIUM VAPOR ST. LTG. LUMINAIRES SHALL BE SEMI-CUTOFF, MEDIUM DISTRIBUTION OF TYPE AS INDICATED ON THE PLANS.
29. ALL LUMINAIRES SHALL BE PROVIDED WITH 240V. INTERNAL BALLASTS AS CALLED FOR ON PLANS. (EXCEPT WHERE OTHERWISE INDICATED)
30. WHERE REMOVAL OF SERIES LUMINAIRES IS CALLED FOR ON PLANS THE ASSOCIATED O.H. SERIES COIL SHALL BE REMOVED BY THE CONTRACTOR. (REMOVE O.H. COIL IS INCLUDED WITH THE REMOVAL OF LUMINAIRE).
31. WHERE INSTALLATION OF NEW MANHOLES OR HANDHOLES OVER EXISTING CONDUITS (TO ACCOMMODATE NEW & EXISTING CONDUITS) IS CALLED FOR ON PLANS, CONTRACTOR SHALL CAREFULLY & SO AS NOT TO DAMAGE EXIST. CABLES, REMOVE THE EXISTING CONDUITS & ENCASEMENT WITHIN HOLES. EXIST. CABLES SHALL BE PROPERLY TRAINED, RACKED & SUPPORTED.
32. WHERE ABANDONING OF U.G. CABLES IS CALLED FOR ON PLANS OR DIAGRAMS, CONTRACTOR SHALL CUT & REMOVE CABLES WITHIN MANHOLES & HANDHOLES.
33. FOR LOCATIONS OF P.L.D. INSTALLATIONS ON STRUCTURES SUCH AS CONDUITS HANDHOLES, CONDUIT SLEEVES, GALVANIZED STEEL CONDUITS & ANCHOR BOLTS FOR STREET LIGHTING STANDARDS SEE STRUCTURE PLANS AND P.L.D. DETAIL SPECIFICATIONS
34. PAVEMENT, SIDEWALK, CURB REMOVAL, REPLACEMENT AND EXCAVATION & BACKFILL SHALL BE DONE ACCORDING TO CITY OF DETROIT CITY ENGINEERING DIVISION STANDARD SPECIFICATIONS PAVING AND RELATED CONSTRUCTION.
35. UNDERGROUND CABLE QUANTITIES ARE ITEMIZED ON GENERAL PLANS. ALL PERTINENT CABLES SHALL BE TAGGED IN ALL M.H.'s & H.H.'s. THIS INCLUDES EXIST. CABLES THAT ARE CONVERTED TO MULTIPLE, RECONNECTED TO OTHER CIRCUITS OR RENDERED DEAD.
36. ALL SALVAGED & CONVERTED STEEL STREET LIGHTING STANDARDS SHALL BE PAINTED.
37. ALL ST. LTG. UNITS INSTALLED ON THIS CONTRACT AND EXIST. STREET LIGHTING UNITS CONVERTED OR RE-CONNECTED TO OTHER CIRCUITS SHALL BE STENCILLED OR RE-STENCILLED AS SHOWN NO PLANS. (INCLUDED WITH STREET LIGHTING UNITS)
38. STENCILLING SHALL BE ON THE CURB SIDE OF THE POLE, LOCATED BETWEEN 1.219m(4') AND 1.524m (5') ABOVE GRADE. ALL LETTERS AND NUMBERS SHALL BE 50.8mm(2") IN HEIGHT. THE STENCILLING SHALL BE DONE WITH A WEATHER-RESISTANT ENAMEL: BLACK ENAMEL ON GRAY COLORED OR ALUMINUM POLES, AND YELLOW OR WHITE ENAMEL ON BLACK OR BRONZE COLORED POLES.
39. WHERE UNDERGROUND UTILITIES INTERFERE WITH THE INSTALLATION OF A NEW FOUNDATION, INSTALL THE SPECIAL FOUNDATION OF PARTICULAR DIMENSIONS AS INDICATED ON THE DETAIL DRWG. TO SUIT THE FIELD CONDITION. THERE WILL BE NO EXTRA PAYMENT FOR THE SPECIAL FOUNDATION. IT WILL BE PAID FOR AS A NORMAL FOUNDATION.
40. ALL NEW CONDUIT RUNS SHALL BE BUILT STRAIGHT AS POSSIBLE. BENDS SHALL HAVE NO LESS THAN 7.925m(26') RADIUS AND NO REVERSE OR "S" BENDS.
41. WHERE TRIMMING OF TREES ON CITY PROPERTY IS CALLED FOR ON PLANS THE CONTRACTOR SHALL OBTAIN A PERMIT FROM THE RECREATION DEPT. OF THE CITY OF DETROIT AND SHALL HAVE SUCH WORK DONE BY A LICENSED TREE SERVICE CONTRACTOR. CALL (313) (224-1111).
42. ALL TREE TRIMMING REQUIRED TO CLEAR NEW OR SALVAGED STREET LIGHTING & TRAFFIC SIGNAL STD.'S AND O.H. ST. LTG. & TRAFFIC SIGNAL UNITS & O.H. WIRES SHALL BE INCLUDED WITH THE PAY -ITEM & NO EXTRA PAYMENT SHALL BE MADE.
43. WHERE IT IS SHOWN ON PLANS TO HAND DIG FOUNDATION, EXCAVATE BY HAND TOOLS ENTIRE DEPTH OF FOUNDATION. NO MECHANICAL EQUIPMENT SHALL BE USED.
44. CONTRACTOR SHALL NOTIFY THE P.L.D. SYSTEM OPERATOR AT (313) (961-1364) & THE TRAFFIC ENGINEERING DIVISION OF D.P.W. AT (313) 628-5603 AFTER COMPLETION OF WORK AT ANY TRAFFIC SIGNAL INTERSECTION.
45. ALL CABLES SHALL BE TRAINED & PROPERLY RACKED IN ALL EXISTING MANHOLES & HANDHOLE. RACKS ARE TO BE INSTALLED WHERE NECESSARY & ARE INCLUDED IN THE INSTALLATION OF UNDERGROUND CABLE.
46. ALL CONDUITS STUBED OUT OF STRUCTURES SUCH AS MANHOLES, HANDHOLES OR FOUNDATION SHALL EXTEND 0.914m(3') BEYOND PAVEMENT LIMIT (EXCEPT AS OTHERWISE INDICATED). ALL UNOCCUPIED CONDUITS SHALL BE PLUGGED WITH PLASTIC TAPERED PLUGS SIZED TO MATCH THE CONDUIT (CARLAN P258T OR EQUAL).
47. ALL NEW UNDERGROUND-FED STREET LIGHTING UNITS SHALL BE INSTALLED WITH CENTER 0.915m (3.0') BACK OF FACE OF CURB UNLESS OTHERWISE INDICATED ON PLANS. VERIFY WITH P.L.D.
48. D.S.R. STREETCAR RAILS AND FOUNDATIONS (TRACKS) ARE SHOWN ON THE PLANS IN ACCORDANCE WITH THE BEST AVAILABLE INFORMATION. EXACT LOCATIONS WITHIN THE STREETS & INTERSECTIONS ARE NOT KNOWN. SOME RAILS MAY ALREADY BE REMOVED.
49. THE "FINAL" CONDUIT MUST BE TRIMMED FLUSH WITH MANHOLE WALL AND HAVE END BELLS, SPACERS AND BE TUCK POINTED. DO NOT ENCASE FINAL CONDUIT WITHOUT INSPECTION BY THE P.L.D. UNDERGROUND INSPECTION DEPARTMENT.
50. INSTALL 5mm(3/16") DIAMETER YELLOW POLYPROPYLENE ROPE IN ALL "FINAL" CONDUIT. (INCLUDE IN PAY ITEM FOR "CONDUIT")
51. METRIC MEASUREMENTS: M-METERS, mm-MILLIMETERS AND MPa-MEGAPASCALS.
52. CONDUIT TRENCHES SHALL BE EXCAVATED FROM MANHOLE TO MANHOLE TO ASSURE A CLEAR PASSAGE WITH PROPER GRADING PRIOR TO BUILDING ENCASED CONDUIT RUN.

ITEM	
LIST OF MATERIAL	QUANTITIES
CONDUIT REPAIR-UNDER SIDEWALK OR DIRT	------ EA.
CONDUIT REPAIR-UNDER PAVEMENT	------ EA.
REMOVING STREETCAR RAIL AND FOUNDATION	------ M

THE ITEMS AND QUANTITIES LISTED ABOVE SHALL APPLY TO ALL LOCATIONS AS DIRECTED BY THE ENGINEER.

HAND DIG ENTIRE DEPTH OF ALL STEEL STRAIN POLE & MAST ARM STANDARD FOUNDATIONS.

ALL REMOVED TRAFFIC SIGNAL AND STREET LIGHTING EQUIPMENT SHALL BE SALVAGED IN REUSABLE CONDITION AND SHALL BECOME PROPERTY OF PLD. ALL REMOVED MATERIAL WILL BE STORED ON SITE FOR PICK-UP BY PLD. ALL MATERIAL LEFT FOR THE CONTRACTOR WILL BECOME THE RESPONSIBILITY OF THE CONTRACTOR FOR DISPOSAL AWAY FROM THE SITE.



AREA MAP
N.T.S.

WARNING! ALL UTILITY LOCATIONS ARE APPROXIMATE AND NOT EXACT. 3 WORKING DAYS | BEFORE YOU DIG CALL MISS DIG 1-800-482-7171 (TOLL FREE) HAND DIG ENTIRE DEPTH OF ALL FOUNDATION!

REVISIONS	Date	Description	Chkd. by

IMPROVEMENT OF STREET LIGHTING
EAST GRAND BOULEVARD BRIDGE
GENERAL PLAN

Designed by C.E.A.
Drawn by ---
Checked by ---

Consulting Engineering Associates, Inc.
16580 WYOMING AVE. DETROIT MICHIGAN 48221
TELEPHONE: (313) 341-5797 FAX: 341-0205

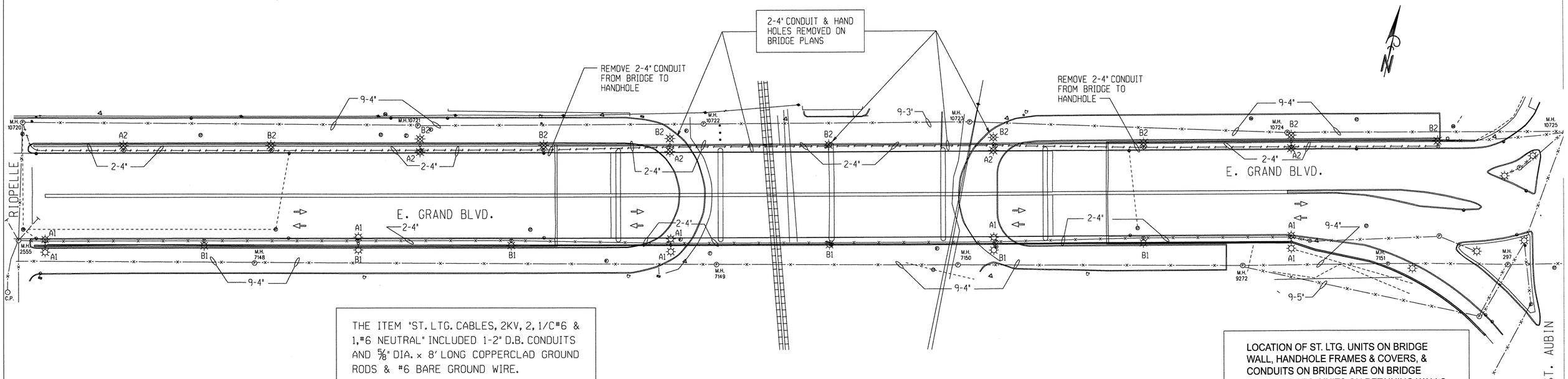
Disk File Name RR-GN
Job File No. CEA 138200

Scale
Checked by
Approved by

PUBLIC LIGHTING DEPARTMENT
CITY OF DETROIT

File No. 51-0686
Sheet No. 40 of 60
Date 3-03-08

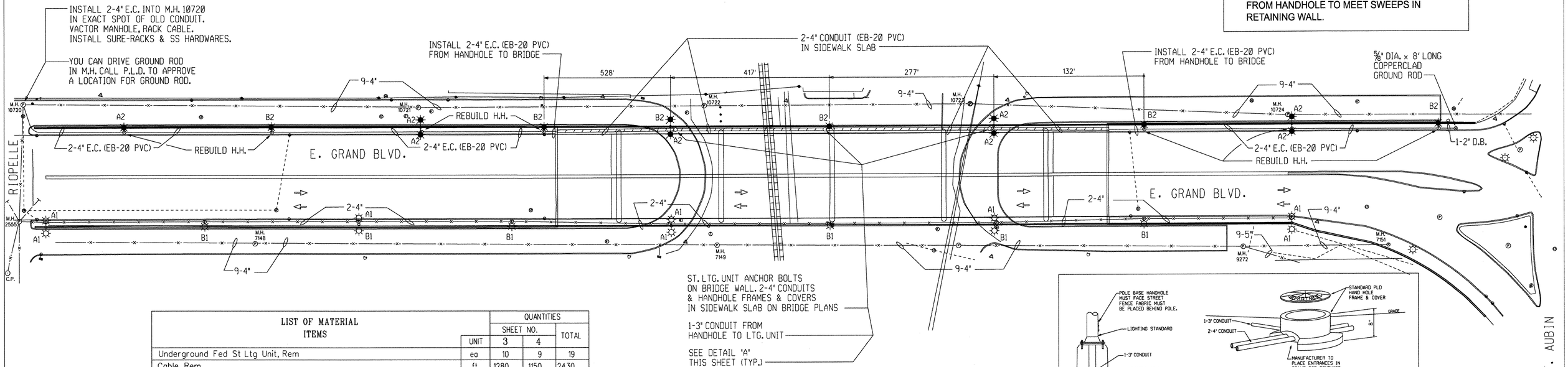
DATE PLOTTED:$DATE$ TIME:$TIME$
Computer File:Pen Table File



THE ITEM "ST. LTG. CABLES, 2KV, 2, 1/C#6 & 1,#6 NEUTRAL" INCLUDED 1-2" D.B. CONDUITS AND 5/8" DIA. x 8' LONG COPPERCLAD GROUND RODS & #6 BARE GROUND WIRE.

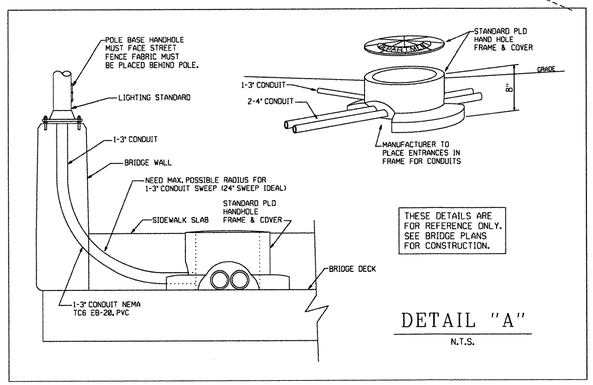
LOCATION OF ST. LTG. UNITS ON BRIDGE WALL, HANDHOLE FRAMES & COVERS, & CONDUITS ON BRIDGE ARE ON BRIDGE PLANS. ST. LTG. UNITS ON RETAINING WALLS ARE ON RETAINING WALL PLANS. REBUILD ALL EXISTING HANDHOLES. EXTEND 1-3" E.C. FROM HANDHOLE TO MEET SWEEPS IN RETAINING WALL.

STAGE I REMOVAL



STAGE I INSTALLATION

LIST OF MATERIAL ITEMS	UNIT	QUANTITIES SHEET NO. 3	SHEET NO. 4	TOTAL
Underground Fed St Ltg Unit, Rem	ea	10	9	19
Cable, Rem	ft	1280	1150	2430
Conduit, Rem	ft	820	700	1520
Hh, Rebuild	ea	7	6	13
Luminaire, 250W, 240V. Sodium Vapor	ea	14	14	28
Code 009-00 Anchor Base St. Ltg. Standard	ea	10	9	19
Bracket Arm, Clamp-on, 6 Foot, 3 Foot Rise	ea	14	14	28
Conduit, Encased, 1,3"	ft	50	50	100
Conduit, Encased, 2,4"	ft	820	700	1520
St Ltg Cable, 2Kv, 1, 1/c*6 & 1, *6 Neutral	ft	140	140	280
St Ltg Cable, 2Kv, 2, 1/c*6 & 1, *6 Neutral	ft	1150	1000	2250



THESE DETAILS ARE FOR REFERENCE ONLY. SEE BRIDGE PLANS FOR CONSTRUCTION.

DETAIL "A"
N.T.S.

PLAN
SCALE: 1"=40'

FEET 0 20 40 60 80 100
METERS 0 10 20 30

WARNING: ALL UTILITY LOCATIONS ARE APPROXIMATE AND NOT EXACT. 3 WORKING DAYS BEFORE YOU DIG CALL MISS DIG 1-800-482-7171 (TOLL FREE) HAND DIG ENTIRE DEPTH OF ALL FOUNDATION!

REVISIONS	Date	Description	Chkd. by

IMPROVEMENT OF STREET LIGHTING
EAST GRAND BOULEVARD BRIDGE
GENERAL PLAN

Designed by C.E.A.	Consulting Engineering Associates, Inc. 16580 WYOMING AVE. DETROIT MICHIGAN 48221 TELEPHONE: (313) 341-5797 FAX: 341-0205	Scale 40	PUBLIC LIGHTING DEPARTMENT CITY OF DETROIT	File No. 51-0686
Drawn by ---		Checked by		Sheet No. 41 of 60
Checked by ---	Disk File Name RR-3 / Job File No. CEA 138200	Approved by		Date 3-03-08

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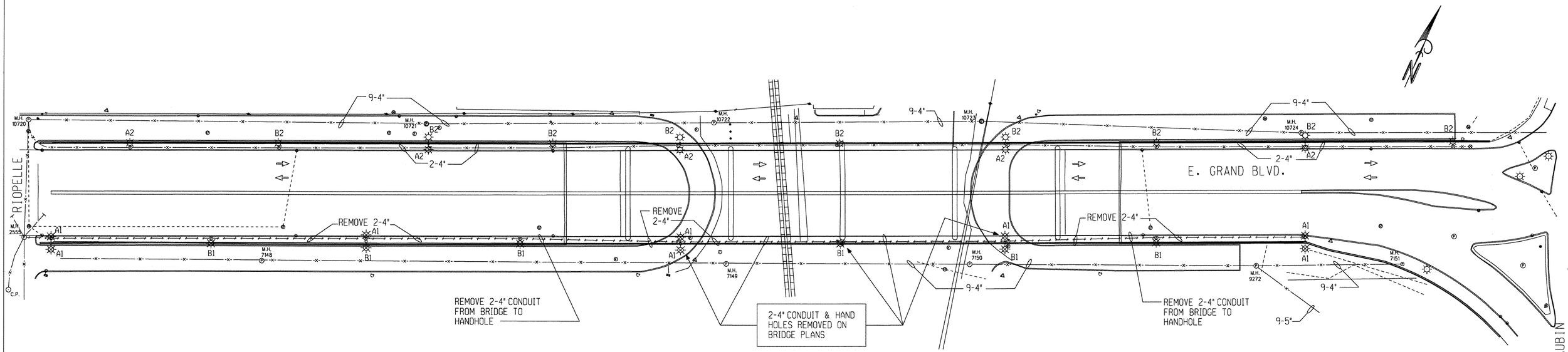
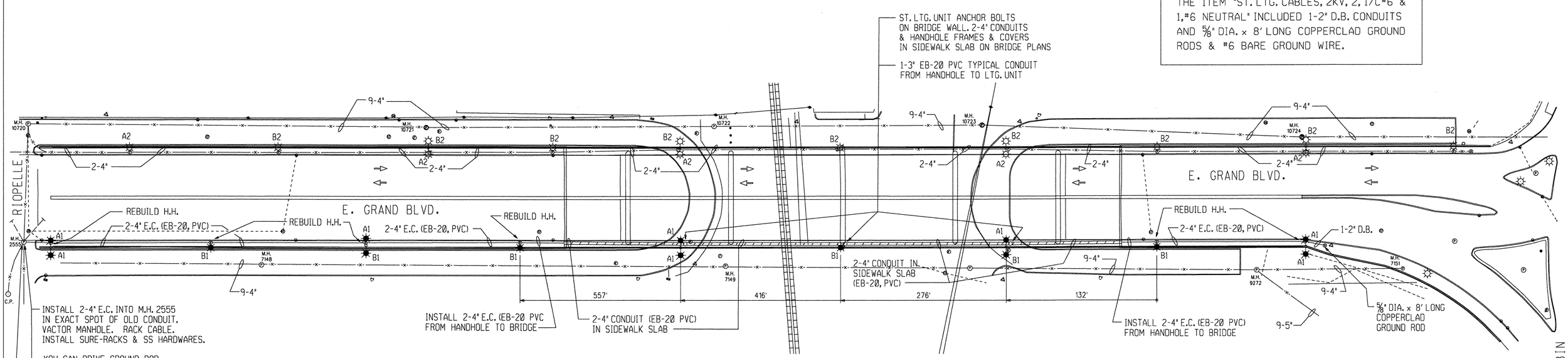


STAGE II REMOVAL

THE ITEM "ST. LTG. CABLES, 2KV, 2, 1/C#6 & 1,#6 NEUTRAL" INCLUDED 1-2" D.B. CONDUITS AND 5/8" DIA. x 8' LONG COPPERCLAD GROUND RODS & #6 BARE GROUND WIRE.



STAGE II INSTALLATION

LOCATION OF ST. LTG. UNITS ON BRIDGE WALL, HANDHOLE FRAMES & COVERS, & CONDUITS ON BRIDGE ARE ON BRIDGE PLANS. ST. LTG. UNITS ON RETAINING WALLS ARE ON RETAINING WALL PLANS. REBUILD ALL EXISTING HANDHOLES. EXTEND 1-3" E.C. FROM HANDHOLE TO MEET SWEEPS IN RETAINING WALL.

PLAN

SCALE: 1"=40'

FEET
0 20 40 60 80 100
0 10 20 30
METERS

WARNING! ALL UTILITY LOCATIONS ARE APPROXIMATE AND NOT EXACT. 3 WORKING DAYS | BEFORE YOU DIG CALL MISS DIG 1-800-482-7171 (TOLL FREE) AND DIG ENTIRE DEPTH OF ALL FOUNDATION!

REVISIONS	Date	Description	Chkd. by

IMPROVEMENT OF STREET LIGHTING
EAST GRAND BOULEVARD BRIDGE
GENERAL PLAN

Designed by C.E.A.	Consulting Engineering Associates, Inc. 16580 WYOMING AVE. DETROIT MICHIGAN 48221 TELEPHONE: (313) 341-5797 FAX: 341-0205	Scale 40	PUBLIC LIGHTING DEPARTMENT CITY OF DETROIT
Drawn by ---		Checked by	File No. 51-0686
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			Date 3-03-08

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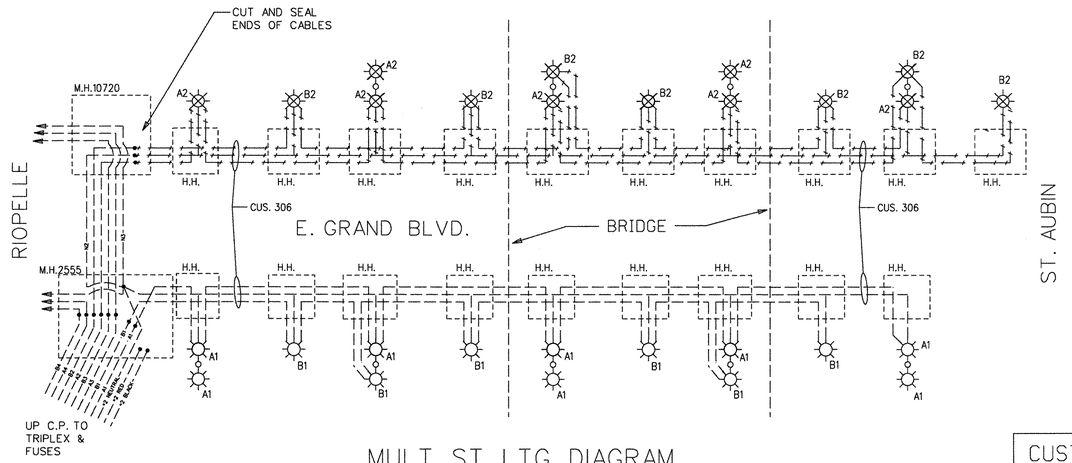
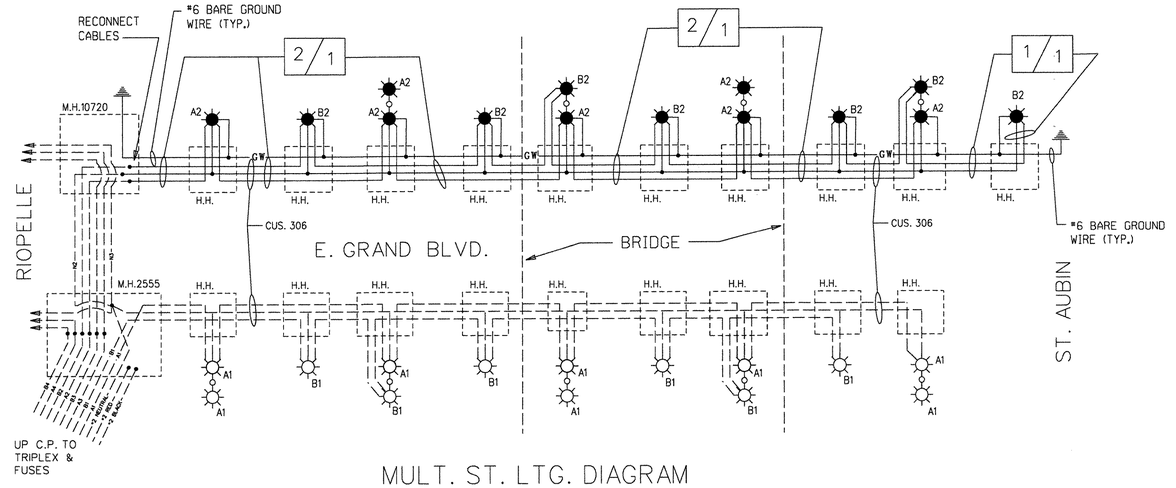


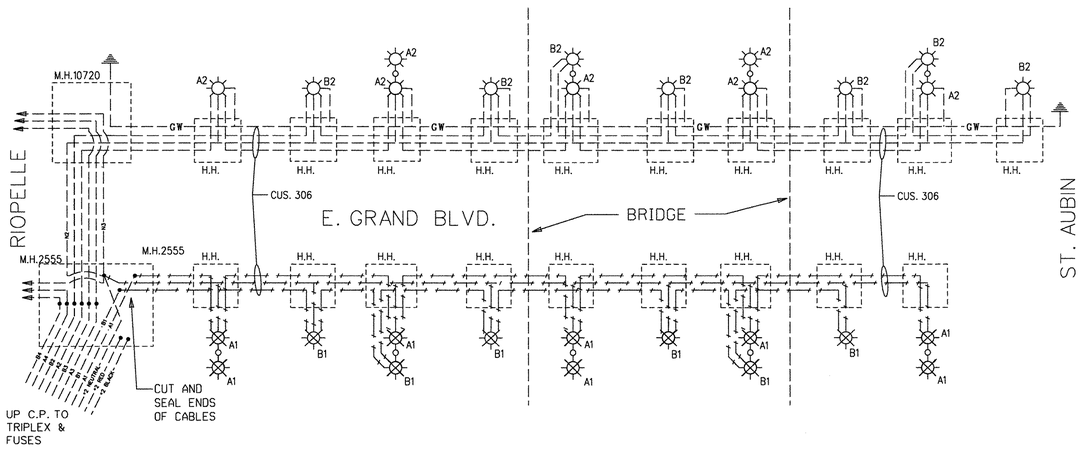
MULT. ST. LTG. DIAGRAM
STAGE I REMOVAL
240/480V.

CUSTER 306
240/480V.

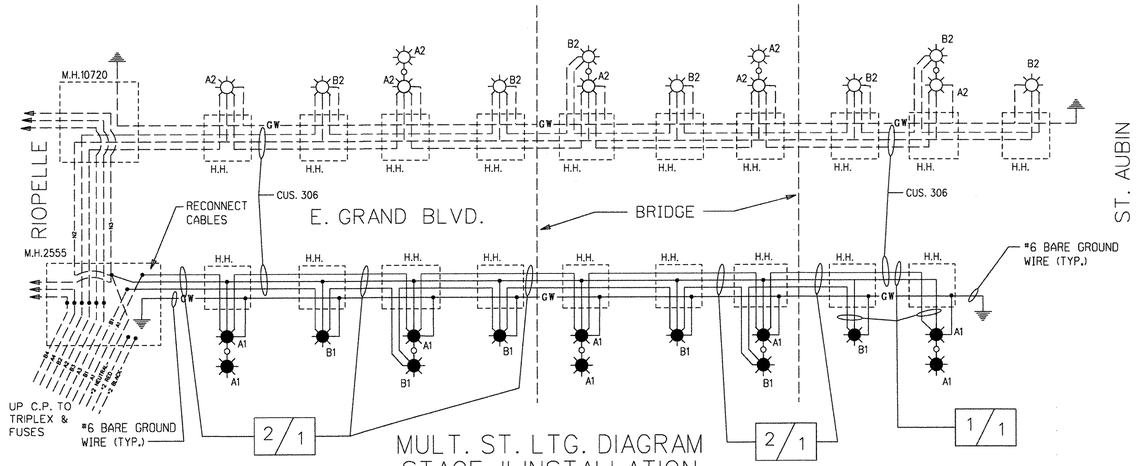


MULT. ST. LTG. DIAGRAM
STAGE I INSTALLATION
240/480V.

THE ITEM "ST. LTG. CABLES, 2KV, 6, 1/C #6 & 1, #6 NEUTRAL" INCLUDED 1-2" D.B. CONDUITS AND 5/8" DIA. x 8' LONG COPPERCLAD GROUND RODS & #6 BARE GROUND WIRE.



MULT. ST. LTG. DIAGRAM
STAGE II REMOVAL
240/480V.



MULT. ST. LTG. DIAGRAM
STAGE II INSTALLATION
240/480V.

REVISIONS	Date	Description	Chkd. by

IMPROVEMENT OF STREET LIGHTING
EAST GRAND BOULEVARD BRIDGE
WIRING DIAGRAMS

Designed by C.E.A.	Consulting Engineering Associates, Inc. 16580 WYOMING AVE. DETROIT MICHIGAN 48221 TELEPHONE: (313) 341-5797 FAX: 341-0205	Scale	PUBLIC LIGHTING DEPARTMENT CITY OF DETROIT
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	Job File No. CEA 138200		Date 3-03-08

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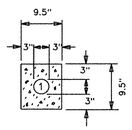
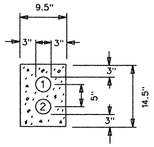
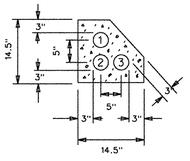


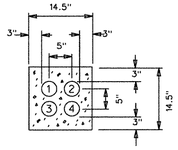
1 - 3" CONDUIT



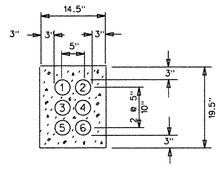
2 - 3" CONDUITS



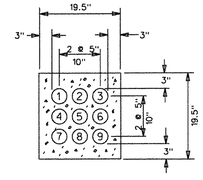
3 - 3" CONDUITS



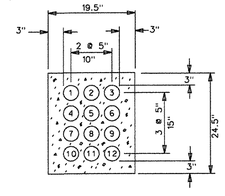
4 - 3" CONDUITS



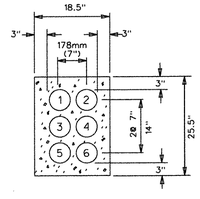
6 - 3" CONDUITS



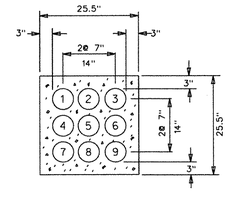
9 - 3" CONDUITS



12 - 3" CONDUITS



6 - 5" CONDUITS



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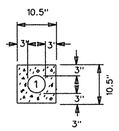

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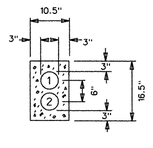
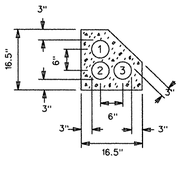
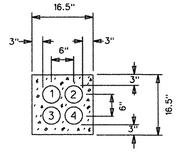


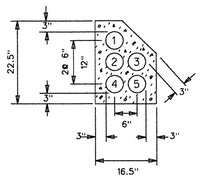
2 - 4" CONDUITS



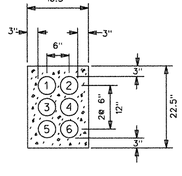
3 - 4" CONDUITS



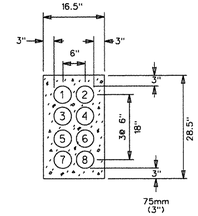
4 - 4" CONDUITS



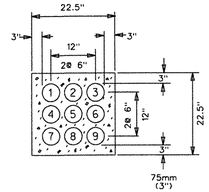
5 - 4" CONDUITS



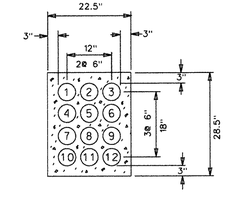
6 - 4" CONDUITS



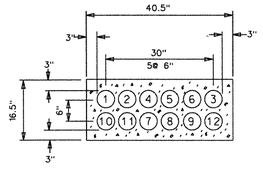
8 - 4" CONDUITS



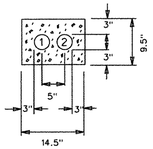
9 - 4" CONDUITS



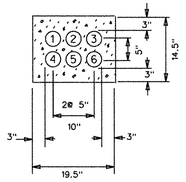
12 - 4" CONDUITS



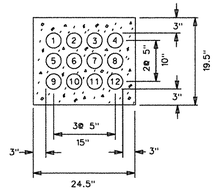
12 - 4" CONDUITS IN BRIDGE APPROACH



2-3" CONDUITS



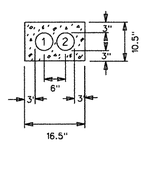
6-3" CONDUITS



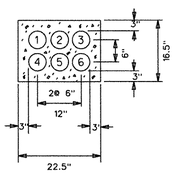
12-3" CONDUITS

ALTERNATE ARRANGEMENT OF 3" CONDUIT

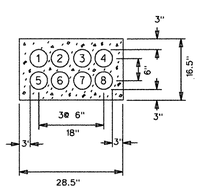
(TO SUIT FIELD CONDITIONS)
(TO BE APPROVED BY THE ENGINEER)



2-4" CONDUITS



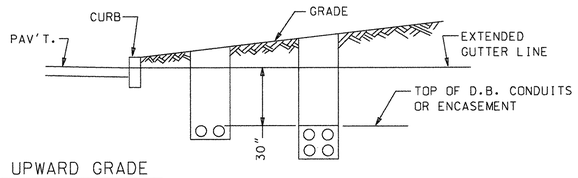
6-4" CONDUITS



8-4" CONDUITS

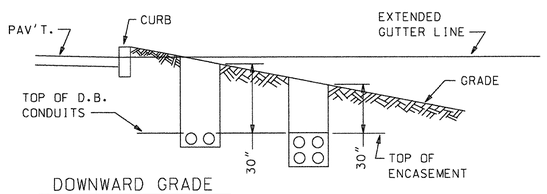
ALTERNATE ARRANGEMENT OF 100mm (4") CONDUIT

(TO SUIT FIELD CONDITIONS)
(TO BE APPROVED BY THE ENGINEER)



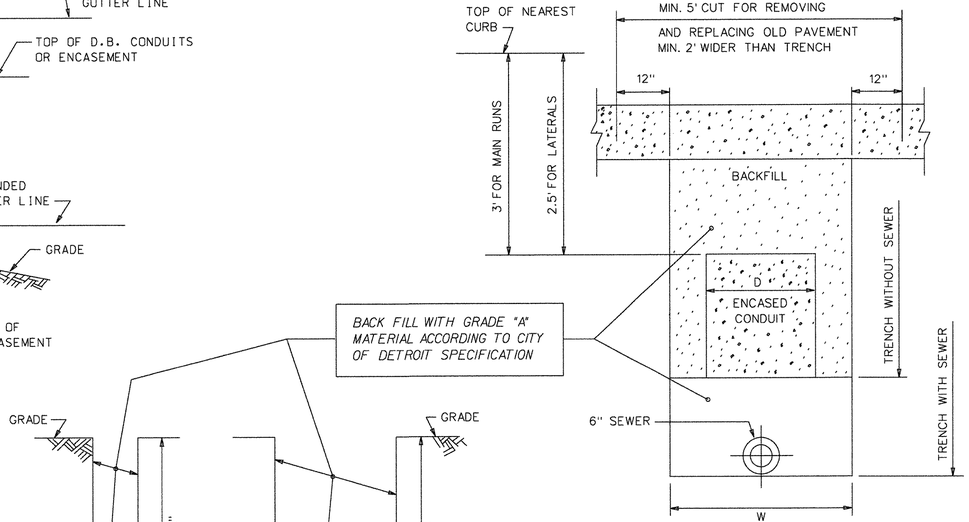
UPWARD GRADE

N.T.S.

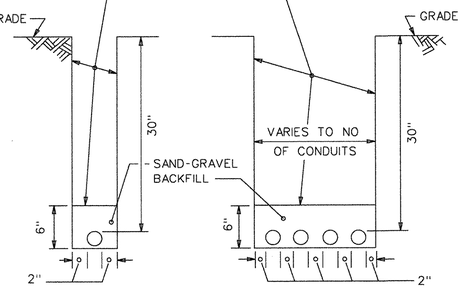


DOWNWARD GRADE

N.T.S.



ENCASED CONDUIT(S)



DIRECT BURIAL CONDUIT(S)

NOTE:

THE PREFERRED TRENCH WIDTH "W" IS THE WIDTH OF "D" OF CONDUIT ENCASEMENT.

SCALE: AS SHOWN

REVISIONS

Date	Description	Chkd. by

DETAILS

EAST GRAND BOULEVARD BRIDGE

MISCELLANEOUS CONDUIT SECTIONS

DEPARTMENT OF PUBLIC WORKS — CITY OF DETROIT TRAFFIC ENGINEERING DIVISION

Checked by	Approved by	
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PUBLIC LIGHTING DEPARTMENT
CITY OF DETROIT

Checked by	Approved by	File No.
------	------	51-0686

Consulting Engineering Associates, Inc.
16580 WYOMING AVE. DETROIT MICHIGAN 48221
TELEPHONE: (313) 341-5797 FAX: 341-0205

Designed by	Checked by	Sheet No.
C.E.A.		44 of 60

Disk File Name	Job File No.
101PLDE	CEA 138200

Date	Dwg. No.
3-03-08	DTL-5.—

101E

DATE PLOTTED: 3/20/2008
TIME: 2:40:46 PM
REVISION DATE: APRIL 1, 2001
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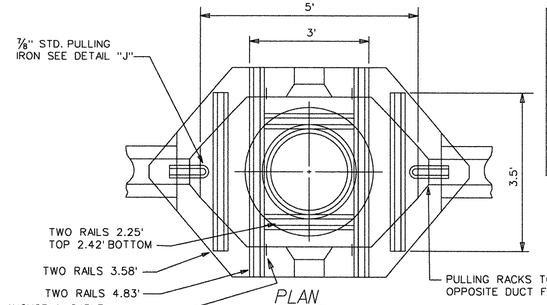


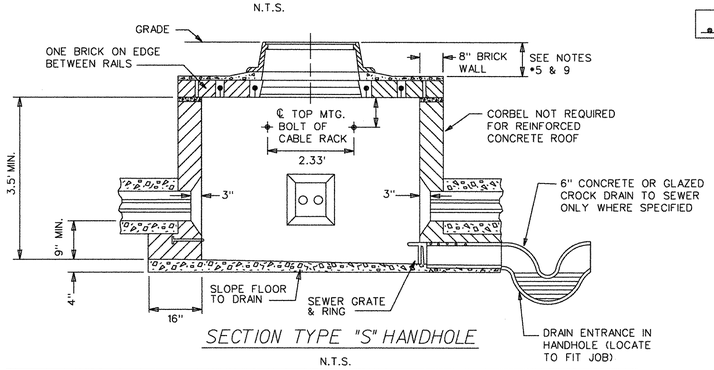
PLAN

TYPE "S" HANDHOLE

N.T.S.

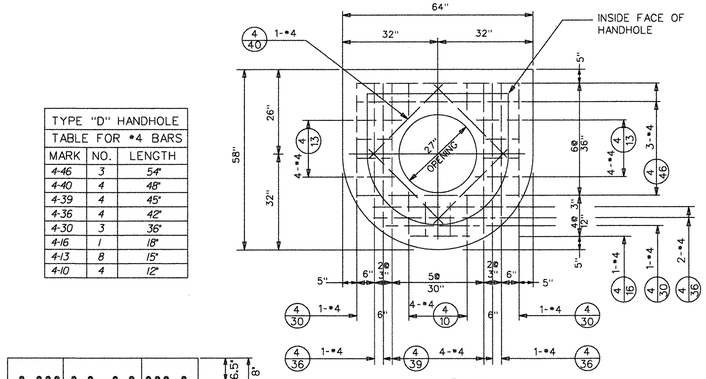
TYPE "S" HANDHOLE TABLE FOR #5 BARS		
MARK	NO.	LENGTH
S-50	2	5'
S-46	8	4.5'
S-36	4	3.5'
S-30	6	2'
S-19	10	21"
S-10	8	12"

TYPE "D" HANDHOLE TABLE FOR #4 BARS		
MARK	NO.	LENGTH
4-46	3	54"
4-40	4	48"
4-39	4	45"
4-36	4	42"
4-30	3	36"
4-16	1	18"
4-13	8	15"
4-10	4	12"



SECTION TYPE "S" HANDHOLE

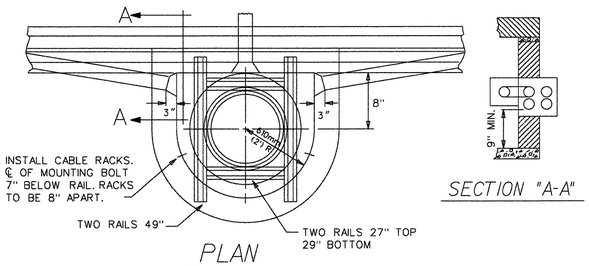
N.T.S.



PLAN

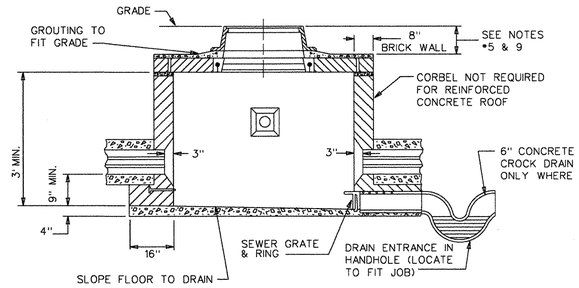
ALTERNATE ROOF-TYPE "D" HANDHOLE

N.T.S.



PLAN

SECTION "A-A"

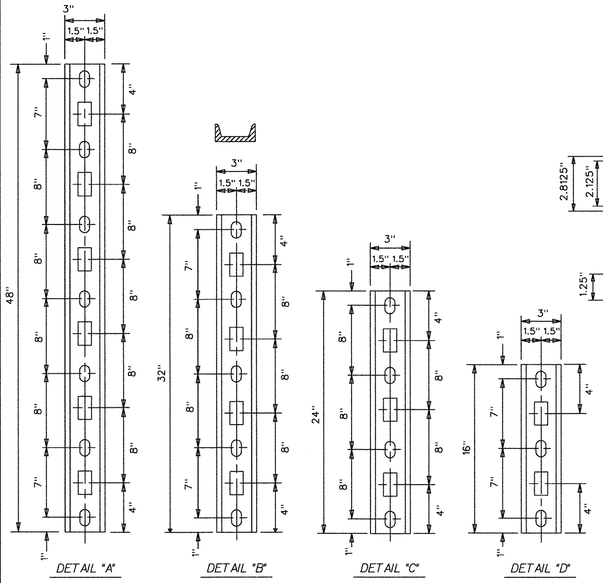


SECTION TYPE "D" HANDHOLE

N.T.S.

NOTE:

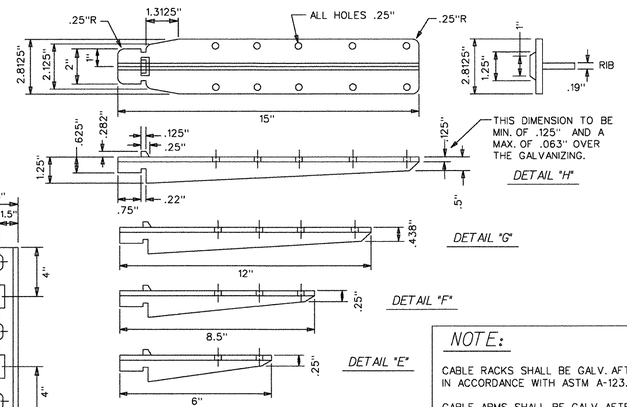
1. DUCT ENTRANCE TO BE BUILT AS REQUIRED.
2. ALL RAILS TO BE 60#/YD. OR HEAVIER.
3. CABLE PULLING IRONS TO BE GALVANIZED
4. CABLE RACKS AND ARMS TO BE GALVANIZED.
5. IN PAVEMENT PROVIDE AT LEAST 3" BETWEEN ROOF AND BASE OF PAVEMENT. WHERE EXISTING GRADE IS HIGHER THAN PROP. FUTURE GRADE INSTALL BRICK RING OR GROUT (AS REQ'D.) UNDER FRAME TO ALLOW FOR FUTURE FRAME ADJUSTMENT.
6. BAR NUMBERS DENOTE THE SIZE OF BAR REQUIRED IN ACCORDANCE WITH CURRENT USAGE SPECIFIED BY THE CONCRETE REINFORCING STEEL INSTITUTE.
7. EXCAVATION LIMITS FOR PUBLIC LIGHTING DEPARTMENT HANDHOLES SHALL BE ON VERTICAL PLANES OF THE FOOTING OUTLINE.
8. INSTALL ANCHORS & CABLE-RACKS AS SHOWN.
9. WHERE HANDHOLES ARE LOCATED BACK OF CURBS ROOF MUST BE BUILT 18" BELOW CURB GRADE, TO PROVIDE FOR FUTURE WIDENING.



CABLE RACKS

75mm(3") STD. 4.1# CHANNEL

N.T.S.



CABLE RACKS

MALLEABLE CAST IRON

N.T.S.

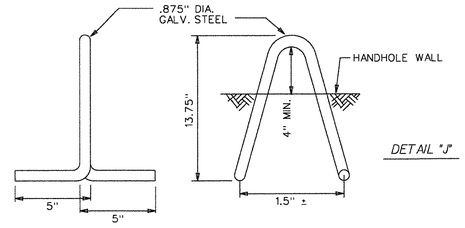
NOTE:

CABLE RACKS SHALL BE GALV. AFTER FAB. IN ACCORDANCE WITH ASTM A-123.

CABLE ARMS SHALL BE GALV. AFTER FAB. IN ACCORDANCE WITH ASTM A-153 53.

ARMS MUST FIT ON INSIDE & OUTSIDE OF RACKS & MUST ALLOW INSULATOR TO FIT LOOSELY.

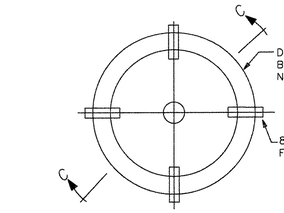
USE 0.5" GALV. SUPPORTING BOLTS AND EXPANSION ANCHORS.



DETAIL "J"

PULLING IRON

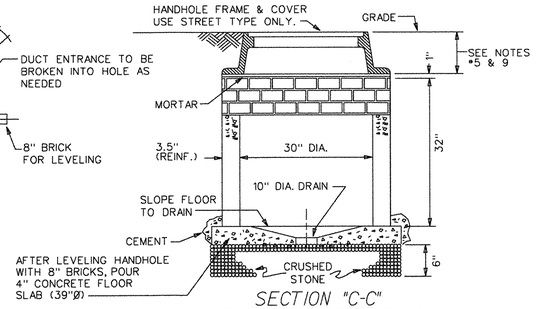
N.T.S.



PLAN

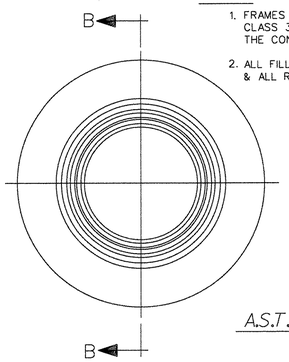
NOTE:

BELL ENDS ARE REQUIRED ON EACH CONDUIT BROKEN OUT IN HANDHOLE. TYPE AND SIZE SHALL BE IDENTICAL TO CONDUIT TYPE AND SIZE.



SECTION "C-C"

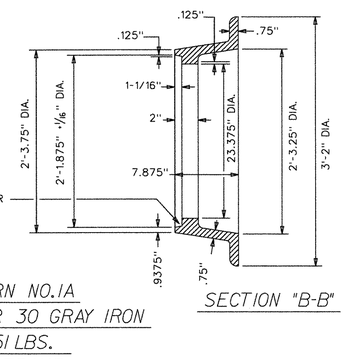
REINFORCED CONCRETE PIPE (CLASS III) ROUND HANDHOLE



NOTE:

1. FRAMES MAY BE A.S.T.M. CLASS 30 GRAY IRON IF THE CONTRACTOR SO ELECTS.
2. ALL FILLETS ARE .5" RADIUS & ALL ROUNDS ARE .25" RADIUS

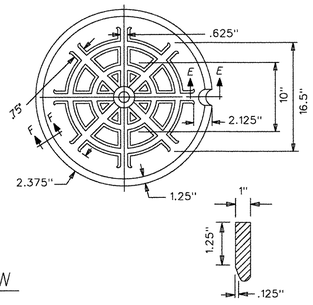
THIS SURFACE TO BE MACHINED FLAT TO PROVIDE CONTINUOUS 360° SEAT FOR COVER



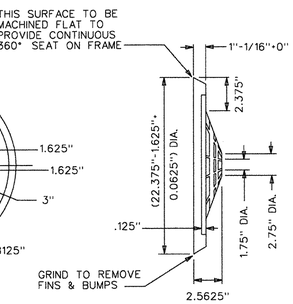
SECTION "B-B"

P.L.D. PATTERN NO. 1A A.S.T.M. CLASS 20 OR 30 GRAY IRON APPROX. 251 LBS. HANDHOLE FRAME

SECTION "E-E"

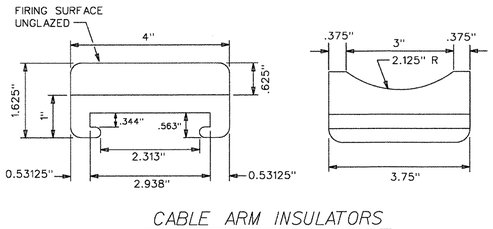


SECTION "D-D"



P.L.D. PATTERN NO. 2A A.S.T.M. CLASS 30 GRAY IRON APPROX. WT. 145 LBS. STREET TYPE COVER TO BE USED IN STREETS & DRIVES

SECTION "F-F"



CABLE ARM INSULATORS

WHITE GLAZED PORCELAIN DRY PROCESS

N.T.S.

SCALE: AS SHOWN

REVISIONS

Date	Description	Chkd. by

DETAILS

EAST GRAND BOULEVARD BRIDGE

HANDHOLE

DEPARTMENT OF CITY OF DETROIT TRAFFIC ENGINEERING DIVISION PUBLIC WORKS

Checked by	Approved by	
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PUBLIC LIGHTING DEPARTMENT CITY OF DETROIT

Checked by	Approved by	File No.
------	-------	51-0686

Consulting Engineering Associates, Inc.
16580 WYOMING AVE. DETROIT MICHIGAN 48221
TELEPHONE: (313) 341-5797 FAX: 341-0305

Designed by	Checked by	Sheet No.
C.E.A.		45 of ~~60~~

Disk File Name	Job File No.
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Date	Dwg. No.
3-03-08	DTL-

103

TIME: 2:41:21 PM
DATE PLOTTED: 3/20/2008
REVISION DATE: APRIL 1, 2001
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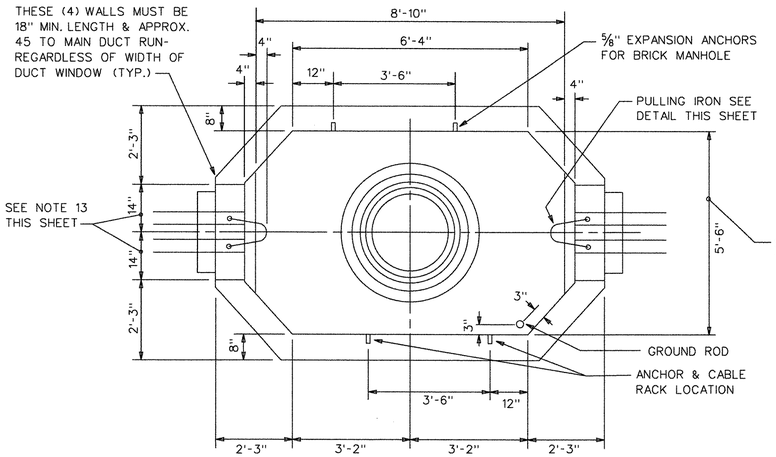
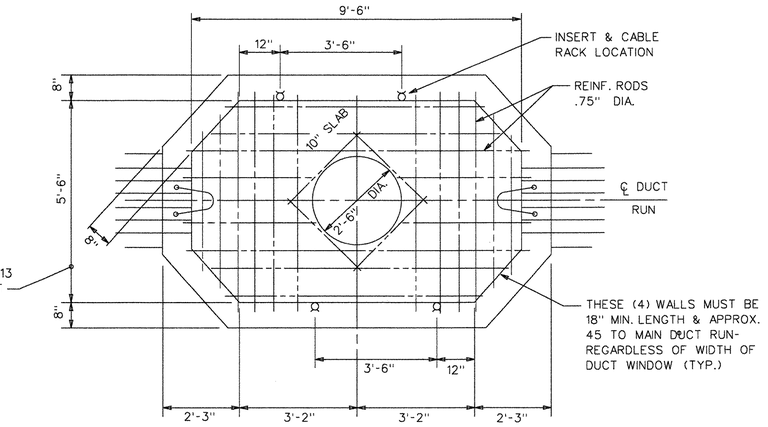
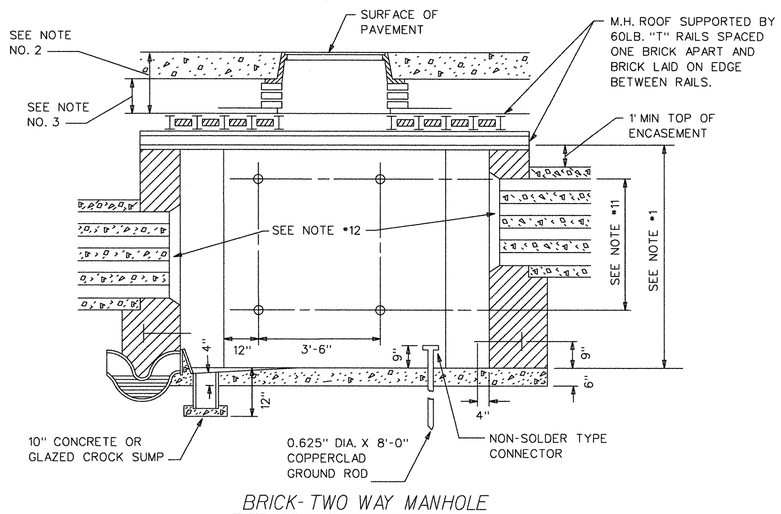




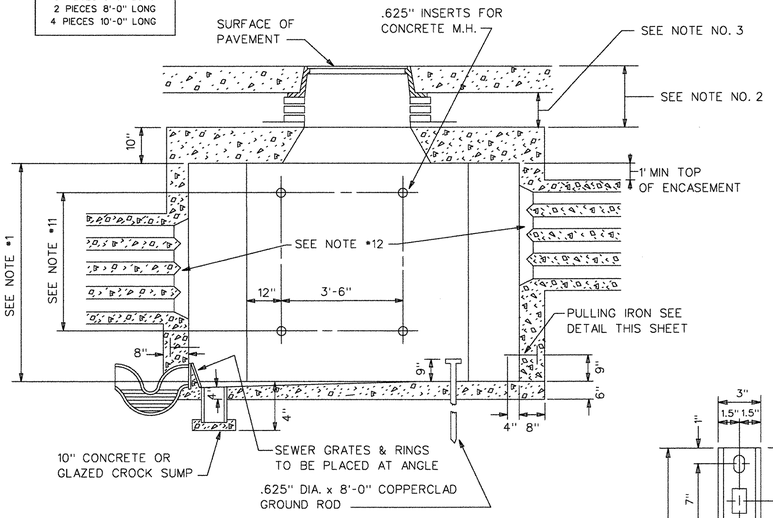
10 PIECES 3'-6" LONG
2 PIECES 5'-0" LONG
8 PIECES 6'-6" LONG
2 PIECES 8'-0" LONG
4 PIECES 10'-0" LONG

NOTE:

1. THIS DIMENSION NORMALLY 6'6" SEE SPECIFICATIONS FOR UNUSUAL CONDITIONS.
2. WHERE M.H.'S ARE LOCATED BACK OF CURBS, TOP OF M.H. ROOF MUST BE BUILT 26" BELOW CURB GRADE TO PROVIDE FOR FUTURE PAVEMENT.
3. IN EXISTING PAVEMENT, PROVIDE AT LEAST 8" BETWEEN TOP OF ROOF AND BASE OF PAVEMENT
4. BOLTS, RACKS & PULLING IRONS TO BE HOT-DIP GALV.
5. ℄ OF RAILS & UNDER M.H. FRAME FLANGE TO BE APPROX. 18" ROM C'S OF FRAMES.
6. M.H. NUMBER TO BE INSTALLED ON MANHOLE WALL IN CONSPICUOUS PLACE.
7. MOUNTING HEIGHT FOR LOWER BOLTS OF CABLE RACK SHALL BE THE AVERAGE HEIGHT OF THE BOTTOM OF THE LOWEST DUCTS IN MAIN CONDUITS. INSTALL MIN. (2) 48" LONG RACKS ON WALLS.
8. 8" THICK CHIMNEYS WHERE SPECIFIED SHALL BE INCIDENTAL TO APPLICABLE M.H. ITEM.
9. EXCAVATION LIMITS FOR PUBLIC LIGHTING DEPARTMENT MANHOLES SHALL BE ON VERTICAL PLANES ON THE FOOTING OUTLINE.
10. .5" PLASTER OUTSIDE WALLS OF BRICK MANHOLES.
11. SPACING OF INSERTS AS REQUIRED TO ACCOMMODATE CABLE RACK
12. BELL ENDS ARE REQUIRED ON EACH CONDUIT ENTERING MANHOLE. (TYPE AND SIZE SHALL BE IDENTICAL TO CONDUIT TYPE AND SIZE)
13. THIS IS A MINIMUM DIMENSION & IS EXPANDABLE TO ACCOMMODATE MAIN DUCT WINDOW.
14. FOUR HEAVY 48" CABLE RACKS, 8 -15" CABLE ARMS & 16-CABLE ARM INSULATORS REQUIRED PER MANHOLE, UNLESS SPECIFIED OTHERWISE.
15. CONTRACTOR IS TO INSTALL MANHOLE NO. TAG FURNISHED BY P.L.D. MANHOLE SHALL NOT BE CONSIDERED COMPLETE WITHOUT MANHOLE NO. TAG INSTALLED.

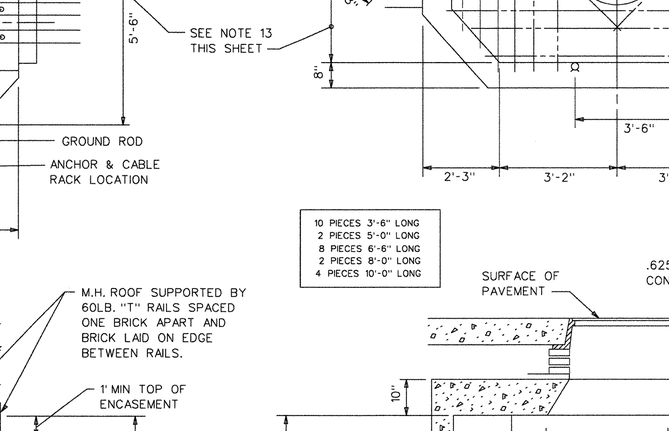


BRICK- TWO WAY MANHOLE
N.T.S.



CONCRETE-TWO WAY MANHOLE
N.T.S.
.75" DIA. REINFORCING STEEL RODS REQ'D. FOR 2-WAY M.H.

MANHOLE NUMBER DETAIL (LEAD)
N.T.S.



CABLE RACKS
MALLEABLE CAST IRON
N.T.S.

PULLING IRON
N.T.S.

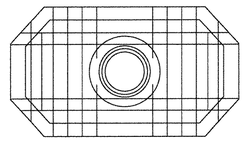
NOTE:

CABLE RACKS SHALL BE GALV. AFTER FAB. IN ACCORDANCE WITH ASTM A-123.

CABLE ARMS SHALL BE GALV. AFTER FAB. IN ACCORDANCE WITH ASTM A-153 53.

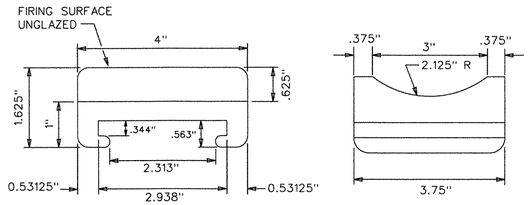
ARMS MUST FIT ON INSIDE & OUTSIDE OF RACKS & MUST ALLOW INSULATOR TO FIT LOOSELY.

USE 0.5" GALV. SUPPORTING BOLTS AND EXPANSION ANCHORS.

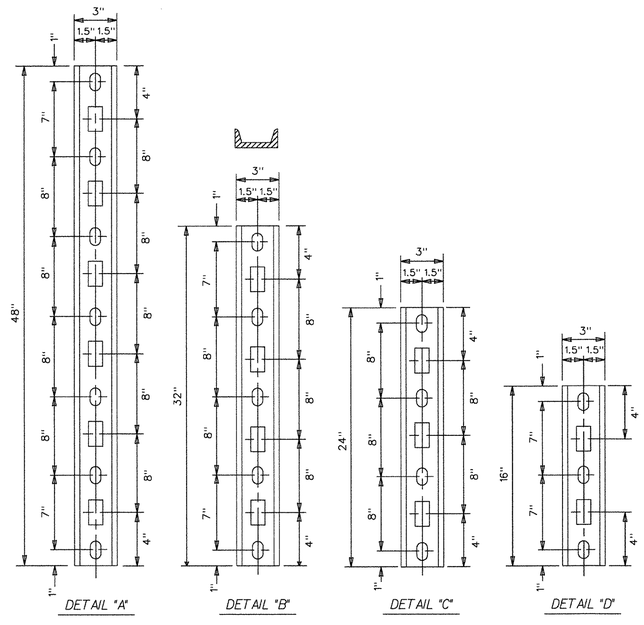


27kg (60 LBJ "T" RAILS

2 PIECES 4'-6" LONG
2 PIECES 6'-0" LONG
6 PIECES 6'-10" LONG
2 PIECES 9'-3" LONG
2 PIECES 10'-8" LONG
TOTAL WEIGHT 927Kg (2040 LB.)



CABLE ARM INSULATORS
WHITE GLAZED PORCELAIN DRY PROCESS
N.T.S.



CABLE RACKS
75mm(3") STD. 4.1# CHANNEL
N.T.S.

SCALE: AS SHOWN

REVISIONS

Date	Description	Chkd. by

DETAILS

EAST GRAND BOULEVARD BRIDGE

TWO-WAY MANHOLE

DEPARTMENT OF PUBLIC WORKS — CITY OF DETROIT TRAFFIC ENGINEERING DIVISION

Checked by	Approved by	
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PUBLIC LIGHTING DEPARTMENT
CITY OF DETROIT

Checked by	Approved by	File No.
------	------	51-0686

Consulting Engineering Associates, Inc.
16580 WYOMING AVE. DETROIT MICHIGAN 48221
TELEPHONE: (313) 341-5797 FAX: 341-0205

Designed by	Checked by	Sheet No.
C.E.A.		46 of 60

Disk File Name	Job File No.
104PLDM	CEA 138200

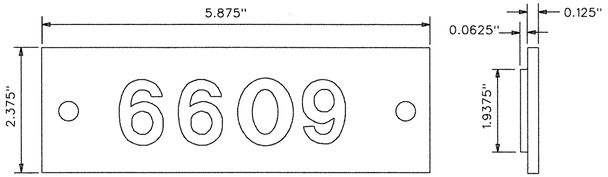
Date	Dwg. No.
3-03-08	DTL-2.—

104

TIME: 2:42:09 PM
DATE PLOTTED: 3/20/2008
REVISION DATE: APRIL 1, 2001
Computer File: T:\138200 E. Grand Blvd Bridge\DETAILS\104plde.dgn

NOTE:

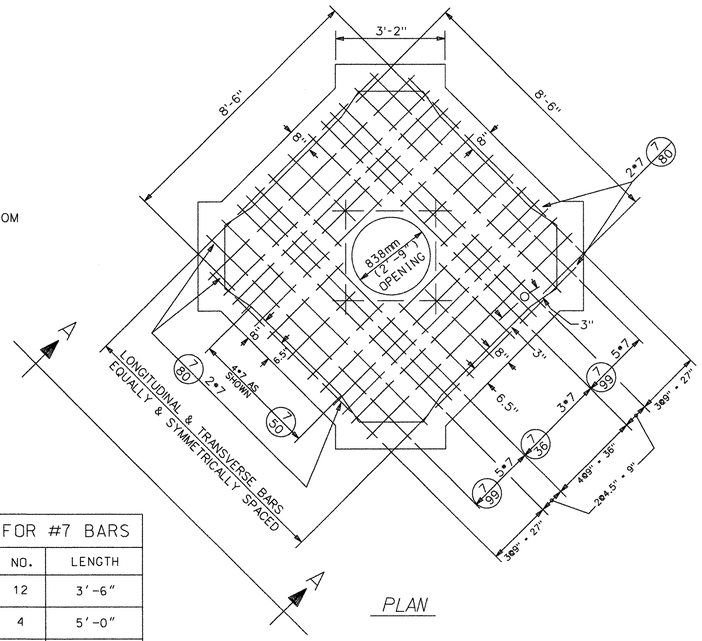
1. THIS DIMENSION NORMALLY 6.5' SEE SPECIFICATIONS FOR UNUSUAL CONDITIONS.
2. WHERE M.H.'S ARE LOCATED BACK OF CURBS, TOP OF M.H. ROOF MUST BE BUILT 26" BELOW CURB GRADE TO PROVIDE FOR FUTURE PAVEMENT.
3. IN EXISTING PAVEMENT, PROVIDE AT LEAST 8" BETWEEN TOP OF ROOF AND BASE OF PAVEMENT
4. BOLTS, RACKS & PULLING IRONS TO BE HOT-DIP GALV.
5. ℄ OF RAILS & UNDER M.H. FRAME FLANGE TO BE APPROX. 18" FROM C'S OF FRAMES.
6. M.H. NUMBER TO BE INSTALLED ON MANHOLE WALL IN CONSPICUOUS PLACE.
7. MOUNTING HEIGHT FOR LOWER BOLTS OF CABLE RACK SHALL BE THE AVERAGE HEIGHT OF THE BOTTOM OF THE LOWEST DUCTS IN MAIN CONDUITS. INSTALL MIN. (2) 8" LONG RACKS ON WALLS.
8. 8" THICK CHIMNEYS WHERE SPECIFIED SHALL BE INCIDENTAL TO APPLICABLE M.H. ITEM.
9. EXCAVATION LIMITS FOR PUBLIC LIGHTING DEPARTMENT MANHOLES SHALL BE ON VERTICAL PLANES ON THE FOOTING OUTLINE.
10. 0.5" PLASTER OUTSIDE WALLS OF BRICK MANHOLES.
11. SPACING OF INSERTS AS REQUIRED TO ACCOMMODATE CABLE RACK
12. BELL ENDS ARE REQUIRED ON EACH CONDUIT ENTERING MANHOLE. (TYPE AND SIZE SHALL BE IDENTICAL TO CONDUIT TYPE AND SIZE)
13. THIS IS A MINIMUM DIMENSION & IS EXPANDABLE TO ACCOMMODATE MAIN DUCT WINDOW.
14. EIGHT HEAVY 48" CABLE RACKS, (16) 15" CABLE ARMS & 32 CABLE ARMS INSULATORS REQUIRED PER MANHOLE, UNLESS SPECIFIED OTHERWISE.
15. CONTRACTOR IS TO INSTALL MANHOLE NO. TAG FURNISHED BY P.L.D. MANHOLE SHALL NOT BE CONSIDERED COMPLETE WITHOUT MANHOLE NO. TAG INSTALLED.



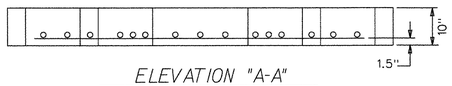
MANHOLE NUMBER DETAIL (LEAD)

N.T.S.

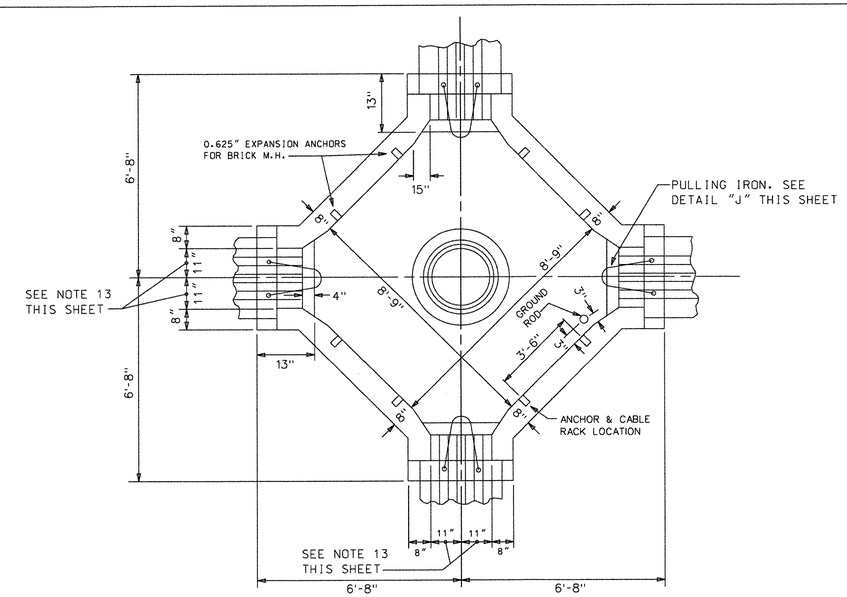
TABLE FOR #7 BARS		
MARK	NO.	LENGTH
7/36	12	3'-6"
7/50	4	5'-0"
7/80	4	8'-0"
7/99	20	9'-9"



PLAN

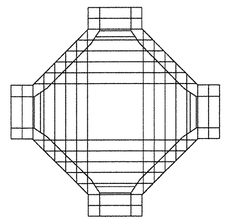


ELEVATION "A-A"
FOUR-WAY MANHOLE ROOF
ALTERNATE CONCRETE



PLAN

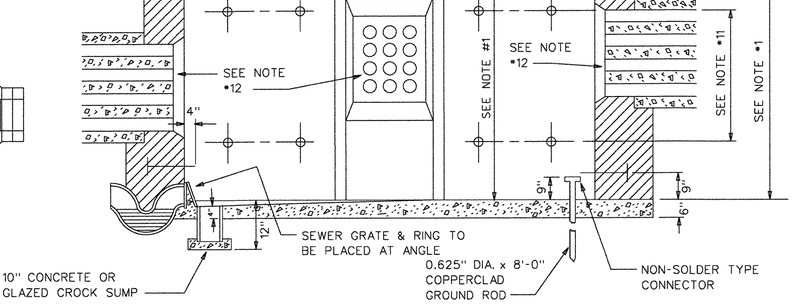
27Kg(60 LB.)"T" RAILS
4 PIECES 12.5' LONG
4 PIECES 9.5' LONG
4 PIECES 8' LONG
4 PIECES 6.5' LONG
4 PIECES 5' LONG
4 PIECES 3.5' LONG
4 PIECES 3' LONG



"T" RAIL SPECIFICATIONS

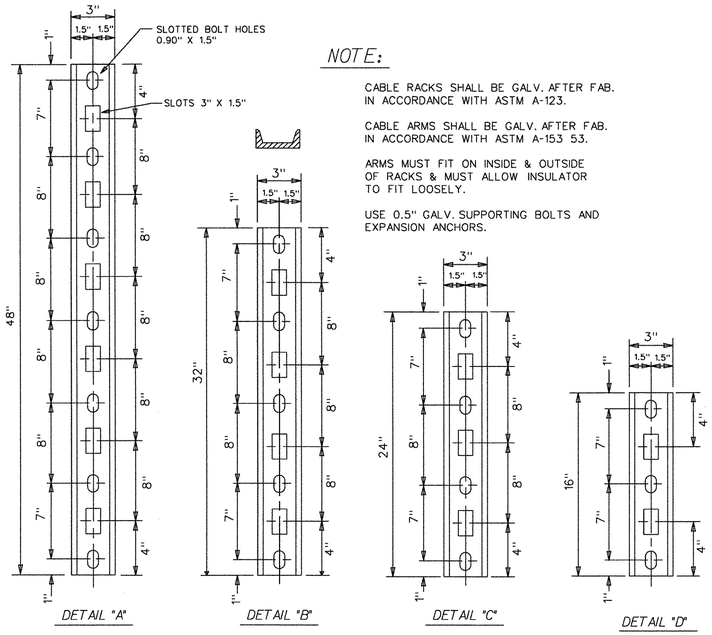
27Kg(60 LBS.) PER YD. OR HEAVIER

N.T.S.



BRICK- FOUR WAY MANHOLE

N.T.S.



NOTE:

CABLE RACKS SHALL BE GALV. AFTER FAB. IN ACCORDANCE WITH ASTM A-123.

CABLE ARMS SHALL BE GALV. AFTER FAB. IN ACCORDANCE WITH ASTM A-153 53.

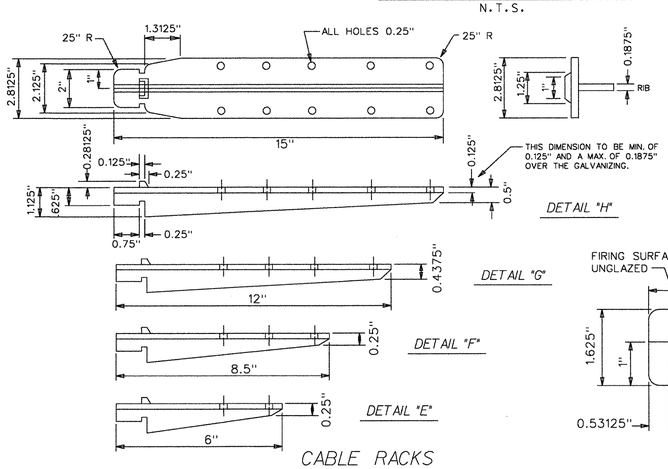
ARMS MUST FIT ON INSIDE & OUTSIDE OF RACKS & MUST ALLOW INSULATOR TO FIT LOOSELY.

USE 0.5" GALV. SUPPORTING BOLTS AND EXPANSION ANCHORS.

CABLE RACKS

76mm (3") STD. 4.1# CHANNEL

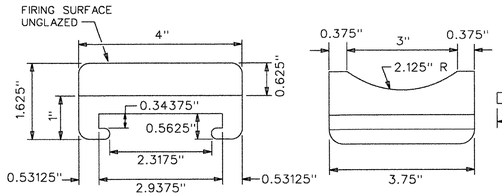
N.T.S.



CABLE RACKS

MALLEABLE CAST IRON

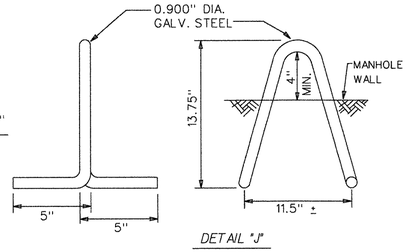
N.T.S.



CABLE ARM INSULATORS

WHITE GLAZED PORCELAIN DRY PROCESS

N.T.S.



DETAIL "J"

PULLING IRON

N.T.S.

SCALE: AS SHOWN

REVISIONS

Date	Description	Chkd. by

DETAILS

EAST GRAND BOULEVARD BRIDGE

FOUR-WAY MANHOLE

DEPARTMENT OF PUBLIC WORKS — CITY OF DETROIT — TRAFFIC ENGINEERING DIVISION

Checked by	Approved by	
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PUBLIC LIGHTING DEPARTMENT

CITY OF DETROIT

Checked by	Approved by	File No.
-------	-------	51-0686

Consulting Engineering Associates, Inc.
16580 WYOMING AVE. DETROIT MICHIGAN 48221
TELEPHONE: (313) 341-5797 FAX: 341-0205

Designed by	Checked by	Sheet No.
C.E.A.		47 of 60

Disk File Name	Job File No.
106PLDM	CEA 138200

Date	Dwg. No.
3-03-08	DTL-2.—

106

TIME: 2:42:58 PM
DATE PLOTTED: 3/20/2008
REVISION DATE: APRIL 1, 2001
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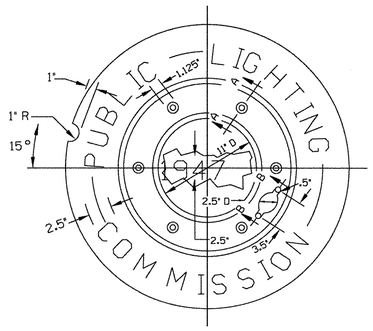
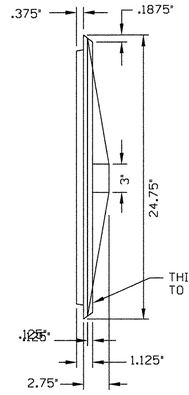
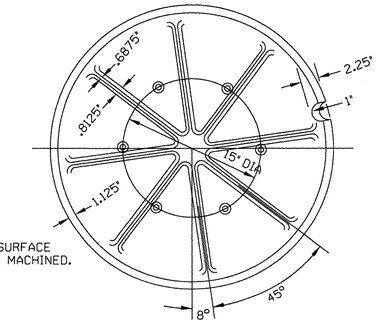
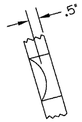


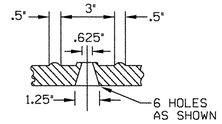
LETTERING & BEAD RAISED .375" ABOVE FACE.
YEAR ON COVER TO BE YEAR OF CASTING.
CONTRACTOR TO CHANGE PATTERN IF REQUIRED.



A.S.T.M. CLASS 30 GREY IRON
P.L.C. PATT. NO. 418 APROX.
WT. 111kg(245lb)

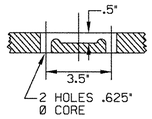






SECTION A-A

N.T.S.

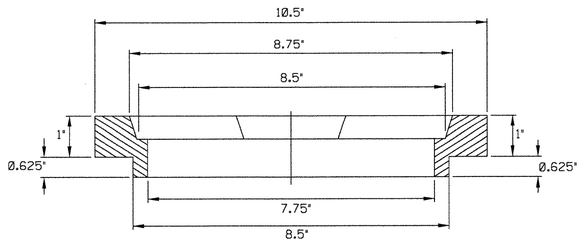


SECTION B-B

N.T.S.

MANHOLE COVER

N.T.S.



SECTION D-D

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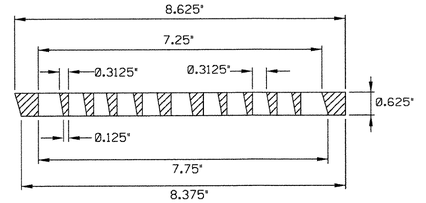
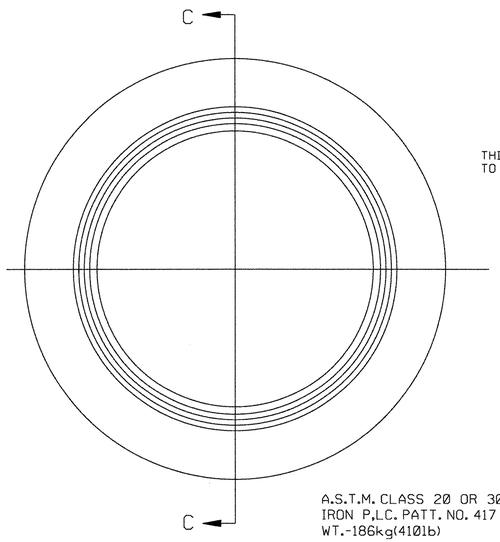


SECTION E-E

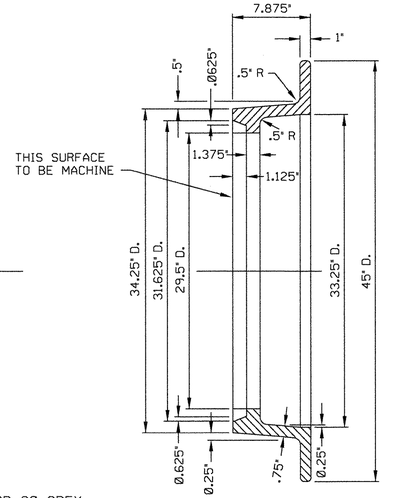
N.T.S.



A.S.T.M. CLASS 20 OR 30 GREY
IRON P,LC. PATT. NO. 417 APPROX.
WT.-186kg(410lb)

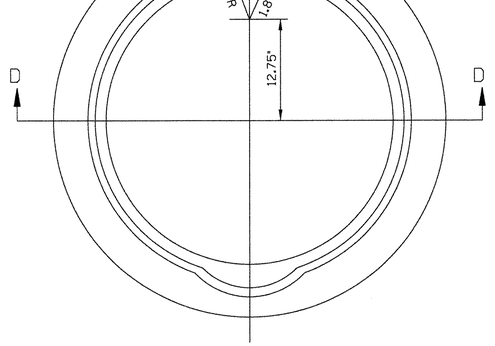
MANHOLE FRAME

N.T.S.



SECTION "C-C"

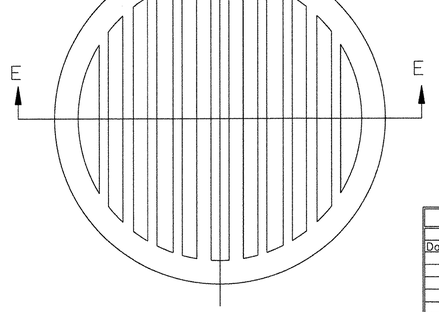
N.T.S.



A.S.T.M. CLASS 20 OR 30 GREY
IRON P.L.C. PATT. NO. 318-A
APPROX WT-4.08lb(9lb)

SEWER RING

N.T.S.



A.S.T.M. CLASS 20 OR 30 GREY
IRON P.L.C. PATT. NO. 318
APPROX WT-2.04lb(4.5lb)

SEWER GRATE

N.T.S.

SCALE: AS SHOWN

REVISIONS

Date	Description	Chkd. by

DETAILS

EAST GRAND
BOULEVARD BRIDGE

MANHOLE FRAMES & COVERS
- SEWER GRATE & RING

DEPARTMENT OF PUBLIC WORKS
CITY OF DETROIT
TRAFFIC ENGINEERING DIVISION

Checked by	Approved by	
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PUBLIC LIGHTING DEPARTMENT
CITY OF DETROIT

Checked by	Approved by	File No.
-------	-------	51-0686

Consulting Engineering Associates, Inc.
16580 WYOMING AVE. DETROIT MICHIGAN 48221
TELEPHONE: (313) 341-5797 FAX: 341-2205

Designed by	Checked by	Sheet No.
C.E.A.		48 of 60

Disk File Name	Job File No.
108PLDM	CEA 138200
Date 3-03-08	Dwg. No. DTL-2.—

108

REVISION DATE: APRIL 1, 2001
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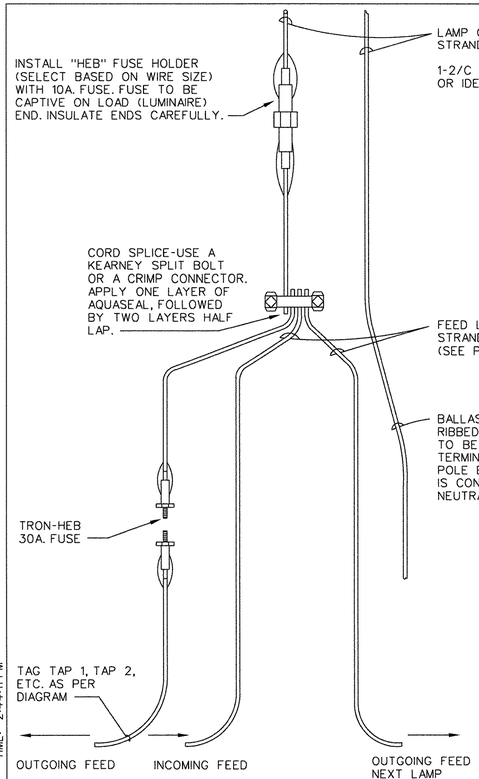
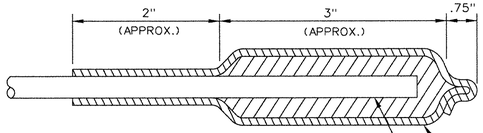


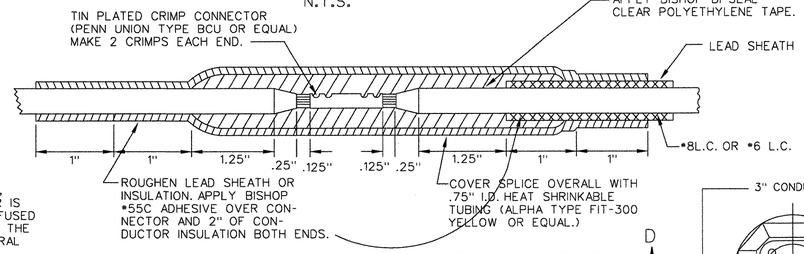
MULTIPLE STREET LIGHTING CONNECTION IN POLE BASE

N.T.S.



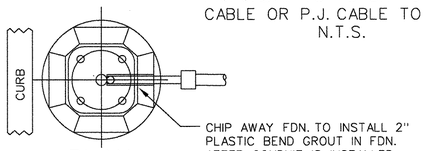
TRAFFIC SIGNAL SECONDARY OR MULTIPLE STREET LIGHTING CABLE DETAIL OF SEALING OF CABLE END

N.T.S.

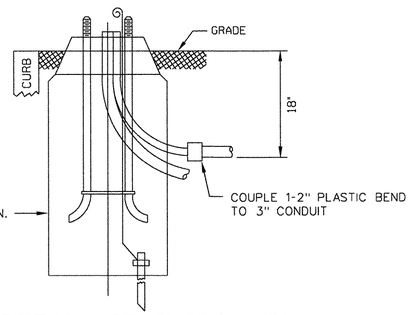


TRAFFIC SIGNAL SECONDARY OR MULTIPLE STREET LIGHTING SPLICE DETAIL "A"

P.J. CABLE TO #8 OR #6 L.C.
CABLE OR P.J. CABLE TO P.J.CABLE
N.T.S.

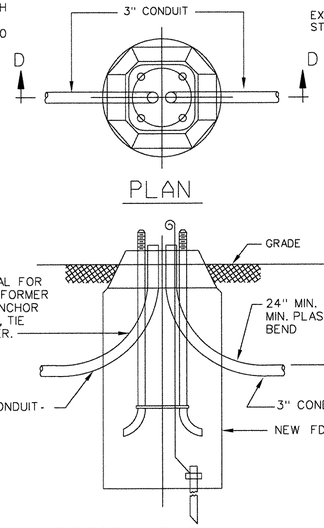


PLAN



DETAIL OF INSTALLING CONDUITS INTO EXISTING FDN.

N.T.S.



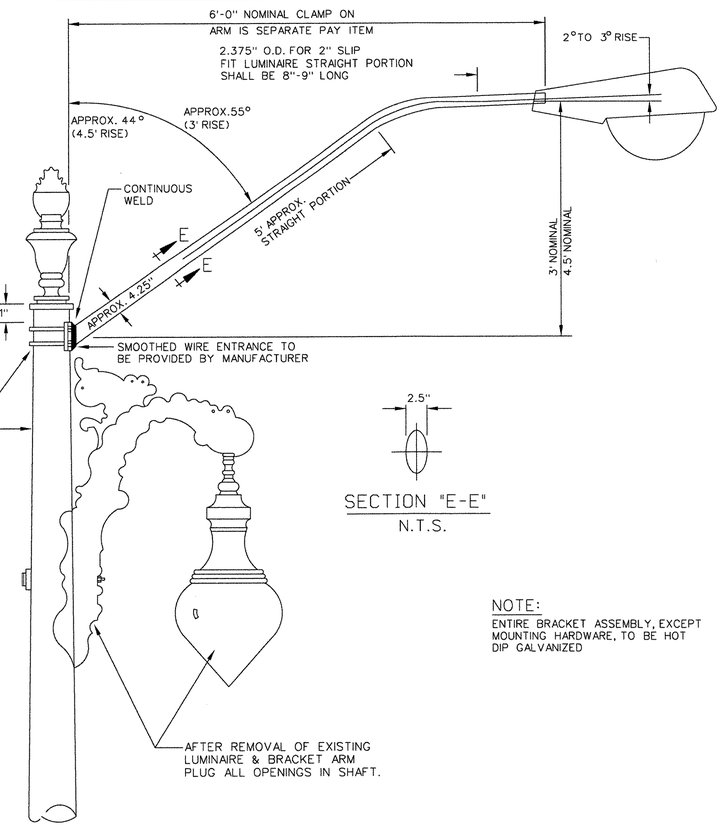
PLAN

NOTE:
THIS DETAIL TYPICAL FOR USE WITH A TRANSFORMER BASE STD. WHEN ANCHOR BASE STD. IS USED, TIE CONDUITS TOGETHER.

SECTION D-D

DETAIL OF INSTALLING CONDUITS IN & OUT OF NEW FDN.

N.T.S.



CLAMP ON BRACKET ARM ELEVATION

N.T.S.

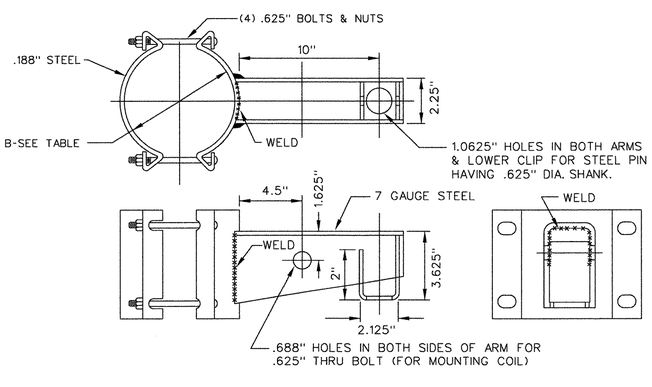
SECTION "E-E"

N.T.S.

NOTE:
ENTIRE BRACKET ASSEMBLY, EXCEPT MOUNTING HARDWARE, TO BE HOT DIP GALVANIZED

TYPE	POLE DIAMETER
A	3.6"-4.5"
B	6.1"-6.9"
C	7.5"-8.5"

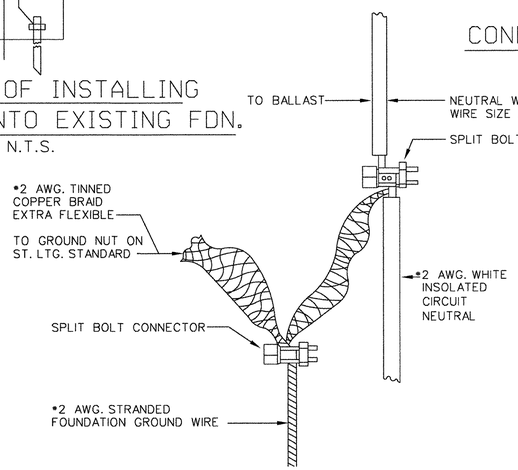
CLAMP SIZE TABLE



x FINISH SHALL BE HOT DIP GALVANIZED AFTER FABRICATION

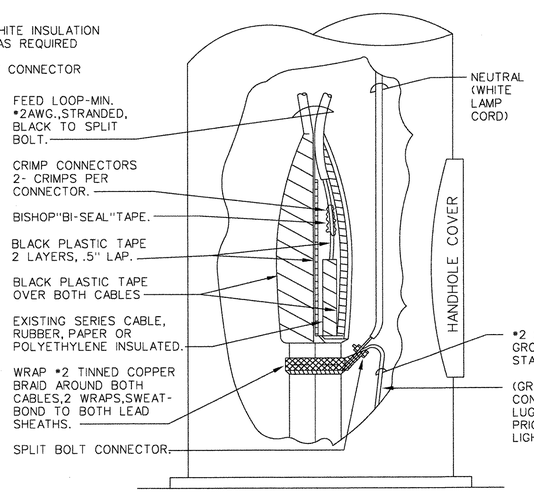
CLAMP FEEDER ARM

N.T.S.



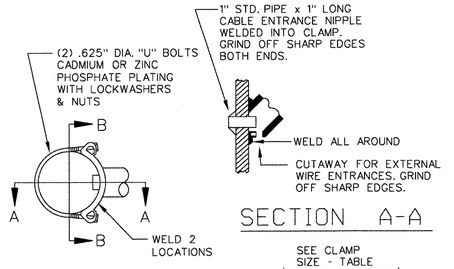
GROUND CONNECTION

N.T.S.



SERIES-TO-MULTIPLE LIGHTING CONVERSION POLE BASE CONNECTIONS

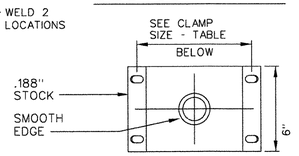
N.T.S.



PLAN

N.T.S.

SECTION A-A



SECTION B-B

CLAMP SIZE TABLE

TYPE	POLE DIAMETER
A	3.6"-4.5"
B	6.1"-6.9"
C	7.5"-8.5"

PIPE CLAMP DETAILS

N.T.S.

SCALE: AS SHOWN

REVISIONS

Date	Description	Chkd. by

DETAILS

EAST GRAND BOULEVARD BRIDGE

MULT.ST.LTG.CABLE CONNECTIONS, CLAMP-ON ARM & MISC.DETAILS

DEPARTMENT OF CITY OF DETROIT TRAFFIC ENGINEERING DIVISION PUBLIC WORKS

Checked by	Approved by	
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PUBLIC LIGHTING DEPARTMENT
CITY OF DETROIT

Checked by	Approved by	File No.
-------	-------	51-0686

Consulting Engineering Associates, Inc.
16580 WYOMING AVE. DETROIT MICHIGAN 48221
TELEPHONE: (313) 341-5797 FAX: 341-0205

Designed by	Checked by	Sheet No.
C.E.A.		49 of 60

Disk File Name	Job File No.
114PLDM	CEA 138200

Date 3-03-08 Dwg. No. DTL-2.—

114

REVISION DATE: APRIL 1, 2001
Computer File: T:\138200 E. Grand Blvd Bridge\DETAILS\114plde.dgn
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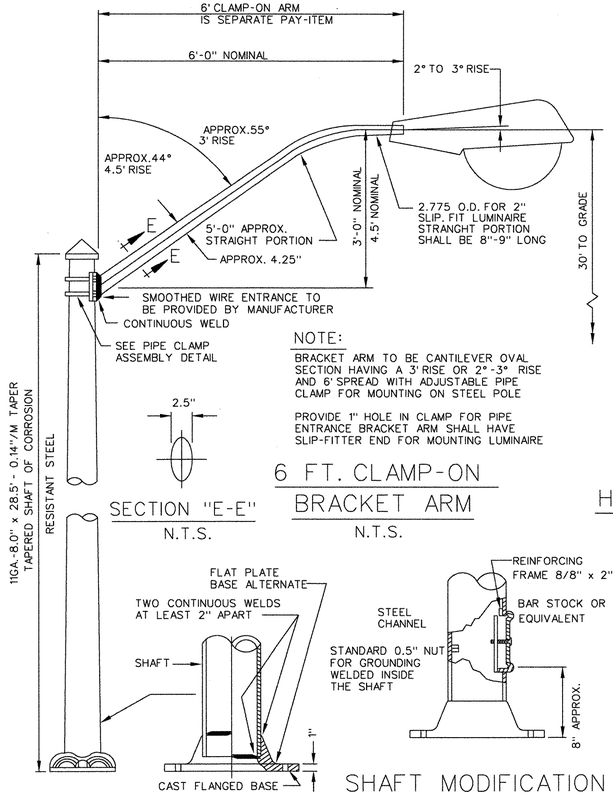
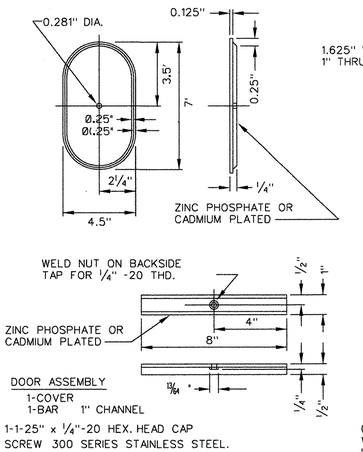


NOTE:
BRACKET ARM TO BE CANTILEVER OVAL SECTION HAVING A 3' RISE OR 2°-3° RISE AND 6' SPREAD WITH ADJUSTABLE PIPE CLAMP FOR MOUNTING ON STEEL POLE

PROVIDE 1" HOLE IN CLAMP FOR PIPE ENTRANCE BRACKET ARM SHALL HAVE SLIP-FITTER END FOR MOUNTING LUMINAIRE

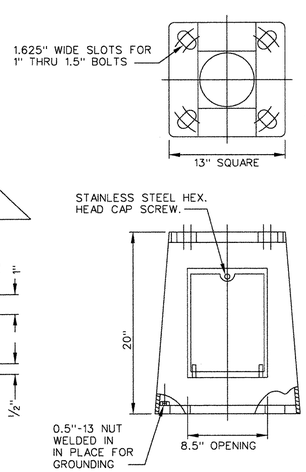
SECTION "E-E"
N.T.S.

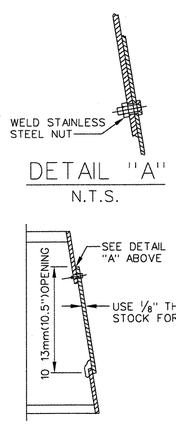
6 FT. CLAMP-ON BRACKET ARM
N.T.S.



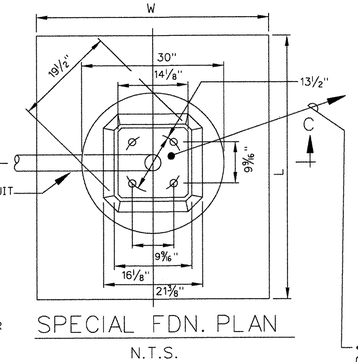
1-1-25" x ¼"-20 HEX. HEAD CAP SCREW 300 SERIES STAINLESS STEEL.

HANDHOLE COVER DETAIL
N.T.S.

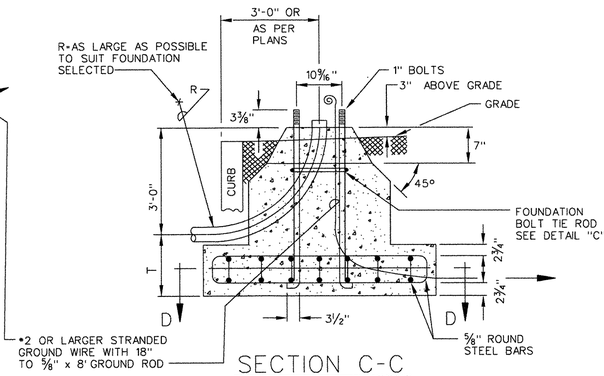




DETAIL "A"
N.T.S.



SPECIAL FDN. PLAN
N.T.S.



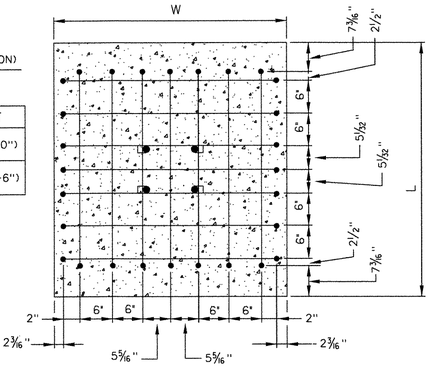
SECTION C-C
N.T.S.

SPECIAL FOUNDATION

THERE SHALL BE NO EXTRA PAYMENT FOR SPECIAL FDN.

(TO BE PAID FOR AS A NORMAL ST. LTG STD. FDN. INSTALLATION)

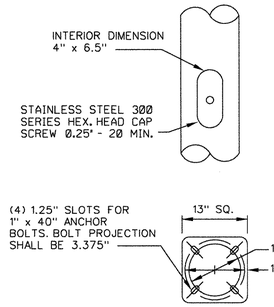
L	W	T
(5'-0")	(4'-3")	(1'-0")
(4'-6")	(3'-7")	(1'-6")



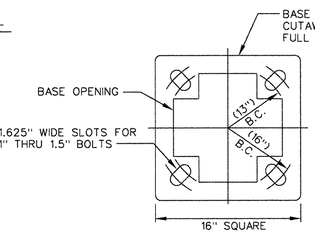
SECTION D-D
N.T.S.

CODE 009-00 STREET LIGHTING STANDARD
N.T.S.

SHAFT MODIFICATION
N.T.S.

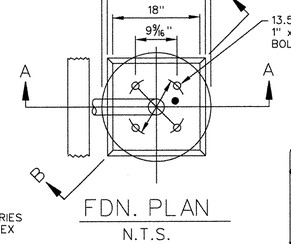


BASE PLATE PLAN
N.T.S.

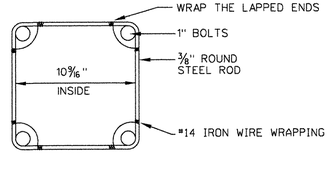


NOTES:
MATERIALS
1. TOP, BOTTOM & SIDES TO BE GALVANIZED STEEL AS PER MANUFACTURER.
2. DOOR FASTENING SCREW TO BE ASTM SERIES 300 STAINLESS STEEL MIN. 0.25"-20 NC. HEX HEAD CAP SCREW ONLY.
3. THE DOOR FASTENING METHOD SHALL USE ONLY ONE HEX. HEAD CAP SCREW, SERIES 300 STAINLESS STEEL. MULTIPLE SCREWS WILL NO LONGER BE ALLOWED TO INSURE PROPER FIELD INSTALLATION AND OPERATION.

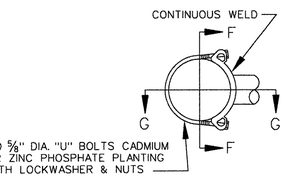
P.L.D. UNIVERSAL STEEL TRANSFORMER BASE
N.T.S.

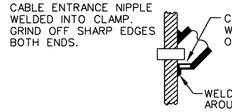


FDN. PLAN
N.T.S.

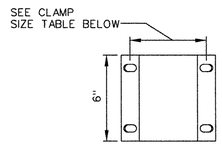


DETAIL "C"
FDN. BOLT TIE ROD
N.T.S.





SECTION "G-G"

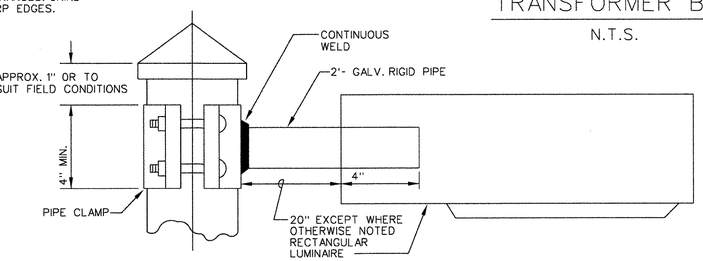


SECTION "F-F"

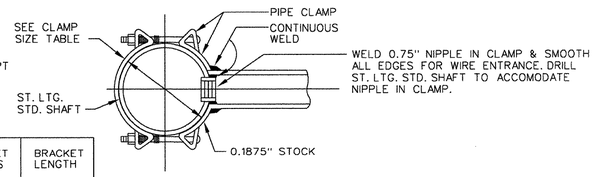
TYPE	POLE DIAMETER
A	3.6" - 4.5"
B	6.1" - 6.9"
C	7.5" - 8.5"

CLAMP SIZE TABLE

PIPE CLAMP DETAILS
N.T.S.



NOTE:
ENTIRE BRACKET ASSEMBLY, EXCEPT MOUNTING HARDWARE, TO BE HOT DIP GALVANIZED

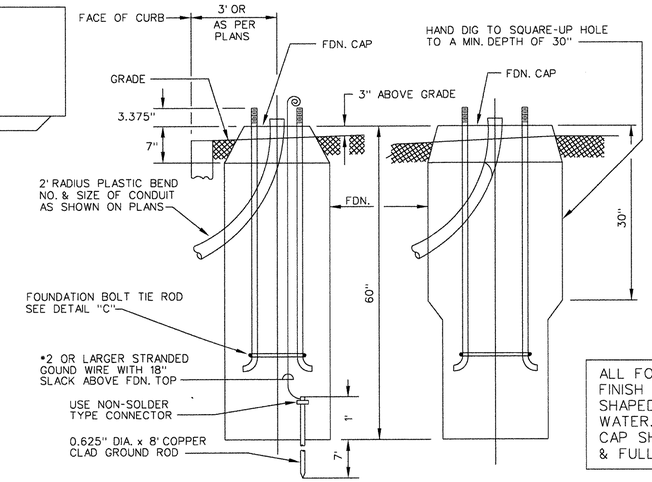


CLAMP-ON BRACKET & RECTANGULAR LUMINAIRE
N.T.S.

STD. CODE NO.	SHAFT LENGTH	SHAFT DEFLECTION x	MINIMUM LOAD x x	ANCHOR BOLT CIRCLE Ø	ANCHOR BOLT Ø & O.A.	HANDHOLE	LUMINAIRE MOUNTING HEIGHT	BRACKET FITTERS REQ'D	BRACKET LENGTH
009-00	28.5'	2.9"	880#	13.5"	1" x 40"	4" x 6.5"	30'	—	6'

x SHAFT DEFLECTION: SHAFT DEFLECTION MEASURED IN INCHES AT TOP, SHALL NOT BE GREATER THAN THAT SHOWN, FOR A HORIZONTAL LOAD OF 100 LBS. APPLIED 18 INCHES BELOW TOP OF SHAFT.

x x SHAFT LOADING SHAFTS SHALL WITHSTAND, AT THE GUARANTEED MINIMUM YIELD STRENGTH OF THE SHAFT MATERIAL, THE LOADS SHOWN IN THIS TABLE, THE LOAD SHALL BE APPLIED IN A SINGLE HORIZONTAL DIRECTION ANYWHERE AROUND THE CIRCUMFERENCE OF SHAFT 18 INCHES FROM THE TOP.



SECTION A-A
N.T.S.

SECTION B-B
N.T.S.

ANCHOR BASE STD. FOUNDATION

ALL FOUNDATION CAPS SHALL HAVE A SMOOTH FINISH WITH BEVELED EDGES & SHALL BE SHAPED TO ALLOW COMPLETE DRAINAGE OF WATER. ANCHOR BOLT PROJECTIONS ABOVE CAP SHALL BE CLEANED OF ALL CONCRETE & FULLY USABLE THEIR FULL LENGTH.

SCALE: AS SHOWN

REVISIONS

Date	Description	Chkd. by

DETAILS

EAST GRAND BOULEVARD BRIDGE

ANCHOR BASE ST.LTG.STD. (CODE 009-00)

DEPARTMENT OF PUBLIC WORKS — CITY OF DETROIT TRAFFIC ENGINEERING DIVISION

Checked by	Approved by	
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PUBLIC LIGHTING DEPARTMENT — CITY OF DETROIT

Checked by	Approved by	File No.
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Consulting Engineering Associates, Inc.
16580 WYOMING AVE. DETROIT MICHIGAN 48221
TELEPHONE: (313) 341-5797 FAX: 341-0205

Designed by	Checked by	Sheet No.
C.E.A.		50 of 60

Disk File Name	Job File No.
115PLDM	CEA 138200

Date 3-03-08 Dwg. No. DTL-2.—

115

DATE PLOTTED: 3/20/2008 TIME: 2:45:56 PM
REVISION DATE: APRIL 1, 2001
Computer File: T:\138200 E. Grand Blvd Bridge\DETAILS\115plde.dgn

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REVISION DATE: APRIL 1, 2001
Computer File: T:\138200 E. Grand Blvd Bridge\DETAILS\205plde.dgn DATE PLOTTED: 3/20/2008 TIME: 2:45:14 PM

USE	VOLT RATING	ITEM NO.	CONDUCTOR	SYNTHETIC RUBBER	IMPREG-NATED PAPER	POLYETH-YLENE	POLYVINYL-CHLORIDE	SHIELD OVER INSULATED CONDUCTOR	TAPE OVER INSULATED CONDUCTORS	IMPREG-NATED PAPER BELT	JACKET	LEAD SHEATH	COVERING OVER LEAD	STEEL TAPE ARMOR	COVERING OVER STEEL TAPE	COVERING OVER CONDUCTOR
OVERHEAD LINE WIRE	——	1	*2-*6 AWG. H.D.,UNCOATED SOLID COPPER A.S.T.M. B1													.047" BLACK NEOPRENE
	——	2	*4/0-*2/0AWG. M.H.D.,UNCOATED 7/STR. COPPER A.S.T.M. B1													.063" BLACK NEOPRENE
	——	3	*2- AWG.H.D., UNCOATED SOLID COPPER A.S.T.M. B1													.032" BLACK POLYETHYLENE
	——	4	*2-AWG.,H.D., UNCOATED SOLID COPPER A.S.T.M. B1													.047" BLACK POLYETHYLENE
	——	5	*4/0-*2/0AWG. M.H.D.,UNCOATED 7/STR. COPPER A.S.T.M. B8													.063" BLACK POLYETHYLENE
SPECIAL EVENT FEEDER.	2000V.	6		ALL MULTIPLE STREET LIGHTING, TRAFFIC SIGNAL SECONDARY AND SPECIAL EVENT CABLES INSTALLED IN CONDUIT SHALL BE AS PER THE FOLLOWING: CONDUCTORS: COATED, STRANDED COPPER CONDUCTOR PER ASTM B-8 AND B-189. INSULATION: MEETS OR EXCEEDS ALL REQUIREMENTS OF LATEST EDITION OF ICEA S-68-516, NEMA WC 8 FOR ETHYLENE-PROPYLENE RUBBER INSULATION AND ASTM D2802-78 AND UL STANDARD 44. JACKET: MEETS OR EXCEED ALL REQUIREMENTS OF LATEST EDITION OF ICEA S-68-516, NEMA WC8 FOR HEAVY DUTY CHLOROSULFONATED-POLYETHYLENE. LISTED BY UNDERWRITER'S LABORATORIES INC. AS TYPE RHH OR RHW. NOTE: PRIOR TO PLACING ORDER FOR PURCHASE OF THIS CABLE, A SAMPLE LENGTH OF CABLE MUST FIRST BE SUBMITTED TO P.L.D. FOR THEIR APPROVAL.									COLOR CODED AS FOLLOWS: RED - A CIRCUIT BLACK - B CIRCUIT WHITE - NEUTRAL			
MULT. ST. LTG.	2000V.	7														
TRAFFIC SIGNAL SECOND-ARY	2000V.	8														
RECEPTA-CLE BRACKET & LAMP POST WIRE	600V.	9	*8 AWG.1/C UNCOATED,SOFT 7/STR. COPPER A.S.T.M. B8				.062" 75°C,BLACK, (167 F) OR WHITE AS REQ'D PIGMENTED NOT PRINTED									
2/C AERIAL SERVICE	600V.	10	2/C*8 AWG UNCOATED,SOFT 7/STR. COPPER A.S.T.M. B8				.062" 75°C,BLACK, (167 F) FIGURE 8 CONSTRUCTION									
DISTRIBU-TION CABLES	5000V. BELTED	11	3/C 350 MCM SECTOR, SOFT UNCOATED COPPER AEIC		.085" PER CONDUCTOR OIL VISCOSITY 1,000 SUS AT 100°C (212°F)					.45" OVERALL OIL VISCOSITY 1,000 SUS AT 100° (212°F)		.095" COPPER BEARING LEAD	.090" HEAT & LIGHT STABILIZED BLACK HIGH MOLE-CULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH			
	5000V. BELTED	12	3/C*2/0AWG. SECTOR, SOFT UNCOATED COPPER AEIC		.085" PER CONDUCTOR OIL VISCOSITY 1,000 SUS AT 100°C (212°F)					.45" OVERALL OIL VISCOSITY 1,000 SUS AT 100° (212°F)		.085" COPPER BEARING LEAD	.08" HEAT & LIGHT STABILIZED BLACK HIGH MOLE-CULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH			
	5000V. BELTED	13	3/C*2AWG. ROUND, SOFT UNCOATED COPPER AEIC		.085" PER CONDUCTOR OIL VISCOSITY 1,000 SUS AT 100°C (212°F)					.45" OVERALL OIL VISCOSITY 1,000 SUS AT 100° (212°F)		.08" COPPER BEARING LEAD	.08" HEAT & LIGHT STABILIZED BLACK HIGH MOLE-CULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH			
	7000V. BELTED	14	3/C 350 MCM SECTOR, SOFT UNCOATED COPPER AEIC		.10" PER CONDUCTOR OIL VISCOSITY 1,000 SUS AT 100°C (212°F)					.45" OVERALL OIL VISCOSITY 1,000 SUS AT 100° (212°F)		.095" COPPER BEARING LEAD	.090" HEAT & LIGHT STABILIZED BLACK HIGH MOLE-CULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH			
	7000V. BELTED	15	3/C*2AWG. SECTOR, SOFT UNCOATED COPPER AEIC		.10" PER CONDUCTOR OIL VISCOSITY 1,000 SUS AT 100°C (212°F)					.45" OVERALL OIL VISCOSITY 1,000 SUS AT 100° (212°F)		.085" COPPER BEARING LEAD	.090" HEAT & LIGHT STABILIZED BLACK HIGH MOLE-CULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH			
	7000V. BELTED	16	3/C 350 MCM ROUND, SOFT UNCOATED COPPER AEIC		.10" PER CONDUCTOR OIL VISCOSITY 1,000 SUS AT 100°C (212°F)					.45" OVERALL OIL VISCOSITY 1,000 SUS AT 100° (212°F)		.085" COPPER BEARING LEAD	.08" HEAT & LIGHT STABILIZED BLACK HIGH MOLE-CULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH			
SERIES ST. LTG. CABLE, IN DUCT	7500V.	17	1/C*8 AWG. SOLID, SOFT UNCOATED COPPER ASTM B3			.188" HIGH MOLE-CULAR NAT-URAL OVER CONDUCTOR	.047" 60°C BLACK					.063" COMMERCIALLY PURE				
SERIES ST. LTG. CABLE, DIRECT BURIAL	7500V.	18	1/C*8 AWG. SOLID, SOFT UNCOATED COPPER ASTM B3			.188" HIGH MOLE-CULAR NAT-URAL OVER CONDUCTOR	.047" 60°C BLACK OVER INSULATED CONDUCTOR					.063" COMMERCIALLY PURE	.047" ASPHALTUM SATURATED JUTE OVER LEAD	TWO LAYER .02" GALV. STEEL TAPE	ASPHALTUM SATURATED JUTE OVER STEEL TAPE	
TRANS-MISSION CABLES	24000V. SHIELDED	19	3/C 350 MCM SECTOR, SOFT UNCOATED COPPER • AEIC		.230" PER CONDUCTOR OIL VISCOSITY 1,000 SUS AT 100°C (212°F)			COPPER TAPE INTERCALATED WITH SEMI-CONDUCTING OF OR METALIZED PAPER TAPE	• •			.11" COPPER BEARING LEAD	.11" HEAT LIGHT STABILIZED BLACK HIGH MO-LECULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH			
	24000V. SHIELDED	20	3/C 350 MCM SECTOR, SOFT UNCOATED COPPER • AEIC		.230" PER CONDUCTOR OIL VISCOSITY 1,000 SUS AT 100°C (212°F)			COPPER TAPE INTERCALATED WITH SEMI-CONDUCTING OF OR METALIZED PAPER TAPE	• •			.105" COPPER BEARING LEAD	.11" HEAT LIGHT STABILIZED BLACK HIGH MO-LECULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH			
	24000V. SHIELDED	21	3/C *2/0 AWG. SECTOR, SOFT UNCOATED COPPER • AEIC		.245" PER CONDUCTOR OIL VISCOSITY 1,000 SUS AT 100°C (212°F)			COPPER TAPE INTERCALATED WITH SEMI-CONDUCTING OF OR METALIZED PAPER TAPE	• •			.10" COPPER BEARING LEAD	.09" HEAT LIGHT STABILIZED BLACK HIGH MO-LECULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH			
MULTI-CONDUCTOR SIGNAL CABLE, IN DUCT	——	22	*14 AWG. SOLID, SOFT UNCOATED COPPER, NO. OF CONDUCTOR AS REQ'D. ASTM B3	ACCORDING TO SPECIFICATIONS												
MULTI-CONDUCTOR SIGNAL CABLE, AERIAL(I.M.)	——	23	*14 AWG. SOLID, SOFT UNCOATED COPPER, NO. OF CONDUCTOR AS REQ'D. ASTM B3													
8/C SERIES ST. LTG. IN DUCT	7500V.	24	8/C*8 AWG. SOLID, SOFT TINNED COPPER ASTM B33	SPECIAL INSTRUCTION .063" OF 30% HEAVEA RUBBER AND ONE LAYER OF LAPPED FILLED COTTON TAPE OVER EACH CONDUCTOR CENTRAL CONDUCTOR HAS ADDITIONAL .17" VARNISHED CAMBRIC TAPE REMAINING 7 CONDUCTORS EACH HAVE ADDITIONAL .094" VARNISHED CAMBRIC TAPE ONE OF 7 OUTSIDE CONDUCTORS WRAPPED WITH WHITE PAPER FOR IDENTIFICATION ALL CONDUCTORS CABLED WITH PARAFFINED JUTE (OUTSIDE FILLER). .094" BELT OF OIL SATURATED PAPER OVERALL 0.115 INCH COPPER BEARING LEAD BENEATH OVERALL.												
OVERHEAD FLEXIBLE TRAINER WIRE (SHIELDED)	——	25	1/C*2 AWG. & LARGER, SOFT CLASS G OR H STANDING TINNED COPPER ASTM B173	SEMI-CONDUCTING COTTON TAPE OVER CON-DUCTOR & 0.268 OZONE RESISTING BUTYL							.063" GENERAL PURPOSE OR HEAVY DUTY BLACK NEOPRENE					

• CARBON BLACK PAPER TAPE OVER CONDUCTOR

• • BINDER TAPE OVER SHIELDED INSULATED CONDUCTOR AND FILLERS TO BE COPPER OR BRONZE TAPE INTERCALATED WITH PAPER TAPE OR (2) METALIZED PAPER TAPES

CONTINUED ON 207

SCALE: AS SHOWN

REVISIONS

Date	Description	Chkd. by

DETAILS

EAST GRAND BOULEVARD BRIDGE

CABLE & WIRE SPECIFICATIONS, DETAILS

DEPARTMENT OF PUBLIC WORKS, CITY OF DETROIT, TRAFFIC ENGINEERING DIVISION

Checked by ------ Approved by ------ ------

PUBLIC LIGHTING DEPARTMENT
CITY OF DETROIT

Checked by ------ Approved by ------ File No. 51-0686

Consulting Engineering Associates, Inc.
16580 WYOMING AVE. DETROIT MICHIGAN 48221 TELEPHONE: (313) 341-5797 FAX: 341-0205

Designed by C.E.A. | Checked by | Sheet No. 51 of 60

Disk File Name 205PLDM | Job File No. CEA 138200

Date 3-03-08 | Dwg. No. DTL-2.—

205

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1. DISTRIBUTION AND TRANSMISSION CABLES

ALL TRANSMISSION CABLES, (24 KV., ITEMS 11-16 INCLUSIVE) ARE FOR CIRCUITS WITH GROUNDED NEUTRAL, AND SHALL CONFORM STRICTLY WITH THE LATEST REVISION OF THE A.E.I.C. "SPECIFICATION FOR IMPREGNATED PAPER INSULATED, LEAD COVERED SOLID TYPE CABLE", 9TH EDITION, DATED APRIL, 1954, AND CONSTRUCTION OPTIONS AS NOTED IN SHEET 1.

ALL DISTRIBUTION CABLES, (7 & 5 KV, ITEMS 19 & 21 INCLUSIVE) ARE FOR CIRCUITS WITH UNDERGROUND NEUTRAL AND SHALL ALSO CONFORM WITH THE ABOVE SPECIFICATION, WITH CONSTRUCTION OPTIONS AS NOTED IN TABLE 1.

2. OVERHEAD LINE WIRE

OVERHEAD LINE WIRE SHALL BE IN ACCORDANCE WITH LATEST REVISION OF ASA C8.34 (NEOPRENE COVERING) OR THE LATEST REVISION OF ASA C8.35 (POLYETHYLENE COVERING).

3. 8/C,#8AWG, STREET LIGHTING CABLE, 7500 V.

THIS IS A SPECIAL CONSTRUCTION AND SHALL BE MADE STRICTLY IN ACCORDANCE WITH THE DESCRIPTION IN TABLE 1. APPLICABLE REFERENCE SPECIFICATIONS SHOWN BELOW:

4. OTHER RUBBER OR THERMOPLASTIC INSULATED CABLES, LEADED & NON-LEADED

WIRE SIZE, INSULATION TYPE AND NORMAL THICKNESSES, OTHER CONSTRUCTION FEATURES SHALL BE AS SHOWN IN TABLE 1, AND APPLICABLE REFERENCE SPECIFICATIONS SHOWN BELOW:

INSULATIONS

THE MINIMUM INSULATION THICKNESS OF ANY OF THESE CABLES SHALL BE LESS THAN 90% OF THE NOMINAL THICKNESS SHOWN ON TABLE 1.

THE PHYSICAL AND AGING PROPERTIES OF THERMOPLASTIC AND RUBBER INSULATIONS SHALL BE AS FOLLOWS:

		POLYVINYL-CHLORIDE 60°C (140°F)	POLYVINYL-CHLORIDE 75° C (167°F)	HIGH MOLECULAR WEIGHT NATURAL POLYETHYLENE	SYNTHETIC RUBBER 75° C(167° F) HEAT & MOISTURE RESISTANT	OZONE RESISTING BUTYL RUBBER
ORIGINAL	TENSILE STRENGTH PSI	2300, MIN.	2300, MIN.	1400, MIN.	700, MIN.	600, MIN.
	ELONGATION AT RUPTURE, PERCENT	250, MIN.	250, MIN.	250, MIN.	300, MIN. & 13mm(.5") SET, MAX.	350, MIN. & 13mm(.5") SET, MAX.
AIR OVEN TEST, TIME & TEMP, AS NOTED	TENSILE STRENGTH % OF ORIGINAL	65, MIN. 168 HRS., 100 ± 1 C° (212 ± 1.8° F)	120, MAX. 80, MIN. 168 HRS., 120 ± 1 C° (248± 1.8° F)	75, MIN. 48 HRS., 100 ± 1 C° (212 ± 1.8° F)	———	60, MIN. 168 HRS., 100 ± 1 C° (212 ± 1.8° F)
	ELONGATION % OF ORIGINAL	• 65, MIN. 168 HRS., 100 ± 1 C° (212 ± 1.8° F)	•• 75, MIN. 168 HRS., 120 ± 1 C° (248± 1.8° F)	75, MIN. 48 HRS., 100 ± 1 C° (212 ± 1.8° F)	———	60, MIN. 168 HRS., 100 ± 1 C° (212 ± 1.8° F)
OXYGEN PRESSURE TEST	TENSILE STRENGTH % OF ORIGINAL	———	———	———	50, MIN. 168 HRS., 80 ± 1 C° (176 ± 1.8° F)	———
	ELONGATION % OF ORIGINAL	———	———	———	50, MIN. 168HRS., 80 ± 1 C° (176 ± 1.8° F)	———
AIR PRESSURE HEAT TEST	TENSILE STRENGTH % OF ORIGINAL	———	———	———	50, MIN. 20 HRS., 127 ± 1 C° (260± 1.8° F)	50, MIN. 40 HRS., 127 ± 1 C° (260± 1.8° F)
	ELONGATION % OF ORIGINAL	———	———	———	50, MIN. 20 HRS., 127 ± 1 C° (260± 1.8° F)	50, MIN. 40 HRS., 127 ± 1 C° (260 ± 1.8° F)
HEAT DISTORTION 121 ± 1 C (250±1.8°F)	% OF ORIGINAL	50, MAX.	25, MAX.	———	———	———
OIL IMMERSION 4 HRS., 70 ± 1 C° (158±1.8°F)	TENSILE STRENGTH % OF ORIGINAL	• 85, MIN.	•• 85, MIN.	———	———	———
	ELONGATION % OF ORIGINAL	• 85, MIN.	•• 85, MIN.	———	———	———
HEAT SHOCK 121 ± 1 C° (250±1.8°F)	———	NO CRACKS	NO CRACKS	———	———	———
COLD BEND	———	NO CRACKS -30 ± 1 C° (-22 ± 1.8°F)	NO CRACKS -30 ± 1 C° (-22 ± 1.8°F)	NO CRACKS -55 ± 1 C° (-67 ± 1.8°F)	———	———
INSULATION RESISTANCE CONSTANT AT 15.6°C (60±1.8°F)	———	1,000 MIN.	2,000 MIN.	50,000 MIN.	4,000 MIN.	20,000 MIN.
FLAME RESISTANCE PROPERTIES	———	SECT. 6.5 IPCEA S-61-402	SECT. 6.5 IPCEA S-61-402	———	———	———
ACCELERATED WATER ABSORPTION REQUIREMENT	ELECTRICAL METHOD — DIELECTRIC CONSTANT, 1 DAY	10, MAX.	10, MAX.	———	5, MAX.	———
	ELECTRICAL METHOD — % CAPACITANCE INCREASE	1-14 DAYS-10,MAX. 7-14 DAYS-5,MAX.	1-14 DAYS-4.0,MAX. 7-14 DAYS-2.0,MAX.	———	1-14 DAYS-10.0,MAX. 7-14 DAYS-4.0,MAX.	1-14 DAYS-5.0,MAX. 7-14 DAYS-3.0,MAX.
	ELECTRICAL METHOD — TEMP.	50 ± 1 C° (122 ± 1.8 F°)	75 ± 1 C° (167 ± 1.8 F°)	———	75 ± 1 C° (167 ± 1.8 F°)	75 ± 1 C° (167 ± 1.8 F°)
	— OR — GRAVIMETRIC METHOD	20 MILLIGRAMS PER SQ. 1" MAX.	10 MILLIGRAMS PER SQ. 1" MAX.	———	20 MILLIGRAMS PER SQ. 1" MAX.	15 MILLIGRAMS PER SQ. 1" MAX.
TEST IN ACCORDANCE WITH LATEST REVISION OF:		IPCEA S-61-402 (EXCEPTIONS ARE NOTED ABOVE)		IPCEA S-61-402	IPCEA S-19-81 (EXCEPTIONS ARE NOTED ABOVE)	IPCEA S-19-81

FOR #6 AWG AND LARGER, USING BUFFED DIE-CUT SPECIMENS, THE FOLLOWING VALUES SHALL APPLY:
- • ELONGATION AFTER AIR OVEN TEST 45% MIN.
- •• ELONGATION AFTER AIR OVEN TEST 50% MIN.

• OR •• TENSILE STRENGTH AFTER OIL IMMERSION 80% MIN.
• OR •• ELONGATION AFTER OIL IMMERSION 60% MIN.

CONDUCTORS

ALL CONDUCTORS SHALL BE COPPER, COMPLYING WITH THE LATEST REVISIONS OF ASTM SPECIFICATIONS, AS FOLLOWS:

SOFT OR ANNEALED, BARE COPPER WIRE	ASTM B3
MEDIUM HARD DRAWN COPPER WIRE	ASTM B2
HARD DRAWN COPPER WIRE	ASTM B1
CONCENTRIC-LAY-STRANDED COPPER CONDUCTORS, HARD, MEDIUM HARD OR SOFT, COATED OR UNCOATED, AS REQUIRED.	ASTM B8
ROPE-LAY-STRANDED, SOFT, COPPER CONDUCTORS, COATED OR UNCOATED, AS REQUIRED.	ASTM B173
SOFT, SOLID COPPER CONDUCTORS, TINNED	ASTM B33
SOFT, SOLID COPPER CONDUCTORS, LEAD OR LEAD ALLOY COATED	ASTM B189

JACKETS

THE MINIMUM JACKET THICKNESS SHALL NOT BE LESS THAN 80% OF THE NOMINAL THICKNESS SHOWN ON TABLE 1.

		NEOPRENE BLACK, HEAVY DUTY	NEOPRENE BLACK GENERAL PURPOSE	POLYVINYL-CHLORIDE, BLACK	HEAT & LIGHT STABILIZED BLACK POLYETHYLENE COVER'G OVER LEAD SHEATH
ORIGINAL	TENSILE STRENGTH PSI	1800, MIN.	1500, MIN.	1500, MIN.	1400, MIN.
	ELONGATION AT RUPTURE, %	300, MIN. & 10mm(.375") MAX.SET	250, MIN. & 10mm(.375") MAX.SET	100, MIN.	350, MIN.
AIR OVEN TEST, TIME & TEMP, AS NOTED	TENSILE STRENGTH % OF ORIGINAL	———	———	75 MIN. 120 HRS. 121 ± 1°C (250 ± 1.8°F)	75, MIN.
	ELONGATION % OF ORIGINAL	———	———	60 MIN. 120 HRS. 121 ± 1°C (250 ± 1.8°F)	75, MIN.
OXYGEN PRESSURE TEST 168 HRS. 80 ± 1 C° (176 ± 1.8 °F)	TENSILE STRENGTH % OF ORIGINAL	50, MIN.	50, MIN.	———	———
	ELONGATION % OF ORIGINAL	50, MIN.	50, MIN.	———	———
AIR PRESSURE HEAT TEST 20 HRS. 127 ± 1 C° (260 ± 1.8° F)	TENSILE STRENGTH % OF ORIGINAL	50, MIN.	50, MIN.	———	———
	ELONGATION % OF ORIGINAL	50, MIN.	50, MIN.	———	———
OIL IMMERSION TEST, TIME & TEMP. AS NOTED	TENSILE STRENGTH % OF ORIGINAL	60 MIN. 18 HRS 121 ±1°C (250 ± 1.8°F)	60 MIN. 18 HRS 121 ±1°C (250 ± 1.8°F)	60 MIN. 4 HRS 70 ± 1°C (158 ± 1.8°F)	———
	ELONGATION % OF ORIGINAL	60 MIN. 18 HRS 121 ±1°C (250 ± 1.8°F)	60 MIN. 18 HRS 121 ±1°C (250 ± 1.8°F)	60 MIN. 4 HRS 70 ± 1°C (158 ± 1.8°F)	———
HEAT DISTORTION PERCENT OF UNAGED VALUE	———	———	———	50, MAX. 90 ± 1°C (194 ± 1.8°F)	25, MAX. 90 ± 1°C (194 ± 1.8°F)
HEAT SHOCK 121 ± 1°C (250 ± 1.8°F)	———	———	———	NO CRACKS	———
COLD BEND TEST-35 ± 1°C (-31 ±1.8°F)	———	———	———	NO CRACKS	NO CRACKS
ENVIRONMENTAL CRACKING	———	———	———	———	NO CRACKS
LIGHT ABSORPTIVITY	———	———	———	———	24,000, MIN.
TEST IN ACCORDANCE WITH LATEST REVISION OF:		IPCEA S-19-82		IPCEA S-61-402	IPCEA INTERIM REVISION #1 PUB. S-54-401 SEPT. 1959

SCALE: AS SHOWN

REVISIONS

Date	Description	Chkd. by

DETAILS

EAST GRAND BOULEVARD BRIDGE

CABLE & WIRE SPECIFICATIONS

DEPARTMENT OF PUBLIC WORKS — CITY OF DETROIT TRAFFIC ENGINEERING DIVISION

Checked by	Approved by	
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PUBLIC LIGHTING DEPARTMENT
CITY OF DETROIT

Checked by	Approved by	File No.
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Consulting Engineering Associates, Inc.
16580 WYOMING AVE. DETROIT MICHIGAN 48221
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Designed by	Checked by	Sheet No.
C.E.A.		52 of 60

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Date	Dwg. No.
3-03-08	DTL-2.—

206

REVISION DATE: APRIL 1, 2001
Computer File: T:\138200 E. Grand Blvd Bridge\DETAILS\206plde.dgn
DATE PLOTTED: 3/20/2008
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CERTIFIED TEST REPORTS

SHIPMENTS OF WIRE AND CABLE SHALL NOT BE CONSIDERED COMPLETE UNTIL CERTIFIED TEST REPORTS ARE RECEIVED AND APPROVED. TEST REPORTS FOR VARIOUS ITEMS OF WIRE AND CABLE SHOWN ON SHEET 1 SHALL CONTAIN THE FOLLOWING TEST RESULTS:

ITEMS 1 - 5 INCLUSIVE - OVERHEAD LINE WIRE

1. CONDUCTOR CONTINUITY, RESISTANCE, TENSILE STRENGTH AND ELONGATION TESTS.
2. COVERING THICKNESS, PHYSICAL AND AGING TESTS.
3. WEIGHT OF FINISHED WIRE.

ALL TESTS IN ACCORDANCE WITH THE LATEST REVISION OF ASA 8.34 (NEOPRENE COVERING) OR ASA 8.35 (POLYETHYLENE COVERING).

ITEMS 6 - 10 INCLUSIVE

1. CONDUCTOR CONTINUITY, RESISTANCE, TENSILE STRENGTH, AND ELONGATION TESTS IN ACCORDANCE WITH THE LATEST REVISIONS OF ASTM B8, B33 OR B189.
2. THE PHYSICAL AND OTHER TESTS FOR THE SPECIFIED INSULATION SHOWN ON SHEET 2.
3. INSULATION THICKNESS MEASUREMENTS.
4. THE ALTERNATING-CURRENT VOLTAGE TEST IN ACCORDANCE WITH THE LATEST REVISION OF IPCEA S-61-402.
5. INSULATION RESISTANCE TEST. INSULATION RESISTANCE CONSTANT AS SHOWN ON SHEET 2.
6. (CABLE ITEM 8 ONLY) MINIMUM, MAXIMUM AND AVERAGE LEAD THICKNESS MEASUREMENTS SHALL ALSO BE INCLUDED.
7. (CABLE ITEM 10 ONLY) A RIP TEST SHALL ALSO BE INCLUDED AS FOLLOWS:

A INCHE (6") SAMPLE OF THE COMPLETED 2 CONDUCTOR WIRE WITH CLEANLY CUT ENDS SHALL BE SUBJECTED TO A TEMPERATURE OF -10°F FOR ONE HOUR, WHILE STILL COLD, THE TWO INSULATED CONDUCTORS SHALL BE SEPARATED AT ONE END FOR A DISTANCE OF APPROXIMATELY 3 INCHES AND THEN SHALL BE TORN APART WITH STEADY PULL AT A RATE OF 33 INCHES IN ONE SECOND OR LESS. THERE SHALL BE NO DAMAGE TO THE INSULATION.

ITEMS 11 - 16 INCLUSIVE - DISTRIBUTION CABLES UNDER 10KV. RATING

1. CONDUCTOR RESISTANCE.
2. SHEATH THICKNESS MEASUREMENTS.
3. HIGH VOLTAGE TEST.
4. MECHANICAL INTEGRITY TEST.
5. BENDING TEST.
6. SPARK TEST ON COVERING OVER LEAD SHEATH ON EACH LENGTH IF COVERING IS SPECIFIED.

ALL TESTS SHALL BE IN ACCORDANCE WITH THE LATEST REVISION OF "SOLID TYPE IMPREGNATED-PAPER-INSULATED LEAD-COVERED CABLE SPECIFICATION" PUBLISHED BY THE ASSOCIATION OF EDISON ILLUMINATING COMPANIES.

ITEMS 17 - 18 INCLUSIVE - SERIES STREET LIGHTING CABLE

1. CONDUCTOR RESISTANCE AND CONTINUITY, IN ACCORDANCE WITH THE LATEST REVISION OF ASTM B-3.
2. THE PHYSICAL AND OTHER TESTS FOR HIGH MOLECULAR WEIGHT POLYETHYLENE INSULATION AS SHOWN ON SHEET 2.
3. THE PHYSICAL AND OTHER TESTS FOR 60°C (140°F) POLYVINYL-CHLORIDE INSULATION AS SHOWN ON SHEET 2.
4. THE FOLLOWING TESTS SHALL ALSO BE MADE AND REPORTED:

HIGH VOLTAGE TEST-AFTER NOT LESS THAN SIX(6)HOURS IMMERSION IN WATER AT (15.6°C). (60°F) AND WHILE STILL IMMERSED, EACH REEL OF INSULATION CABLE WITHOUT LEAD, SHALL WITHSTAND A 60 CYCLE POTENTIAL OF 30,000 VOLTS FOR A PERIOD OF FIVE (5) MINUTES.

INSULATION RESISTANCE TEST-THE INSULATION RESISTANCE SHALL NOT BE LESS THAN 26,500 MEGOHMS PER THOUSAND FEET AT (15.6°C). 60°F THIS TEST SHALL BE CONDUCTED UPON COMPLETION OF THE HIGH VOLTAGE TEST.

SHORT-TIME DIELECTRIC STRENGTH TEST - A TEN(10)FT. SAMPLE OF THE FINISHED CABLE WITH ONLY THE LEAD REMOVED, AFTER TWELVE (2) HOURS SUBMERSION IN WATER AND WHILE STILL IMMERSED, SHALL WITHSTAND A VOLTAGE TEST OF 60,000 VOLTS 60 CYCLE A.C. FOR FIVE (5) MINITUES. ON COMPLETION OF THIS TEST, THE VOLTAGE WILL BE GRADUALLY RAISED IN ACCORDANCE WITH I.P.C.E.A. SPECIFICATIONS, UNTIL THE INSULATION IS PUNCTURED. THIS VOLTAGE SHALL BE RECORDED AND SHALL BE NOT LESS THAN 72,000 VOLTS.

EXTERNAL CORONA TEST-THIS TEST SHALL BE CONDUCTED ON ONE(1)SAMPLE PER 10,000 FT. OF COMPLETED CABLE EIGHTEEN(18)INCHES LONG WITH ONLY THE LEAD SHEATH REMOVED, AFTER WHICH SHALL BE WIPED WITH A CLEAN DRY CLOTH. THESE SAMPLES SHALL BE BENT AND MAINTAINED IN A "U-SHAPE" HAVING A BENDING DIAMETER EQUAL TO FIVE TIMES THE INSULATED CABLE DIAMETER. THE BENT SAMPLES SHALL THEN BE PLACED IN A VERTICAL POSITION ON A FLAT METALLIC GROUNDED PLATE AND 60 CYCLE A.C. VOLTAGE SHALL BE GRADUALLY APPLIED WITH A CORONA-LEVEL TEST APPARATUS OF THE FILTER-CIRCUIT TYPE, MAINTAINING SUFFICIENT AMPLIFICATION TO INDICATE THE EXISTENCE OF CORONA DISCHARGE. THIS VOLTAGE SHALL BE RAISED UNTIL CORONA IS INDICATED, AND SHALL NOT BE LESS THAN 8,200 VOLTS RMS.

THE VOLTAGE SHALL THEN BE RAISED TO 25,000 VOLTS AND MAINTAINED FOR SIX(6) HOURS WITHOUT FAILURE OF THE INSULATION. THE VOLTAGE SHALL NOT BE RAISED IN 10% STEPS AT TEN(10) MINUTE INTERVALS UNTIL FAILURE OF THE INSULATION OR FLASHOVER OCCURS.

THESE VOLTAGES SHALL BE RECORDED AND REPORTED.

INTERNAL-CORONA-LEVEL-EACH LENGTH OF COMPLETED CABLE SHALL BE TESTED IN ACCORDANCE WITH SECTION 6.13 OF THE LATEST REVISION OF I.P.C.E.A. STANDARD S-61-402, EXCEPT THAT THE MINIMUM CORONA LEVEL SHALL BE 8,200 VOLTS.

ITEMS 19 - 21 INCLUSIVE - TRANSMISSION CABLES.

1. CONDUCTOR RESISTANCE
2. SHEATH THICKNESS MEASUREMENT
3. HIGH VOLTAGE TEST
4. MECHANICAL INTEGRITY TEST
5. BENDING TEST
6. IONIZATION TEST — ONE TEST PER ORDER OR
7. HIGH VOLTAGE-TIME TEST) — THERE IS A QUANTITY LIMITATION OF
8. DIELECTRIC POWER TEST) — 25' ON THESE TESTS PER AEIC
9. POWER FACTOR TEST
10. SPARK TEST ON COVERING OVERHEAD SHEATH ON EACH LENGTH

ALL TESTS SHALL BE IN ACCORDANCE WITH THE LATEST REVISION OF "SOLID-TYPE IMPREGNATED-PAPER=INSULATED LEAD-COVERED CABLE SPECIFICATION," PUBLISHED BY THE ASSOCIATION OF EDISON ILLUMINATING COMPANIES.

ITEMS 22 -23 INCLUSIVE - MULTI-CONDUCTOR TRAFFIC SIGNAL CABLE

1. INDIVIDUAL CONDUCTOR RESISTANCE IN ACCORDANCE WITH THE LATEST REVISION OF ASTM B3.
2. INSULATION THICKNESS MEASUREMENTS.
3. INSULATION PHYSICAL AND OTHER TESTS FOR 60° C (140° F) POLYVINYL CHLORIDE IS SHOWN ON SHEET 2.
4. ALTERNATING CURRENT VOLTAGE TEST.
5. INSULATION RESISTANCE TEST INSULATION RESISTANCE CONSTANT AS SHOWN ON SHEET 2.
6. (CABLE ITEM 23 ONLY)
   a. POLYVINYL CHLORIDE JACKET PHYSICAL AND OTHER TESTS SHOWN ON SHEET 2.
   b. JACKET THICKNESS MEASUREMENTS.
7. (CABLE ITEM 22 ONLY), LEAD SHEATH THICKNESS MEASUREMENTS.

TESTS NO. 4-7, INCLUSIVE, SHALL BE MADE IN ACCORDANCE WITH THE LATEST REVISION OF I.P.C.E.A. S-61-402, EXCEPT THAT THE INSULATION RESISTANCE CONSTANT SHALL BE 1000 AT 15.6°C (60°F).

ITEM 24 - 8/C SERIES STREET LIGHTING CABLE

1. CONDUCTOR CONTINUITY AND RESISTANCE IN ACCORDANCE WITH THE LATEST REVISION OF ASTM B-33.
2. LEAD SHEATH THICKNESS MEASUREMENTS.
3. A HIGH VOLTAGE TEST CONSISTING OF 22,500 VOLTS, 60 CYCLES A.C. FOR A DURATION OF 5 MINUTES, BETWEEN CONDUCTORS AND FROM EACH CONDUCTOR TO THE LEAD SHEATH.

ITEM 25 - FLEXIBLE OVERHEAD TRAINER WIRE

1. CONDUCTOR RESISTANCE, TENSIL STRENGTH AND ELONGATION IN ACCORDANCE WITH THE LATEST REVISION OF ASTM B-173.
2. INSULATION PHYSICAL AND OTHER TESTS SHOWN ON SHEET-2.
3. ADDITIONAL INSULATION TESTS IN ACCORDANCE WITH THE LATEST REVISION OF I.P.C.E.A. S-19-81 AS FOLLOWS:
   a. ALTERNATING-CURRENT VOLTAGE TEST.
   b. INSULATION RESISTANCE TEST.
   c. DIRECT-CURRENT VOLTAGE TEST.
   d. CORONA LEVEL TEST.
   e. SHORT-TIME DIELECTRIC STRENGTH TEST.
   f. COLD-BENDING AND LONG-TIME DIELECTRIC STRENGTH TEST.
   g. CAPACITY AND POWER FACTOR TEST.
   h. OZONE RESISTANCE TEST.
4. PHYSICAL AND OTHER TESTS ON THE NEOPRENE JACKET (GENERAL PURPOSE OR HEAVY DUTY), AS SHOWN ON SHEET 2.
5. JACKET THICKNESS MEASUREMENTS

ITEM 26 - SUPERVISORY CONTROL CABLE (MULTI-CONDUCTOR)

1. CONDUCTOR RESISTANCE, TENSILE STRENGTH AND ELONGATION, IN ACCORDANCE WITH THE LATEST REVISION OF ASTM B-3.
2. INSULATION PHYSICAL FOR 60°C (140°F) PVC INSULATION AND OTHER TESTS SHOWN ON SHEET 2.
3. INSULATION RESISTANCE TESTS.
4. VOLTAGE TESTS PER IPCEA S-61-402.
5. INSULATION THICKNESS.
6. LEAD SHEATH THICKNESS.
7. THICKNESS OF COVERING OVER LEAD SHEATH.
8. SPARK TEST ON COVER LEAD SHEATH ON EACH LENGTH.

ITEM 27 - INTEGRAL MESSENGER COMMUNICATIONS CABLE (MULTI-PAIR)

ITEM 28 - COMMUNICATIONS CABLE

ITEM 29 - COMMUNICATIONS CABLE, LEAD SHEATH

ITEM 30 - COMMUNICATIONS CABLE, LEAD SHEATH, DIRECT BURIAL

MULTI-PAIR COMMUNICATION CABLES (Maximum Mutual Capacities = 90 nf per mile) (ALSO FOR TRAFFIC SIGNAL CHRONOPLAN) AND SUPERVISORY

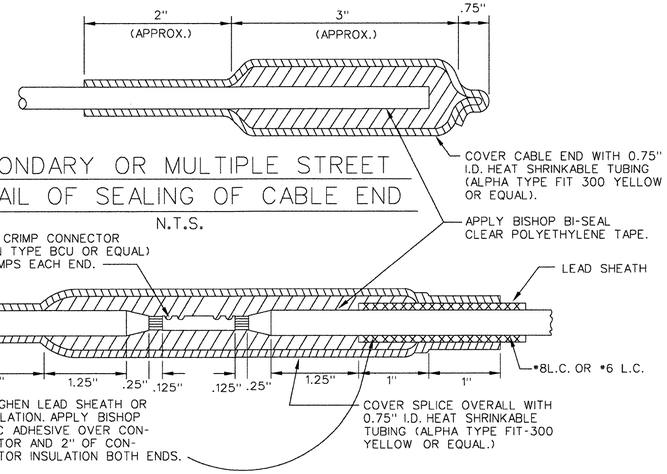
ITEM NO.	USE AND RATING	CONDUCTOR	INSULATION[b]	TAPE OVER INSULATION CONDUCTORS	INNER BELT	SHIELD OVER TAPE OR BELT	JACKET OR SHEATH	COVERING OVER SHEATH
27	[a] AERIAL 600V.	#6 ØR #19 AWG, SOLID, UNCOATED COPPER (ASTM B3)-NUMBER OF PAIRS AS REQUIRED	.025"[c] CLASS B POLYETHYLENE (ASTM D 1351)	12.5 PERCENT MINIMUM LAP, POLYETHYLENE TEREPHTHALATE		CORRUGATED, LONGITUDINAL, ANNEALED, [c] .004" COPPER	BLACK POLYETHYLENE (ASTM D 2308). THICKNESSES OVER CORE AND MESSENGER AND WEB DIMENSIONS IN ACCORDANCE WITH REA SPECIFICATION PE-38.	
28	IN DUCT 600V.				BLACK POLY-ETHYLENE (ASTM D 2308) .010" MIN. .030" MAX. THICKNESS		BLACK POLYETHYLENE (ASTM D 2308), THICKNESS IN ACCORDANCE WITH PARAGRAPH 3.6.7.3.7 AND TABLE IV OF FED. SPEC. J.C.111.	
29	IN DUCT 600V.		.031"[c] DIOCTYL PHTHALATE PLASTICIZED PVC (ASTM D 2219)				LEAD-ANTIMONY THICKNESS PER ITEM 26 EXCEPT .063" MIN. THICKNESS [c]	
30	DIRECT BURIAL 600V.	#6 ØR #19 AWG, SOLID, TINNED COPPER (ASTM B 33)-NUMBER OF PAIRS AS REQUIRED					COMMERCIALLY PURE LEAD, THICKNESS PER ITEMS 22 & 23.	ASPHALTUM-SATURATED JUTE STEEL ARMOR PER ITEMS 17 & 18.

TEST REPORTS

SHIPMENTS OF WIRE AND CABLE SHALL NOT BE CONSIDERED COMPLETE UNTIL CERTIFIED TEST REPORTS ARE RECEIVED AND APPROVED. TEST REPORTS FOR THE VARIOUS ITEMS ABOVE SHALL SHOW COMPLIANCE WITH CITED SPECIFICATIONS, LISTING TEST RESULTS, AS WELL AS THE FOLLOWING TESTS:

1. CONDUCTOR RESISTANCE OF EACH LENGTH OF EACH CONDUCTOR IN OHMS PER 1000'
2. CERTIFICATION OF MUTUAL CAPACITANCE OF ALL CABLES AND OF NON-INJURIOUS EFFECT OF FLOODING COMPOUND ON ITEM 27.

(a) "FIGURE 8" CONSTRUCTION. MESSENGER SHALL BE 7 STRAND EHS GALVANIZED, CLASS A, .25" NORMAL DIAM. (ASTM A 475) AND SHALL BE FULL FLOODED.
(b) COLOR CODED PER FEDERAL SPECIFICATION J-C-111.
(C) NOMINAL THICKNESS, mm (INCHES).



TRAFFIC SIGNAL SECONDARY OR MULTIPLE STREET LIGHTING CABLE DETAIL OF SEALING OF CABLE END

N.T.S.

TRAFFIC SIGNAL SECONDARY OR MULTIPLE STREET LIGHTING SPLICE DETAIL "A"

P.J. CABLE TO #8 OR #6 L.C. CABLE OR P.J. CABLE TO P.J.CABLE

N.T.S.

SCALE: AS SHOWN

REVISIONS

Date	Description	Chkd. by

DETAILS

EAST GRAND BOULEVARD BRIDGE

CABLE & WIRE SPECIFICATIONS

DEPARTMENT OF CITY TRAFFIC ENGINEERING DIVISION DETROIT PUBLIC WORKS

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PUBLIC LIGHTING DEPARTMENT CITY OF DETROIT

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C.E.A.		53 of 60

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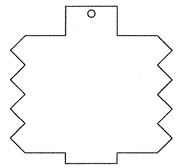
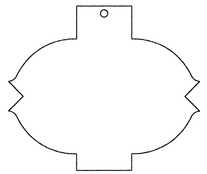


24,000 VOLT TRUNK LINE



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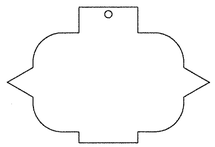
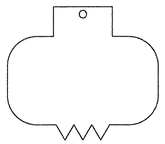


13200 VOLT FEEDER



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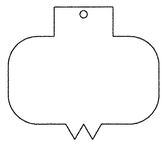
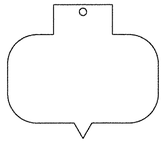
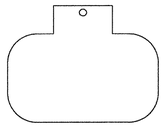


4800 & 5500 VOLT FEEDER



2400 VOLT FEEDER



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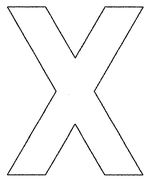

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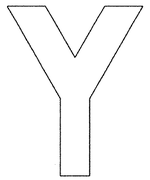

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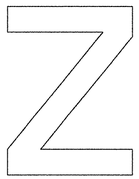

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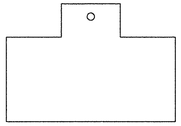
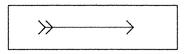


SUPERVISORY CONTROL



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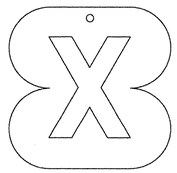
ST. LTG. CIRC. NUMBER



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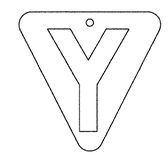

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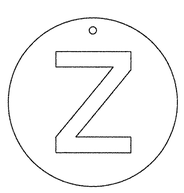

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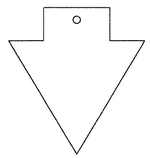
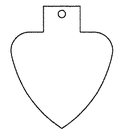
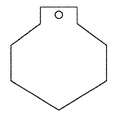


DEAD CABLE



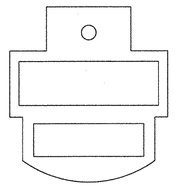
8/C COND. CABLE



MULTIPLE LTG, CONTROL

IDENTIFICATION TAGS

MATERIAL : LEAD
(FOR REFERENCE)



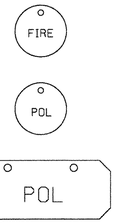
MULTIPLE STREET LIGHTING
ALL VOLTAGES

MULTIPLE INC. LTG.

TRAFFIC SIGNALS

SECONDARY POWER TO SAFETY
ISLANDS & TRAFFIC SIGNALS

TRAFFIC SIGNAL CHRONOLIZER



COMMUNICATION

SUBSTATION & CIRCUIT ABBREVIATIONS ON IDENTIFICATION TAGS SHALL BE SPELLED AS FOLLOWS

BEL.	KSG.	POR.
BUT.	LAB.	RUS.
CAN.	LEE.	STA.
COB.	LOT.	STO.
CON.	LUD.	TOW.
CUS.	MAP.	TRI.
GRF.	MCC.	TUR.
HUD.	MON.	WAL.
JSC.	PAL.	WSU.
JOY.	PHI.	JEF.

NOTE:

REQUIRED CABLE IDENTIFICATION TAGS WILL BE FURNISHED BY CONTRACTOR. CABLE TAG MARKINGS SUCH AS SUBSTATION OR CABLE MARKING WILL BE AS SHOWN ON PLANS OR WILL BE FURNISHED BY P.L.D.

CONTRACTOR SHALL FURNISH AND INSTALL CABLE TAGS AS PER P.L.D. SPECIFICATIONS.

SCALE: AS SHOWN

REVISIONS

Date	Description	Chkd. by

DETAILS

EAST GRAND
BOULEVARD BRIDGE

CABLE TAGS DETAILS

DEPARTMENT OF PUBLIC WORKS
CITY OF DETROIT
TRAFFIC ENGINEERING DIVISION

Checked by	Approved by	
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PUBLIC LIGHTING DEPARTMENT
CITY OF DETROIT

Checked by	Approved by	File No.
-------	-------	51-0686

Consulting Engineering Associates, Inc.
16580 WYOMING AVE. DETROIT MICHIGAN 48221
TELEPHONE: (313) 341-5797 FAX: 341-0205

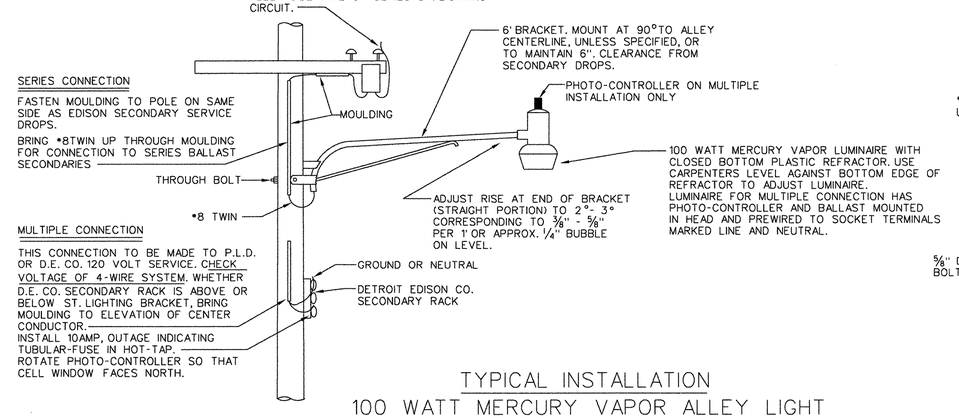
Designed by	Checked by	Sheet No.
C.E.A.		54 of 60

Disk File Name	Job File No.
208PLDM	CEA 138200

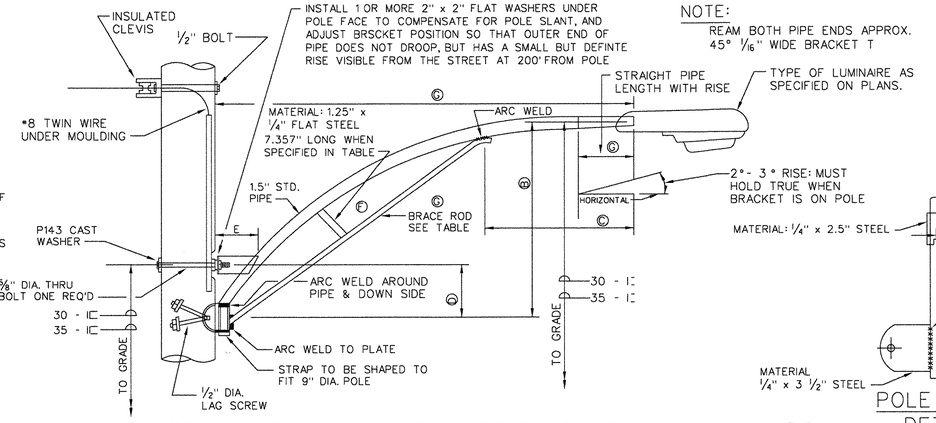
208

Date 3-03-08 Dwg. No. DTL-2.—

TIME: 2:47:39 PM
DATE PLOTTED: 3/20/2008
REVISION DATE: APRIL 1, 2001
Computer File: T:\138200 E. Grand Blvd Bridge\DETAILS\208plde.dgn



TYPICAL INSTALLATION
100 WATT MERCURY VAPOR ALLEY LIGHT

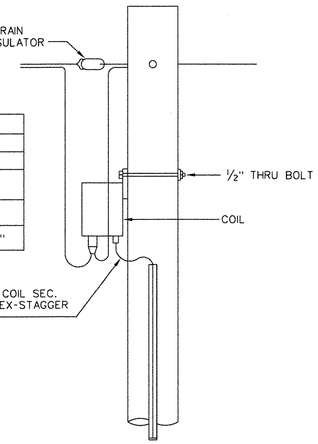


UPSWEEP STREET LIGHTING BRACKET ARM AND LUMINAIRE

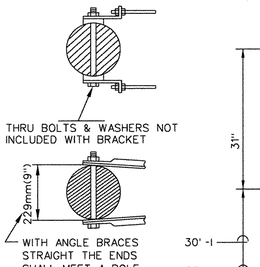
ARM DIMENSION TABLE								
TYPE	A	B	C	D	E	F	G	H
6'	6'	32"	2.4'	8.75"	5.5"	NO	1" SOLID	14"
8'	92"	4'	3'	8.75"	4.5"	YES	1" SOLID	8"
10'	122"	33"	3.4"	8.875"	8"	NO	1" SOLID	2'

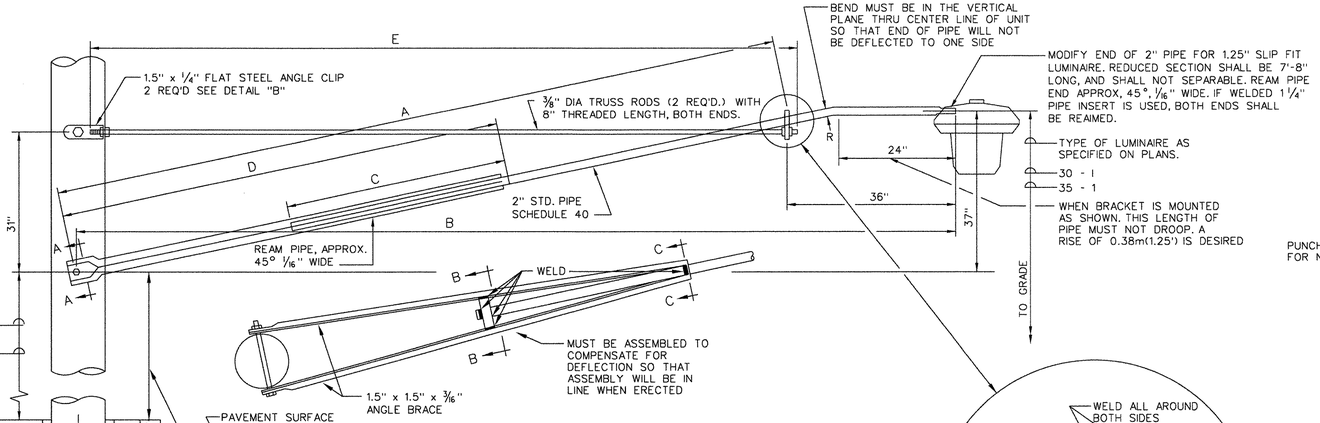
THIS DIMENSION IS APPROXIMATE

POLE STRAP DETAIL



TYPICAL COIL INSTALLATION

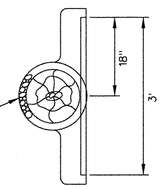




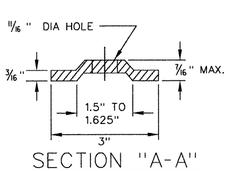
ELEVATION
N.T.S.

ARM DIMENSION TABLE				ROD LENGTH
A	B	C	D	E
13'-4"	16'	48"	96"	13'-3"
17'-3"	20'	6'	10'	17'-3"

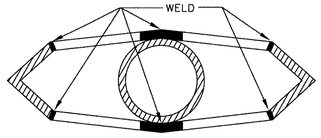
MOUNTING DIMENSION TABLE		
30' LUM. MOUNTING HEIGHT		
	16' ARM	20' ARM
30 - I	30'	30'
30 - IC	26'-11"	26'-11"
35' LUM. MOUNTING HEIGHT		
35 - I	35'	35'
35 - IC	31'-11"	31'-11"



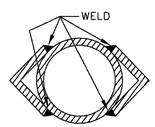
PLAN OF BUTT



SECTION "A-A"
N.T.S.

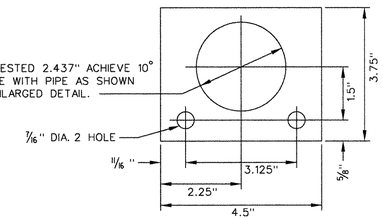


SECTION "B-B"
N.T.S.

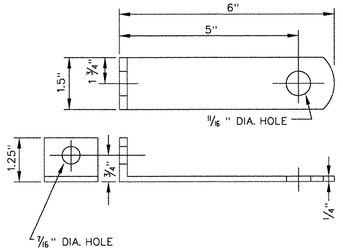


SECTION "C-C"
N.T.S.

ST. LTG. BRACKET ARM & LUMINAIRE

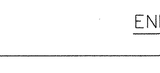


DETAIL "A"
STOCK 5/8" MILD STEEL



DETAIL "B"
2 REQ'D.

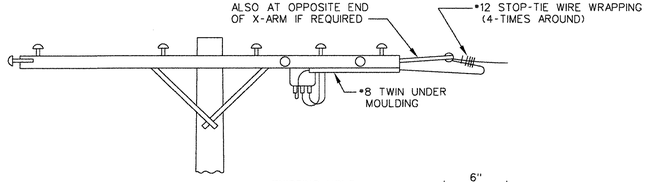
ARM MOUNTING DIMENSION TABLE							
	30' LUM. MOUNTING HEIGHT			35' LUM. MOUNTING HEIGHT			
	ARM LENGTH				ARM LENGTH		
	6'	8'	10'		6'	8'	10'
30 - I	30'	30'	30'	35 - I	35'	35'	35'
30 - II	—	26'-3"	26'-3"	35 - II	—	31'-3"	33'-0"

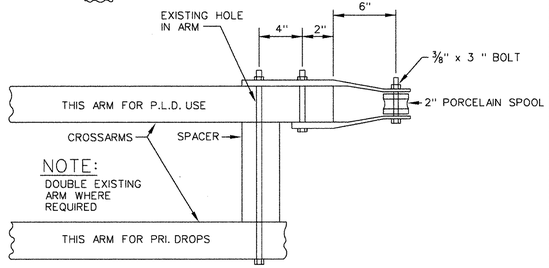


-PLD 45' POLE SET IN 1960
STOCK 8mm() ALUMINUM MILL FINISH

TYPICAL MARKING WOOD POLE TAGS

USE 1/4" STEEL STAMP FOR LETTERING PIN
SET MARKER 7'-0" ABOVE GRADE





END OF ARM CONSTRUCTION FOR STREET LIGHTING

SCALE: AS SHOWN

REVISIONS

Date	Description	Chkd. by

DETAILS
EAST GRAND BOULEVARD BRIDGE

MISCELLANEOUS OVERHEAD

DEPARTMENT OF CITY OF DETROIT TRAFFIC ENGINEERING DIVISION PUBLIC WORKS

Checked by	Approved by	
-------	-------	-------

PUBLIC LIGHTING DEPARTMENT
CITY OF DETROIT

Checked by	Approved by	File No.
-------	-------	51-0686

Consulting Engineering Associates, Inc.
16580 WYOMING AVE. DETROIT MICHIGAN 48221
TELEPHONE: (313) 341-5797 FAX: 341-0205

Designed by	Checked by	Sheet No.
C.E.A.		55 of 60

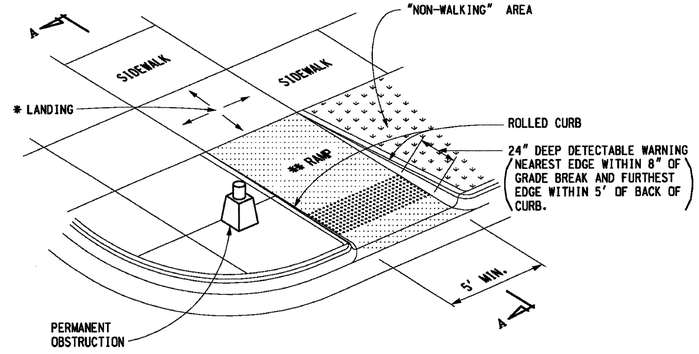
Disk File Name	Job File No.
301PLDM	CEA 138200
Date 3-03-08	Dwg. No. DTL-2.—

301

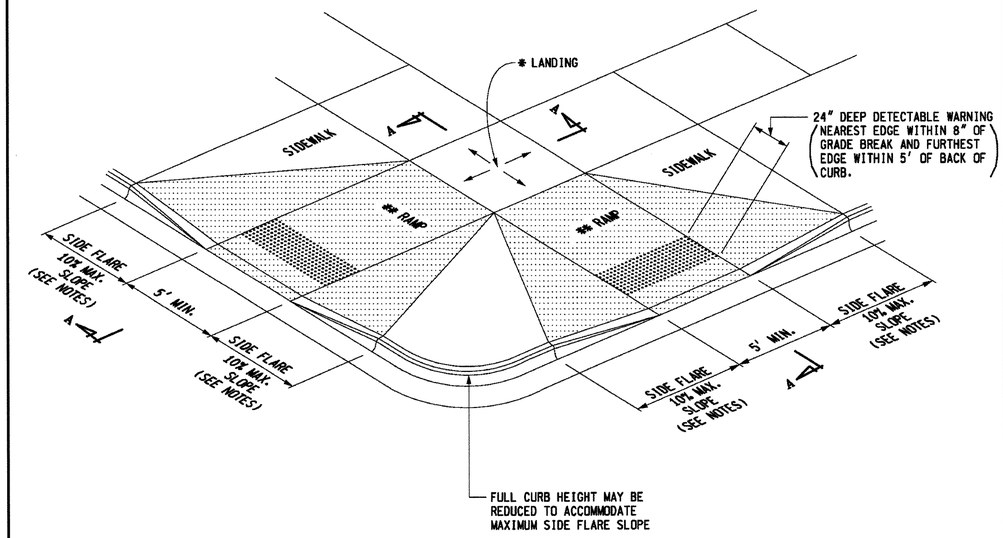
REVISION DATE: APRIL 1, 2001
Computer File: T:\138200 E. Grand Blvd Bridge\DETAILS\301pldе.dgn
DATE PLOTTED: 3/20/2008
TIME: 2:48:11 PM

* MAXIMUM LANDING SLOPE IN ANY DIRECTION IS 2.0%.
MINIMUM LANDING DIMENSIONS 5' x 5'.

** MAXIMUM CROSS SLOPE ON RAMP IS THE SAME AS THAT FOR SIDEWALK (2.0%).
RUNNING SLOPE 5% - 7% (8.3% MAXIMUM).



SIDEWALK RAMP TYPE R
(ROLLED SIDES)



SIDEWALK RAMP TYPE F
(FLARED SIDES, TWO RAMPS SHOWN)

MDOT Michigan Department of Transportation

PREPARED BY DESIGN DIVISION

DRAWN BY: B.L.T.

CHECKED BY: W.K.P.

DEPARTMENT DIRECTOR
Kirk T. Steudle

APPROVED BY: _____ ENGINEER OF DELIVERY

APPROVED BY: _____ ENGINEER OF DEVELOPMENT

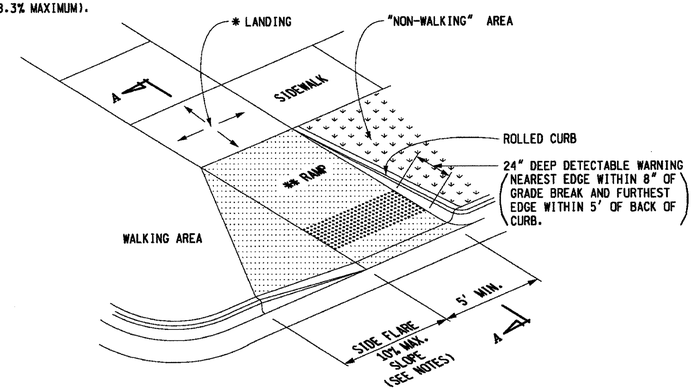
MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

SIDEWALK RAMP AND DETECTABLE WARNING DETAILS

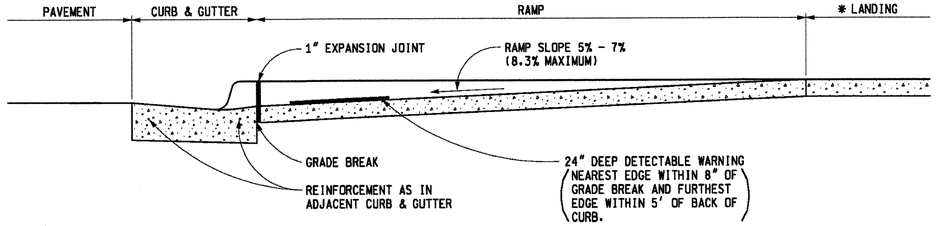
F.H.W.A. APPROVAL	2-19-2008 PLAN DATE	R-28-F	SHEET 1 OF 7

* MAXIMUM LANDING SLOPE IN ANY DIRECTION IS 2.0%.
MINIMUM LANDING DIMENSIONS 5' x 5'.

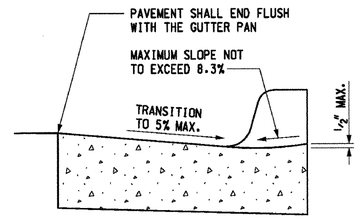
** MAXIMUM CROSS SLOPE ON RAMP IS THE SAME AS THAT FOR SIDEWALK (2.0%).
RUNNING SLOPE 5% - 7% (8.3% MAXIMUM).



SIDEWALK RAMP TYPE RF
(ROLLED / FLARED SIDES)



SECTION A-A
(TYPICAL ALL RAMP DETAILS)



SECTION THROUGH CURB CUT
(TYPICAL ALL RAMP TYPES)

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

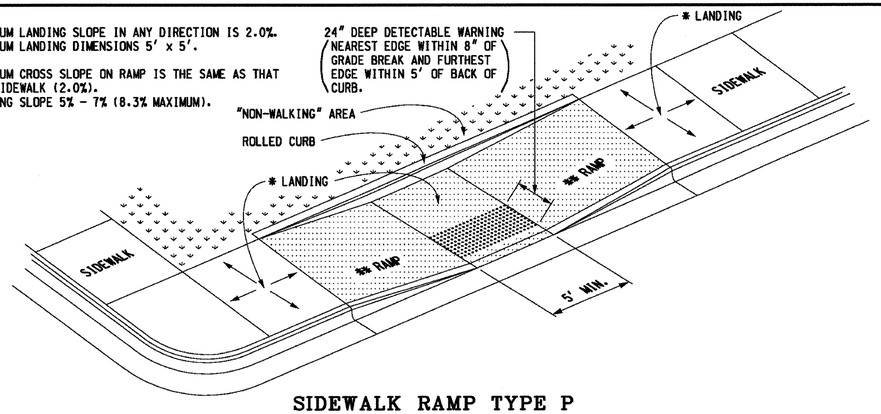
SIDEWALK RAMP AND DETECTABLE WARNING DETAILS

F.H.W.A. APPROVAL	2-19-2008 PLAN DATE	R-28-F	SHEET 2 OF 7

CONTROL SECTION STU 82400	JOB NO. 86173A	SHEET NO. 56

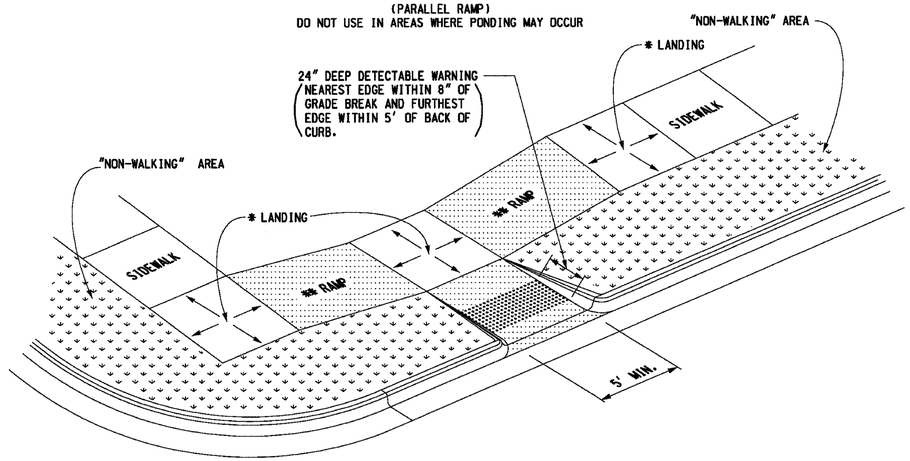
* MAXIMUM LANDING SLOPE IN ANY DIRECTION IS 2.0%.
MINIMUM LANDING DIMENSIONS 5' x 5'.

** MAXIMUM CROSS SLOPE ON RAMP IS THE SAME AS THAT FOR SIDEWALK (2.0%).
RUNNING SLOPE 5% - 7% (8.3% MAXIMUM).



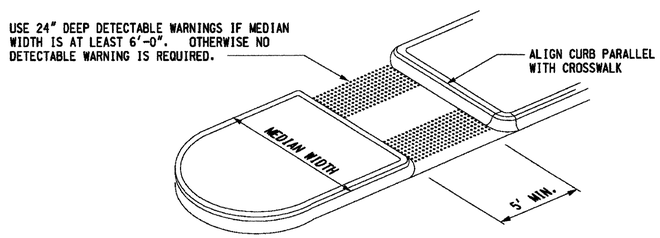
SIDEWALK RAMP TYPE P

(PARALLEL RAMP)
DO NOT USE IN AREAS WHERE PONDING MAY OCCUR



SIDEWALK RAMP TYPE C

(COMBINATION RAMP)



SIDEWALK RAMP TYPE M

(MEDIAN ISLAND)

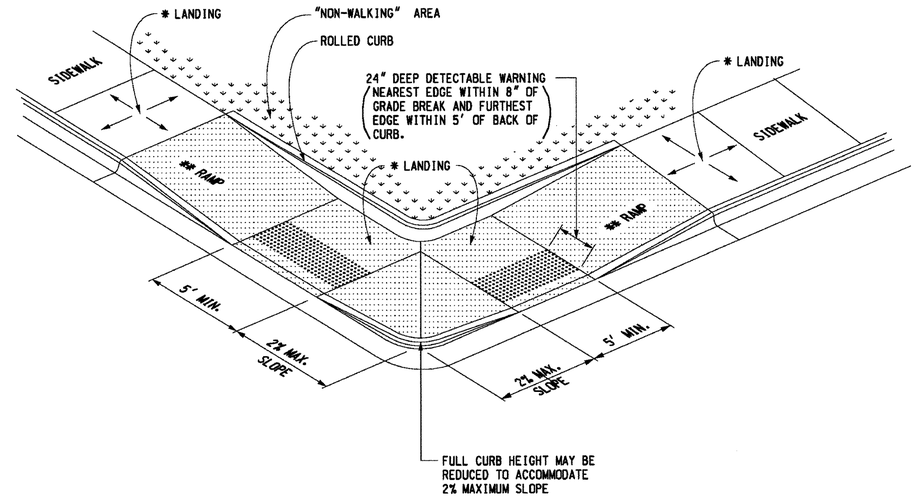
MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

SIDEWALK RAMP AND DETECTABLE WARNING DETAILS

F.H.W.A. APPROVAL	2-19-2008 PLAN DATE	R-28-F	SHEET 3 OF 7

* MAXIMUM LANDING SLOPE IN ANY DIRECTION IS 2.0%.
MINIMUM LANDING DIMENSIONS 5' x 5'.

** MAXIMUM CROSS SLOPE ON RAMP IS THE SAME AS THAT FOR SIDEWALK (2.0%).
RUNNING SLOPE 5% - 7% (8.3% MAXIMUM).



SIDEWALK RAMP TYPE PF

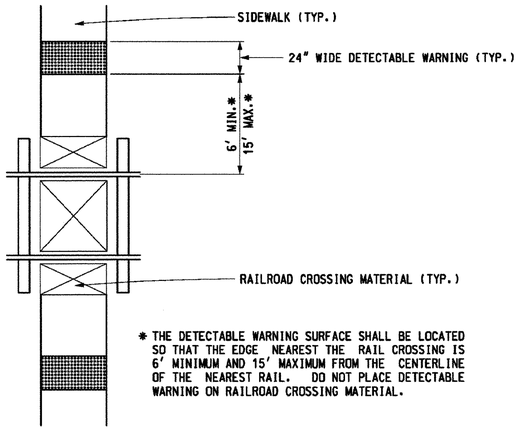
(PARALLEL WITH FLARE)

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

SIDEWALK RAMP AND DETECTABLE WARNING DETAILS

F.H.W.A. APPROVAL	2-19-2008 PLAN DATE	R-28-F	SHEET 4 OF 7

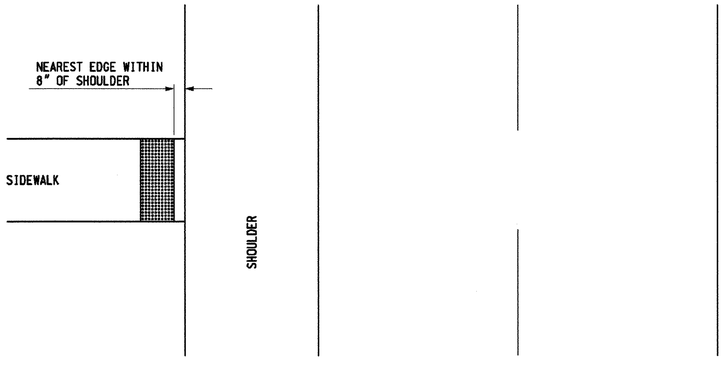
CONTROL SECTION	JOB NO.	SHEET NO.
STU 82400	86173A	57



* THE DETECTABLE WARNING SURFACE SHALL BE LOCATED SO THAT THE EDGE NEAREST THE RAIL CROSSING IS 6' MINIMUM AND 15' MAXIMUM FROM THE CENTERLINE OF THE NEAREST RAIL. DO NOT PLACE DETECTABLE WARNING ON RAILROAD CROSSING MATERIAL.

SIDEWALK RAMP TYPE RR

(DETECTABLE WARNING AT RAILROAD CROSSING)



SIDEWALK RAMP TYPE FS

(DETECTABLE WARNING AT FLUSH SHOULDER)

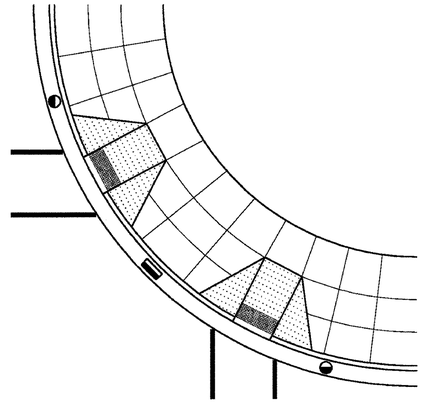
MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

SIDEWALK RAMP AND DETECTABLE WARNING DETAILS

F.H.W.A. APPROVAL	2-19-2008 PLAN DATE	R-28-F	SHEET 5 OF 7

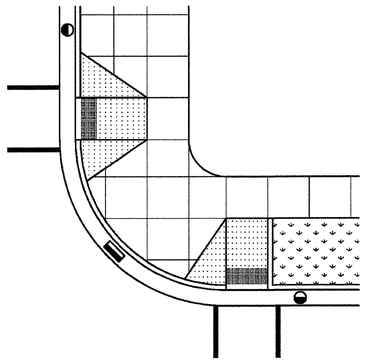
LEGEND

- SIDEWALK RAMP
- "NON-WALKING" AREA
- CROSSWALK MARKING
- PREFERRED LOCATION OF DRAINAGE INLET (TYP.)
- ALTERNATE LOCATION OF DRAINAGE INLET (TYP.)

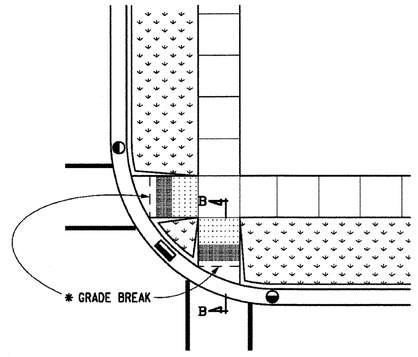


SIDEWALK RAMP PERPENDICULAR TO RADIAL CURB (TYPE F SHOWN)

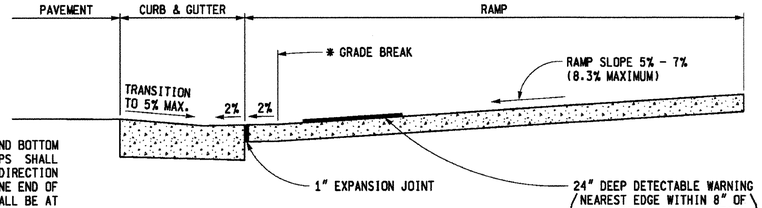
(USE WITH RADIAL CURB WHEN THE CROSSWALK AND SIDEWALK RAMP ARE NOT ALIGNED)



SIDEWALK RAMP PERPENDICULAR TO TANGENT CURB (TYPE F AND TYPE RF SHOWN)



SIDEWALK RAMP LOCATED IN RADIUS, WITH ORIENTATION AS DESCRIBED IN SECTION B-B (TYPE R SHOWN)



* GRADE BREAKS AT THE TOP AND BOTTOM OF PERPENDICULAR CURB RAMPS SHALL BE PERPENDICULAR TO THE DIRECTION OF RAMP RUN. AT LEAST ONE END OF THE BOTTOM GRADE BREAK SHALL BE AT THE BACK OF CURB.

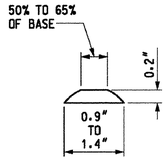
SECTION B-B
SIDEWALK RAMP ORIENTATION

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

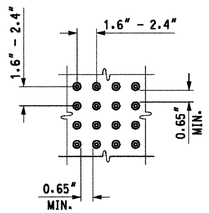
SIDEWALK RAMP AND DETECTABLE WARNING DETAILS

F.H.W.A. APPROVAL	2-19-2008 PLAN DATE	R-28-F	SHEET 6 OF 7

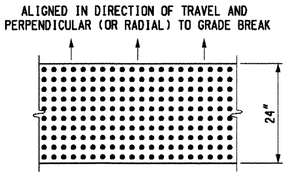
CONTROL SECTION	JOB NO.	SHEET NO.
STU 82400	86173A	58



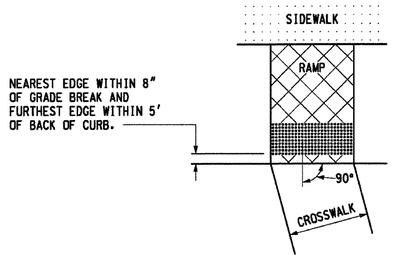
DOME SECTION



DOME SPACING



DOME ALIGNMENT



DETECTABLE WARNING DETAILS

NOTES:

DETAILS SPECIFIED ON THIS PLAN APPLY TO ALL CONSTRUCTION, RECONSTRUCTION, OR ALTERATION OF STREETS, CURBS, OR SIDEWALKS BY ALL PUBLIC AGENCIES AND BY ALL PRIVATE ORGANIZATIONS CONSTRUCTING FACILITIES FOR PUBLIC USE.

SIDEWALK RAMPS ARE TO BE LOCATED AS SPECIFIED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

RAMPS SHALL BE PROVIDED AT ALL CORNERS OF AN INTERSECTION WHERE THERE IS EXISTING OR PROPOSED SIDEWALK AND CURB. RAMPS SHALL ALSO BE PROVIDED AT WALK LOCATIONS IN MID-BLOCK IN THE VICINITIES OF HOSPITALS, MEDICAL CENTERS, AND LARGE ATHLETIC FACILITIES.

SURFACE TEXTURE OF THE RAMP SHALL BE THAT OBTAINED BY A COARSE BROOMING, TRANSVERSE TO THE SLOPE OF RAMP.

SIDEWALK SHALL BE RAMPED WHERE THE DRIVEWAY CURB IS EXTENDED ACROSS THE WALK.

CARE SHALL BE TAKEN TO ASSURE A UNIFORM GRADE ON THE RAMP, FREE OF SAGS AND SHORT GRADE CHANGES. WHERE CONDITIONS PERMIT, IT IS DESIRABLE THAT THE SLOPE OF THE RAMP BE IN ONLY ONE DIRECTION, PARALLEL TO THE DIRECTION OF TRAVEL.

RAMP WIDTH SHALL BE INCREASED, IF NECESSARY, TO ACCOMMODATE SIDEWALK SNOW REMOVAL EQUIPMENT NORMALLY USED BY THE MUNICIPALITY.

IF POSSIBLE, DRAINAGE STRUCTURES SHOULD NOT BE PLACED IN LINE WITH RAMPS. EXCEPT WHERE EXISTING DRAINAGE STRUCTURES ARE BEING UTILIZED IN THE NEW CONSTRUCTION, LOCATION OF THE RAMP SHOULD TAKE PRECEDENCE OVER LOCATION OF DRAINAGE STRUCTURE.

THE SLOPE OF THE GUTTER PAN SHALL BE TRANSITIONED TO A MAXIMUM OF 5% IN THE AREA OF THE CURB CUT OF THE SIDEWALK RAMP. MAINTAIN THE NORMAL GUTTER PAN SLOPE ACROSS THE DRAINAGE STRUCTURE INLETS.

THE TOP OF THE JOINT FILLER FOR ALL RAMP TYPES SHALL BE FLUSH WITH THE ADJACENT CONCRETE.

CROSSWALK AND STOP LINE MARKINGS, IF USED, SHALL BE SO LOCATED AS TO STOP TRAFFIC SHORT OF RAMP CROSSINGS. SPECIFIC DETAILS FOR MARKING APPLICATIONS ARE GIVEN IN THE "MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES".

DETECTABLE WARNINGS SHALL EXTEND THE FULL WIDTH OF THE CURB RAMP. THEY SHALL BE LOCATED SO THAT THE NEAREST EDGE OF THE DETECTABLE WARNING IS WITHIN 8" OF THE GRADE BREAK AND THE FURTHEST EDGE WITHIN 5' OF THE BACK OF CURB.

FLARED SIDES WITH A SLOPE OF 10% MAXIMUM, MEASURED ALONG THE CURB LINE, SHALL BE PROVIDED WHERE A CIRCULATION PATH CROSSES THE SIDEWALK RAMP. FLARED SIDES ARE NOT REQUIRED WHERE THE EDGES OF A SIDEWALK RAMP ARE PROTECTED BY LANDSCAPING OR OTHER BARRIERS TO TRAVEL BY WHEELCHAIR USERS OR PEDESTRIANS ACROSS THE EDGE OF THE SIDEWALK RAMP.

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

SIDEWALK RAMP AND DETECTABLE WARNING DETAILS

F.H.W.A. APPROVAL	2-19-2008 PLAN DATE	R-28-F	SHEET 7 OF 7

CONTROL SECTION STU 82400 | JOB NO. 86173A | SHEET NO. 59

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

F.H.W.A. APPROVAL	PLAN DATE		SHEET OF

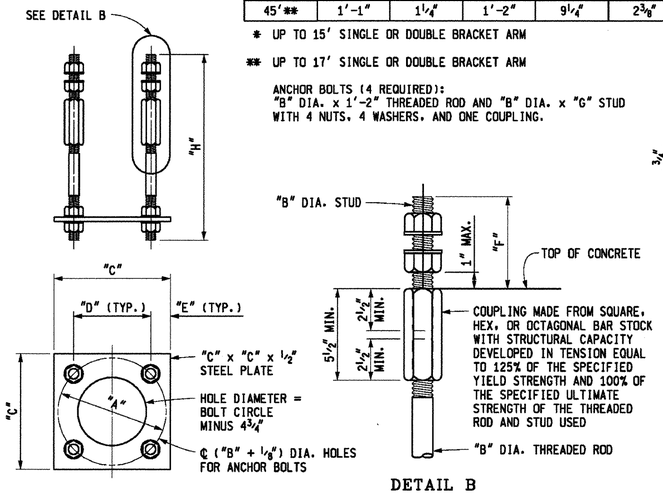
ANCHOR BOLT ASSEMBLY DIMENSIONS

LIGHT STANDARD MOUNTING HEIGHT	BOLT CIRCLE "A"	ANCHOR BOLT DIA. "B"	"C"	"D"	"E"	STUD PROJECTION "F"	STUD LENGTH "G"	"H"
30'*	11"	1"	11 1/2"	7 3/4"	1 7/8"	4 3/4"	7 1/4"	1'-9 3/4"
30'**	11"	1 1/4"	11 1/2"	7 3/4"	1 7/8"	5 1/2"	8"	1'-10 1/2"
40'**	1'-1"	1 1/4"	1'-2"	9 1/4"	2 3/8"	5 1/2"	8"	1'-10 1/2"
45'**	1'-1"	1 1/4"	1'-2"	9 1/4"	2 3/8"	5 1/2"	8"	1'-10 1/2"

* UP TO 15' SINGLE OR DOUBLE BRACKET ARM

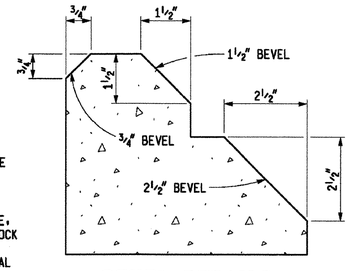
** UP TO 17' SINGLE OR DOUBLE BRACKET ARM

ANCHOR BOLTS (4 REQUIRED):
"B" DIA. x 1'-2" THREADED ROD AND "B" DIA. x "G" STUD WITH 4 NUTS, 4 WASHERS, AND ONE COUPLING.

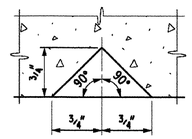


DETAIL B

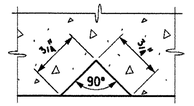
LIGHT STANDARD ANCHOR BOLT ASSEMBLY



BEVEL DETAILS

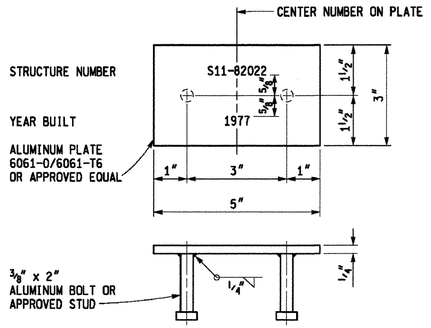


DOUBLE 3/4" Δ MOLDING



3/4" Δ MOLDING

MOLDING DETAILS



NAME PLATE

NOTES:

DIE STAMP - 1/4" MINIMUM

LETTERS AND NUMBERS SHALL BE 1/4" MINIMUM OR 3/8" MAXIMUM HEIGHT.

DATE SHALL BE YEAR THAT SUPERSTRUCTURE WAS COMPLETED.

NOTES:

DETAILS SHOWN ARE ACCORDING TO THE CURRENT AASHTO SPECIFICATIONS.

LIGHT STANDARD ANCHOR BOLT ASSEMBLY STEEL PLATE SHALL BE ASTM A36.

ALL STEEL SHALL BE HOT-DIP GALVANIZED ACCORDING TO THE CURRENT STANDARD SPECIFICATIONS.

ANCHOR BOLTS, WASHERS, COUPLINGS AND NUTS FOR LIGHT STANDARDS SHALL BE ACCORDING TO THE CURRENT STANDARD SPECIFICATIONS.

THE COUPLING SHALL BE RETAPPED AFTER GALVANIZING IN THE SAME MANNER AS SPECIFIED FOR NUTS.

ALUMINUM PLATE SHALL MEET THE REQUIREMENTS OF ASTM B209.

ALUMINUM BOLT SHALL MEET THE REQUIREMENTS OF ASTM F468.

MDOT Michigan Department of Transportation

PREPARED BY DESIGN DIVISION

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ENGINEER OF DELIVERY

APPROVED BY: _____
ENGINEER OF DEVELOPMENT

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

MOLDING, BEVEL, LIGHT STD. ANCHOR BOLT ASSY., AND NAME PLATE DETAILS

F.H.W.A. APPROVAL	3-30-2007 PLAN DATE	B-103-E	SHEET 1 OF 1

CONTROL SECTION STU 82400 | JOB NO. 86173A | SHEET NO. 60