CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS

IN CO-OPERATION WITH

MICHIGAN DEPARTMENT OF TRANSPORTATION

ECONOMIC DEVELOPMENT - CATEGORY A

Control Section EDA82522
Job Number 52624A

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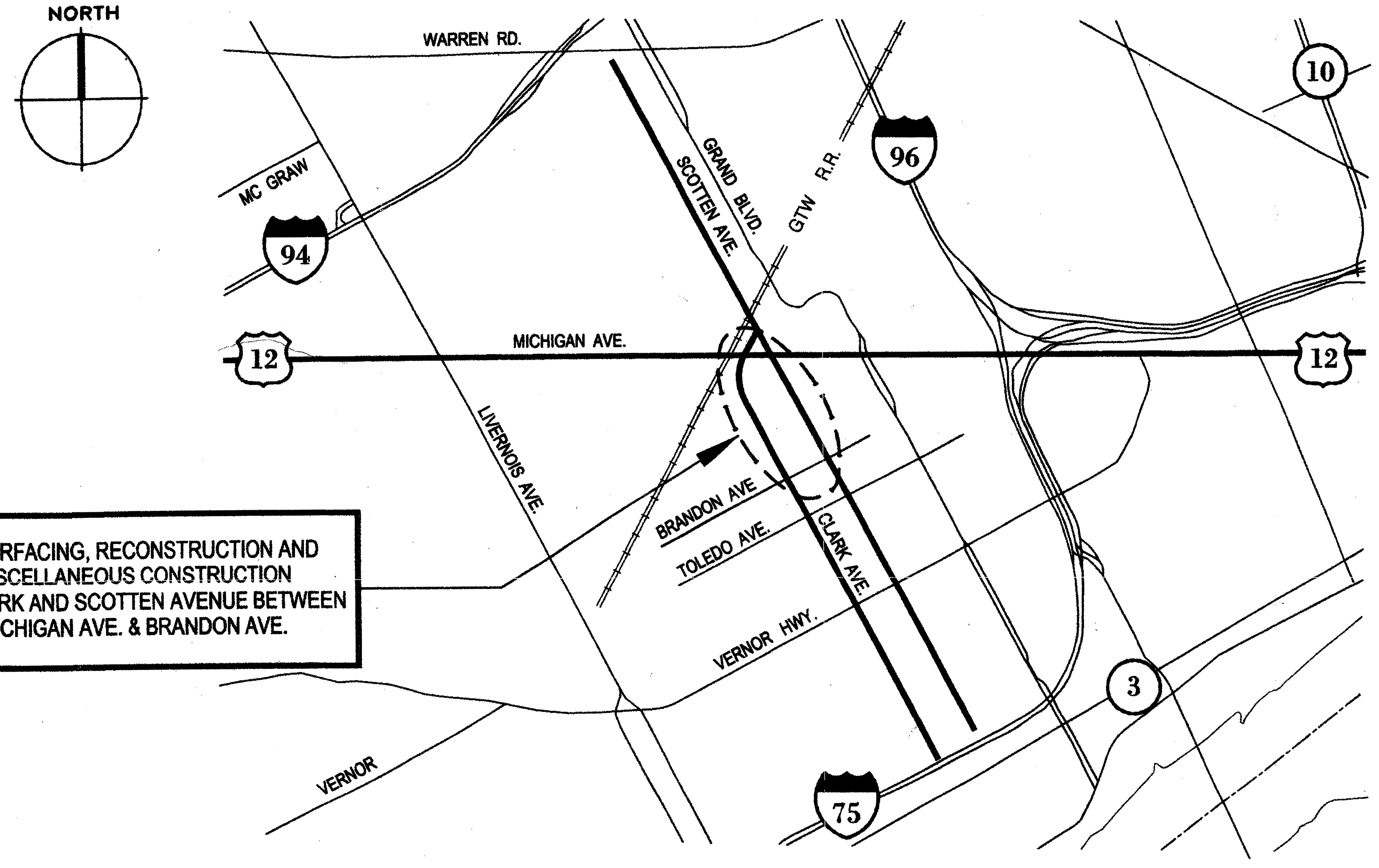
2 & 3 OF 5	SPECIAL DETAILS
4 OF 5	MISCELLANEOUS DETAILS
5 OF 5	SPECIAL STANDARDS & SPECIAL DETAILS

Clark Ave + Scotten Ave Btw Michigan + Brandon Bid Set



RESURFACING, RECONSTRUCTION AND MISCELLANEOUS CONSTRUCTION OF CLARK AND SCOTTEN AVENUE BETWEEN MICHIGAN AVE. & BRANDON AVE.

DETROIT

3 WORKING DAYS BEFORE YOU DIG CALL MISS DIG 1-800-482-7171

	CLARK	SCOTTEN
DESIGN SPEED	35	35
POSTED SPEED	25	25

THE IMPROVEMENTS COVERED BY THESE PLANS SHALL BE DONE IN ACCORDANCE WITH THE MICHIGAN DEPARTMENT OF TRANSPORTATION 1996 STANDARD SPECIFICATIONS AND SUPPLEMENTAL SPECIFICATIONS

DRAWN: ELC	**SmithGroup JJR** SmithGroup JJR Incorporated 110 Miller Avenue Ann Arbor, Michigan 48104 t: 734.662.4457 f: 734.662.7520 www.smithgroup.com	DATE: 07/28/00
CHECKED: ARB		FILE NO:
APPROVED: ARB		DRAWING NO: 1 OF 44

CONTRACT FOR : RESURFACING, RECONSTRUCTION AND MISCELLANEOUS CONSTRUCTION OF CLARK AND SCOTTEN AVENUE BETWEEN MICHIGAN AVE. & BRANDON AVE.

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

APPROVED BY Dadiw Haidar ENGINEER OF STREETS 08/03/00 DATE

APPROVED BY HEAD ENGINEER DATE

APPROVED BY CITY ENGINEER 8/3/00 DATE

PREPARED UNDER SUPERVISION OF

Alan Birch
REGISTERED PROFESSIONAL ENGINEER

24685
REGISTRATION NO.

SMITHGROUP JJR
ORGANIZATION

ANN ARBOR, MICHIGAN
ADDRESS

(SEAL)

DATE:
DATE:
DATE:

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PROPOSED BY:
LAST CORRECTION BY:

FILE NAME:
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SECTION

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GENERAL PLAN NOTES

GENERAL

ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH THE MDOT 1996 STANDARD SPECIFICATIONS AND THE SPECIAL PROVISIONS OF THE CITY OF DETROIT.

UNDERGROUND UTILITIES

FOR PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 53, 1974, THE CONTRACTOR SHALL CALL 1-800-482-7171 A MINIMUM OF THREE FULL WORKING DAYS, EXCLUDING SATURDAYS, SUNDAYS, AND HOLIDAYS PRIOR TO BEGINNING EACH EXCAVATION IN AREAS WHERE PUBLIC UTILITIES HAVE NOT BEEN PREVIOUSLY LOCATED. MEMBERS WILL THUS BE ROUTINELY NOTIFYING UTILITY OWNERS WHO MAY NOT BE A PART OF THE "MISS DIG" ALERT SYSTEM.

THE CONTRACTOR SHALL CONTACT MDOT'S METRO REGION OFFICE IN SOUTHFIELD, AND MDOT'S DETROIT FREEWAY OPERATORS OFFICE FOR INFORMATION REGUARDING UTILITY LOCATION.

PAVEMENT REMOVAL QUANTITIES

PAVEMENT REMOVAL AS SHOWN ON THE PLANS SHALL BE AT THE DISCRETION OF THE ENGINEER. IF IN HIS/HER JUDGEMENT, AREAS OF PAVEMENT MAY BE LEFT IN PLACE, OR ADDITIONAL AREAS ADDED TO PROVIDE THE PROPER CROSS-SECTION AND BASE, ADJUSTMENTS WILL BE MADE IN THE QUANTITIES.

FULL DEPTH SAW CUTTING OF PAVEMENT SHALL BE DONE WHERE SHOWN AND AS DIRECTED BY THE ENGINEER. THIS SHALL BE INCLUDED IN PAVEMENT FOR THE REMOVAL ITEM.

EMBANKMENT

ALL EMBANKMENT AND CUT SLOPES SHALL BE COVERED WITH TOPSOIL, MULCHED AND SEEDED ACCORDING TO THE TIME LIMITATION SPECIFIED IN SECTION 816 OF THE 1996 STANDARD SPECIFICATIONS.

STORAGE

THE CONTRACTOR SHALL ARRANGE SUITABLE LOCATIONS TO STORE EQUIPMENT AND MATERIAL FOR THIS PROJECT, MAINTAIN AND RESTORE SUCH LOCATIONS AT NO ADDITIONAL COST TO THE PROJECT.

SOIL BORINGS

SITE SOIL BORING LOGS ARE AVAILABLE UPON REQUEST.
THE SOIL BORING LOGS REPRESENT POINT INFORMATION.
PRESENTATION OF THIS INFORMANTION IN NO WAY INFERS THAT SUBSURFACE CONDITIONS ARE THE SAME AT OTHER THAN THE EXACT LOCATION OF THE BORINGS.

SIDEWALK EXPANSION JOINTS

ALL EXPANSION JOINT PAPER SHALL EXTEND 25 mm BELOW THE BOTTOM OF THE THINNER OF ADJOINING PAVEMENT SECTIONS.

PLACE 13 mm PAPER EXPANSION JOINTS AT LOT LINES WHEN LOT LINES ARE BETWEEN 7.620 m AND 15.240 m APART.

PLACE ADDITIONAL 13 mm PAPER EXPANSION JOINTS SO THAT THE DISTANCE BETWEEN JOINTS DOES NOT EXCEED 15.2 m WHEN LOT LINES ARE OVER 15.240 m APART.

PLACE 13 mm PAPER EXPANSION JOINTS AT EVERY SECOND LOT LINE AND CONTRACTION JOINT AT INTERVENING LOT LINE WHEN SECOND LOT LINES ARE LESS THAN 7.620 m APART.

PLACE 25 mm PAPER EXPANSION JOINTS AT CURB AND BUILDING OR PROPERTY LINE OR AT ALTERNATE POSITION (4A) (SEE CITY OF DETROIT DETAIL STANDARD C-4462) AS SHOWN FOR DRIVEWAY.

PLACE 25 mm PAPER EXPANSION JOINTS AT CURB AND BUILDING OR PROPERTY LINE FOR FULL WIDTH SIDEWALK EXCEEDING 2130 mm IN WIDTH.

PLACE 25 mm PAPER EXPANSION JOINTS AT CURB CIRCLES OR AT ALTERNATE POSITION (6A) (SEE CITY OF DETROIT DETAIL STANDARD C-4462) AS SHOWN.

PLACE 25 mm PAPER EXPANSION JOINTS AT INTERSECTIONS OF SERVICE WALKS AND SIDEWALKS AND SERVICE WALKS AND CURBS.

PLACE 25 mm PAPER EXPANSION JOINTS AT MARGIN FLAGS AT CROSSWALKS.

PLACE 25 mm PAPER EXPANSION JOINTS AT ALLEY APRONS.

PLACE 13 mm PAPER EXPANSION JOINT BOTH SIDES OF SIDEWALK FLAG ABUTTING TREE AND ON CENTERLINE JOINTS.

CONTRACTION JOINTS

PLACE CONTRACTION JOINTS AT INTERVALS OF NOT LESS THAN 1520 mm NOR MORE THAN 2130 mm ON WALKS 1520 mm WIDE OR WIDER, INCLUDING FULL WIDTH WALKS.

PLACE CONTRACTION JOINTS AT INTERVALS OF NOT LESS THAN 1220 mm NOR MORE THAN 2130 mm ON WALKS 1220 mm WIDE.

DRIVEWAYS

PLACE CONTRACTION JOINTS IN DRIVEWAYS SO THAT NO SLAB WILL EXCEED THE DIMENSIONS OF 4.5 m BY 4.5 m.

PLACE 25 mm PAPER EXPANSION JOINTS ON ALL SIDES OF COMMERCIAL DRIVES.

PLACE CONSTRUCTION OR CONTRACTION JOINT ON CENTERLINE WHEN WIDTH OF DRIVEWAY EXCEEDS 4.5 m.

PLACE 13 mm PAPER EXPANSION JOINTS ON BOTH SIDES OF RESIDENTIAL DRIVEWAYS. IF DRIVEWAY EDGE IS WITHIN 600 mm OF LOT LINE, PLACE THIS EXPANSION PAPER AT PROPERTY LINE.

PUBLIC UTILITIES

THE FOLLOWING LIST OF UTILITIES AND CONTACTS WAS COMPILED FROM THE BEST AVAILABLE INFORMATION. NEITHER THE ENGINEER NOR THE OWNER GUARANTEES ACCURACY OF THIS INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE APPROPRIATE REPRESENTATIVE AND FOR LOCATING AND PRESERVING ALL UTILITIES.

NAME OF OWNER	KIND OF UTILITY
AMERITECH RIGHT OF WAY - METRO 4000 ALLEN ROAD ALLEN PARK, MI. 48101 MR. EDWARD REDMER (313) 389-9830	TELEPHONE
THE DETROIT EDISON COMPANY DETROIT SERVICE PLANNING 2000 SECOND AVE. DETROIT, MI. 48226 MR. RALPH WINCEL (313) 237-9658	ELECTRIC POWER
MICHIGAN CONSOLIDATED GAS COMPANY MAIN REPLACEMENT TEAM, 2ND FLOOR 3200 HOBSON DETROIT, MI. 48201 MR. PAUL HARTMAN (313) 577-7236	GAS MAINS
COMCAST CABLEVISION OF DETROIT 12775 LYNDON DETROIT, MI. 48227-3982 (313) 934-2600 EXT. 213	TV CABLES
AT&T 1316 ANN ARBOR ROAD PLYMOUTH, MI. 48170 JERRY SIEMAN (313) 451-3063	TELEPHONE

SURVEY INFORMATION

-TOPOGRAPHIC SURVEY NOTES-

THE LOCATION OF ALL UTILITY MANHOLES SHOWN HEREON ARE FROM FIELD MEASUREMENTS. THE PIPE DIAMETERS, AND IN SOME CASES THE DIRECTION OF LINES RUNNING FROM MANHOLES, HAVE BEEN TAKEN FROM MUNICIPAL AND PUBLIC UTILITY COMPANY RECORDS, WHEN NO SURFACE CHECK WAS POSSIBLE. WE HAVE SHOWN UNDERGROUND UTILITY LINES RUNNING DIRECTLY FROM SURFACE MANHOLE TO SURFACE MANHOLE, IN MOST CASES. THIS MAY NOT BE THE ACTUAL ROUTE OF THESE LINES. WE ASSUME NO RESPONSIBILITY AS TO THE SIZE OR LOCATION OF UNDERGROUND UTILITIES.

-TOPOGRAPHIC SURVEY BENCH MARKS-

BENCH MARK EL. 182.123m – CITY OF DETROIT BENCH MARK NO. 19–251 – TOP OF BRONZE DISC IN HANDHOLE IN WALK ON THE NORTHEASTERLY CORNER OF SCOTTEN AVENUE AND DEMING AVENUE. CITY OF DETROIT DATUM CONVERTED TO USGS (METRIC)

AUXILIARY BENCH MARK #1 – EL. 180.41m – ARROW ON TOP OF HYDRANT

AUXILIARY BENCH MARK #2 – EL. 182.51m – ARROW ON TOP OF HYDRANT

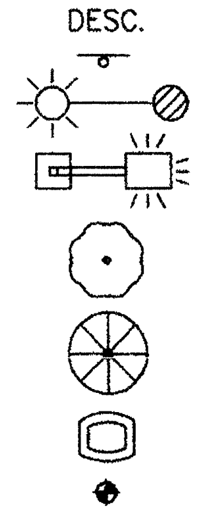
AUXILIARY BENCH MARK #3 – EL. 182.82m – ARROW ON TOP OF HYDRANT

AUXILIARY BENCH MARK #4 – EL. 182.53m – ARROW ON TOP OF HYDRANT

AUXILIARY BENCH MARK #5 – EL. 179.26m – ARROW ON TOP OF HYDRANT

-TOPOGRAPHIC SURVEY LEGEND-

——— G ———	GAS MAIN
——— W ———	WATER MAIN
———SAN———	SANITARY SEWER
——— ST ———	STORM SEWER
——— S ———	COMBINED SEWER
— —PLD— —	UG PUBLIC LIGHTING DEPARTMENT LINE
— — T — —	UG TELEPHONE COMPANY LINE
— — E — —	UG ELECTRIC COMPANY LINE
———∿———	OVERHEAD UTILITY LINE
———X———	FENCE
GMH	GAS MANHOLE
EMH	ELECTRIC MANHOLE
FMH	FIRE PROTECTION MANHOLE
MH	COMBINED SEWER MANHOLE
ST MH	STORM SEWER MANHOLE
SAN MH	SANITARY SEWER MANHOLE
TMH	TELEPHONE MANHOLE
PLD MH	PUBLIC LIGHTING DEPARTMENT MANHOLE
WG	WATER GATE
UP ▨	UTILITY POLE
CB ☐	CATCH BASIN
HYD ●	FIRE HYDRANT
GP ○	GUARD POST
UG •	UNDERGROUND
GCB ☐	GATE CONTROL BOX
GV ○	GAS VALVE
EB □	ELECTRIC BOX
CO ○	CLEAN OUT
WM ▬	WATER METER
GB □	GAS BOX
WV ○	WATER VALVE
GM ▬	GAS METER
SP ○	STAND PIPE
MW ○	MONITORING WELL
O.H.	OVERHEAD
TR	TOP OF RAIL
TW	TOP OF WALL
T	TOP OF CURB
G	GUTTER
RTN	RETAINING
ENCH.	ENCROACHMENT
ESMT.	EASEMENT
DESC.	DESCRIBED



FINAL R.O.W.			
AUTH	DATE	NO.	REVISION

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110 Miller Avenue
Ann Arbor, Michigan 48104
☎734.662.4457
734.662.7520

NOTE SHEET

DATE	SCALE	CONT. SEC.	JOB NO.	DESIGN UNIT	SHEET NO.	
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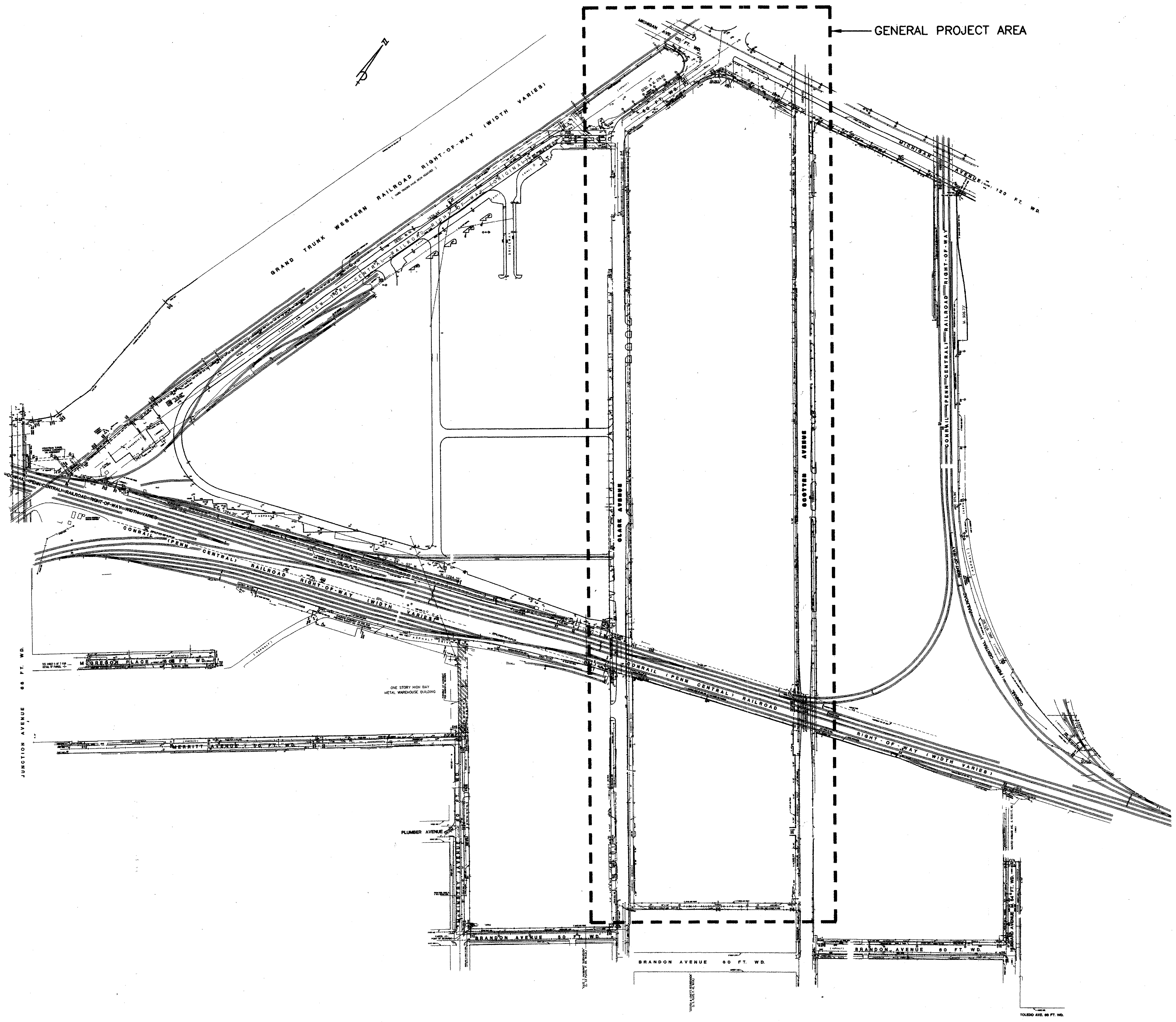
GENERAL PROJECT AREA
N
GRAND TRUNK WESTERN RAILROAD RIGHT-OF-WAY (WIDTH VARIES)
(YARD TRACKS HAVE BEEN REMOVED)
NEW YORK CENTRAL RAILROAD RIGHT-OF-WAY (ORIGINAL)
DRIVEWAY
MICHIGAN AVE. 120 FT. WD.
MICHIGAN AVENUE 120 FT. WD.
CONRAIL (PENN CENTRAL) RAILROAD RIGHT-OF-WAY WIDTH VARIES
CONRAIL (PENN CENTRAL) RAILROAD RIGHT-OF-WAY (WIDTH VARIES)
CONRAIL (PENN CENTRAL) RAILROAD RIGHT-OF-WAY
CLARK AVENUE
SCOTTEN AVENUE
JUNCTION AVENUE 66 FT. WD.
McGREGOR PLACE 50 FT. WD.
ONE STORY HIGH BAY
METAL WAREHOUSE BUILDING
MERRITT AVENUE 50 FT. WD.
PLUMBER AVENUE
McKINSTRY AVENUE 50 FT. WD.
BRANDON AVENUE 50 FT. WD.
BRANDON AVENUE 60 FT. WD.
HUBBARD AVENUE
TOLEDO AVE. 66 FT. WD.

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SECTION DA82522
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NO. 3

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OVERALL SITE PLAN

DATE	SCALE	CONT. SEC.	JOB NO.	DESIGN UNIT	SHEET NO.	
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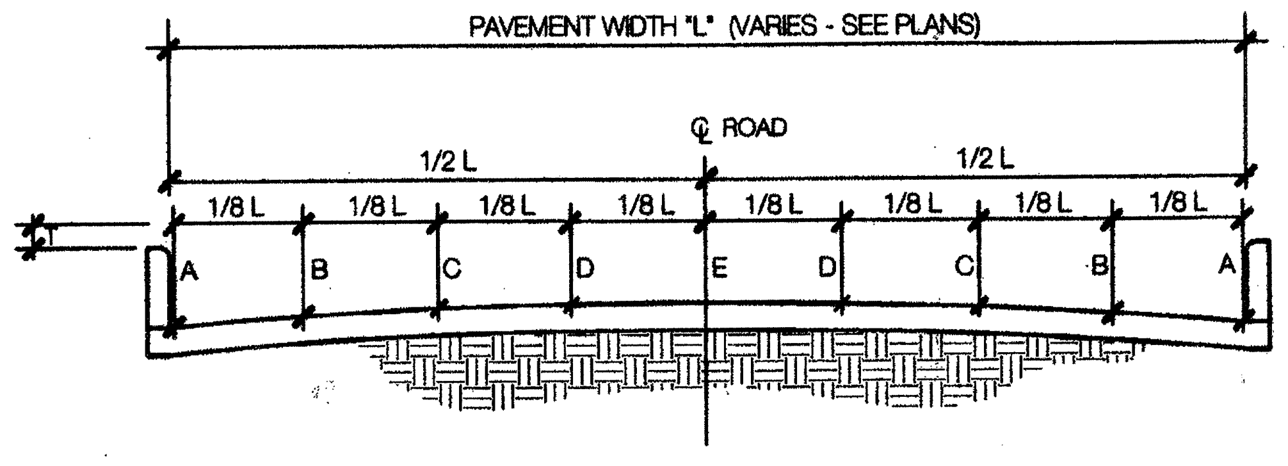
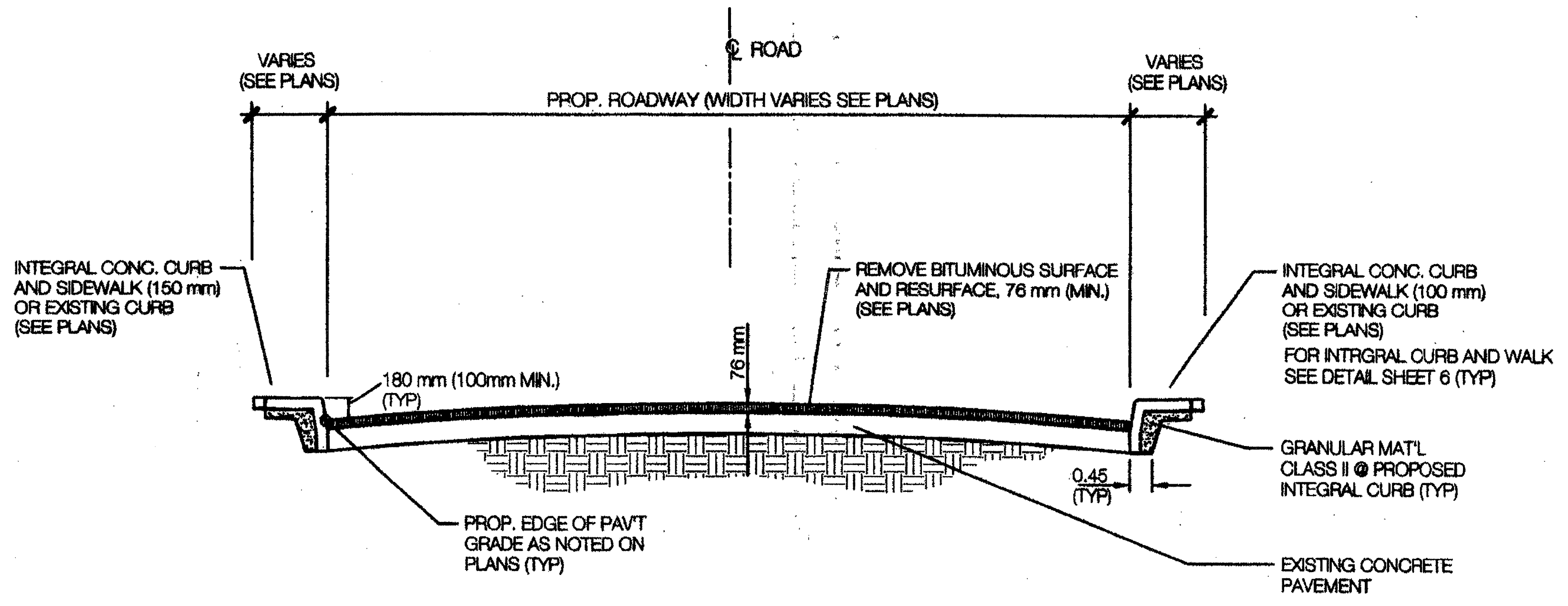

PAVEMENT WIDTH "L" (VARIES - SEE PLANS)
℄ ROAD
1/2 L
1/2 L
1/8 L
1/8 L
1/8 L
1/8 L
1/8 L
1/8 L
1/8 L
1/8 L
T
A
B
C
D
E
D
C
B
A

PAVEMENT WIDTH m	CURB FACE mm	T mm	A mm	B mm	C mm	D mm	E mm
12.19 (SEE PLANS)	180	0	180	124	85	61	53
12.50	180	0	180	134	102	82	76
12.80	180	0	180	133	100	80	73
13.11	180	0	180	132	98	77	71
13.41	180	0	180	131	96	75	68

ELEMENTS OF BITUMINOUS OVERLAY
PAVEMENT ON CLARK AVE.


℄ ROAD
VARIES
(SEE PLANS)
PROP. ROADWAY (WIDTH VARIES SEE PLANS)
VARIES
(SEE PLANS)
INTEGRAL CONC. CURB
AND SIDEWALK (150 mm)
OR EXISTING CURB
(SEE PLANS)
REMOVE BITUMINOUS SURFACE
AND RESURFACE, 76 mm (MIN.)
(SEE PLANS)
76 mm
INTEGRAL CONC. CURB
AND SIDEWALK (100 mm)
OR EXISTING CURB
(SEE PLANS)
FOR INTRGRAL CURB AND WALK
SEE DETAIL SHEET 6 (TYP)
180 mm (100mm MIN.)
(TYP)
GRANULAR MAT'L
CLASS II @ PROPOSED
INTEGRAL CURB (TYP)
0.45
(TYP)
PROP. EDGE OF PAV'T
GRADE AS NOTED ON
PLANS (TYP)
EXISTING CONCRETE
PAVEMENT

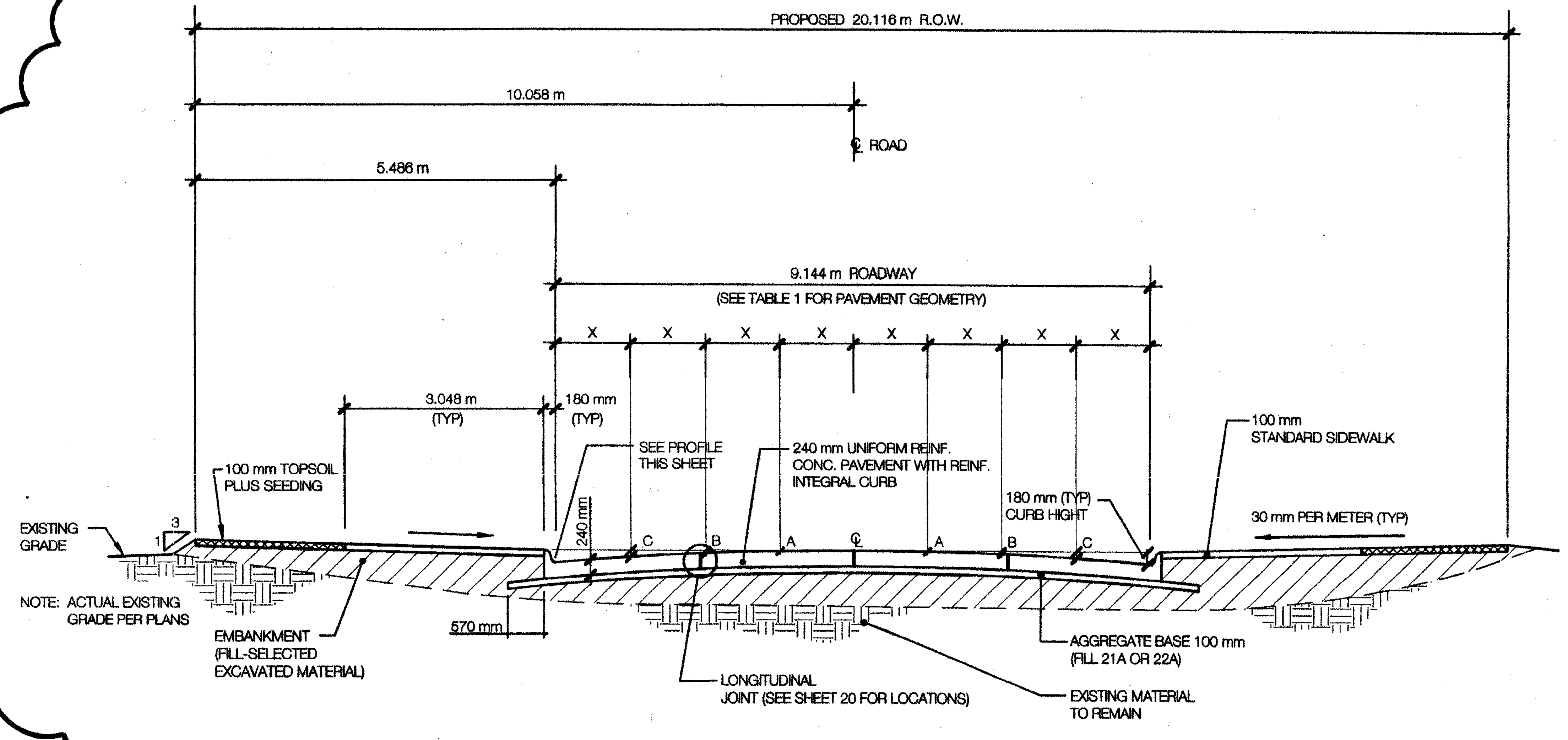
TYPICAL PAVEMENT SECTION FOR CLARK AVE.
STA. 1+20.45 TO STA. 1+94.57 &
STA. 3+46.53 TO STA. 8+62.17

NOT IN CONTRACT
(NIC)

TABLE 1 - ELEMENTS FOR STANDARD PAVING SECTION

PAVEMENT WIDTH	CURB FACE	X		C	B	A	℄
9.144 m	180 mm	1143 mm		138 mm	109 mm	91 mm	85 mm

DIMENSIONS SHOWN IN TABLE ARE VERTICAL OFFSETS BELOW
TOP OF CURB ELEVATION (I.E. 180 mm ABOVE EDGE OF PAVEMENT)

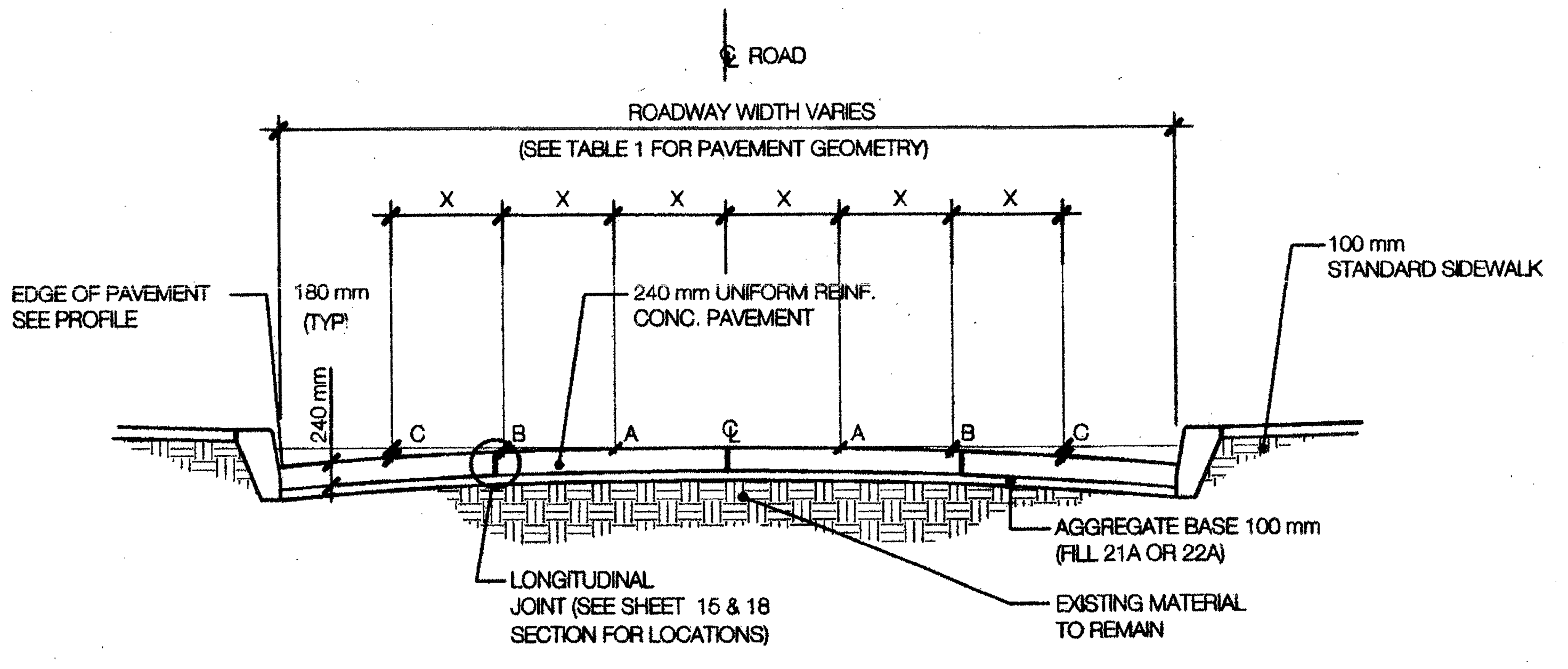

PROPOSED 20.116 m R.O.W.
10.058 m
℄ ROAD
5.486 m
9.144 m ROADWAY
(SEE TABLE 1 FOR PAVEMENT GEOMETRY)
X
X
X
X
X
X
X
X
3.048 m
(TYP)
180 mm
(TYP)
100 mm TOPSOIL
PLUS SEEDING
SEE PROFILE
THIS SHEET
240 mm UNIFORM REINF.
CONC. PAVEMENT WITH REINF.
INTEGRAL CURB
180 mm (TYP)
CURB HIGHT
100 mm
STANDARD SIDEWALK
30 mm PER METER (TYP)
EXISTING
GRADE
3
1
240 mm
C
B
A
℄
A
B
C
NOTE: ACTUAL EXISTING
GRADE PER PLANS
570 mm
EMBANKMENT
(FILL-SELECTED
EXCAVATED MATERIAL)
LONGITUDINAL
JOINT (SEE SHEET 20 FOR LOCATIONS)
AGGREGATE BASE 100 mm
(FILL 21A OR 22A)
EXISTING MATERIAL
TO REMAIN

CONNECTOR ROAD - TYPICAL CROSSECTION
STA. 0+00 TO STA. 1+52.32

TABLE 1 - ELEMENTS FOR STANDARD PAVING SECTION

X	C	B	A
1562 mm	59 mm	26 mm	7 mm

NOTE: VALUES IN TABLE ARE VERTICAL OFFSET
DIMENSIONS FROM ℄ WHERE ℄ = 0.
(ACTUAL ROADWAY WIDTH VARIES, SEE PLAN & PROFILE)


℄ ROAD
ROADWAY WIDTH VARIES
(SEE TABLE 1 FOR PAVEMENT GEOMETRY)
X
X
X
X
X
X
EDGE OF PAVEMENT
SEE PROFILE
180 mm
(TYP!
240 mm UNIFORM REINF.
CONC. PAVEMENT
100 mm
STANDARD SIDEWALK
240 mm
C
B
A
℄
A
B
C
AGGREGATE BASE 100 mm
(FILL 21A OR 22A)
LONGITUDINAL
JOINT (SEE SHEET 15 & 18
SECTION FOR LOCATIONS)
EXISTING MATERIAL
TO REMAIN

TYPICAL 240 mm UNIFORM REINF. CONC. PAVEMENT

STA. 1+66.22 TO STA. 3+19.41 ON SCOTTEN AVE
STA. 1+94.57 TO STA. 3+46.53 ON CLARK AVE

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TYPICAL CROSS SECTIONS

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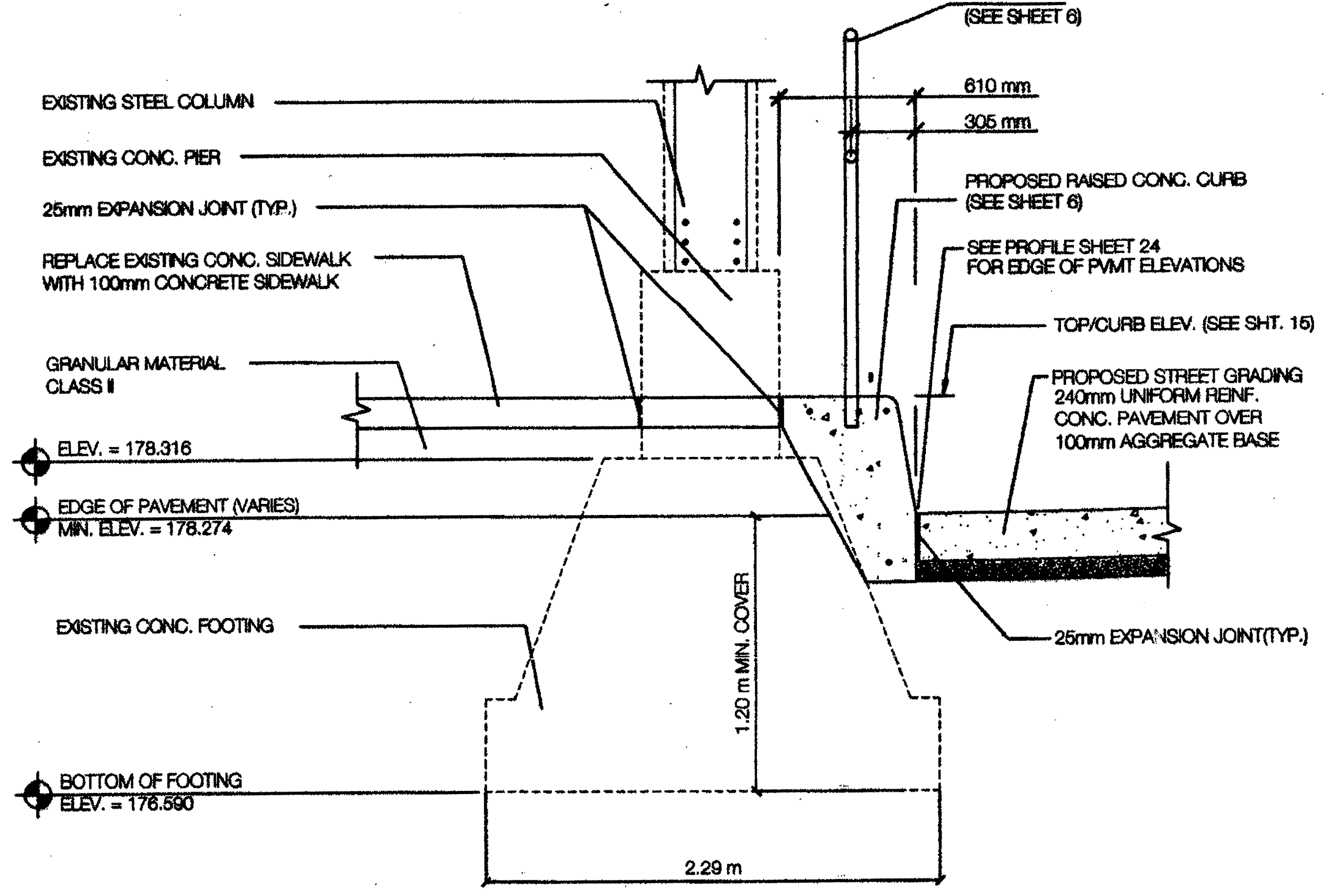
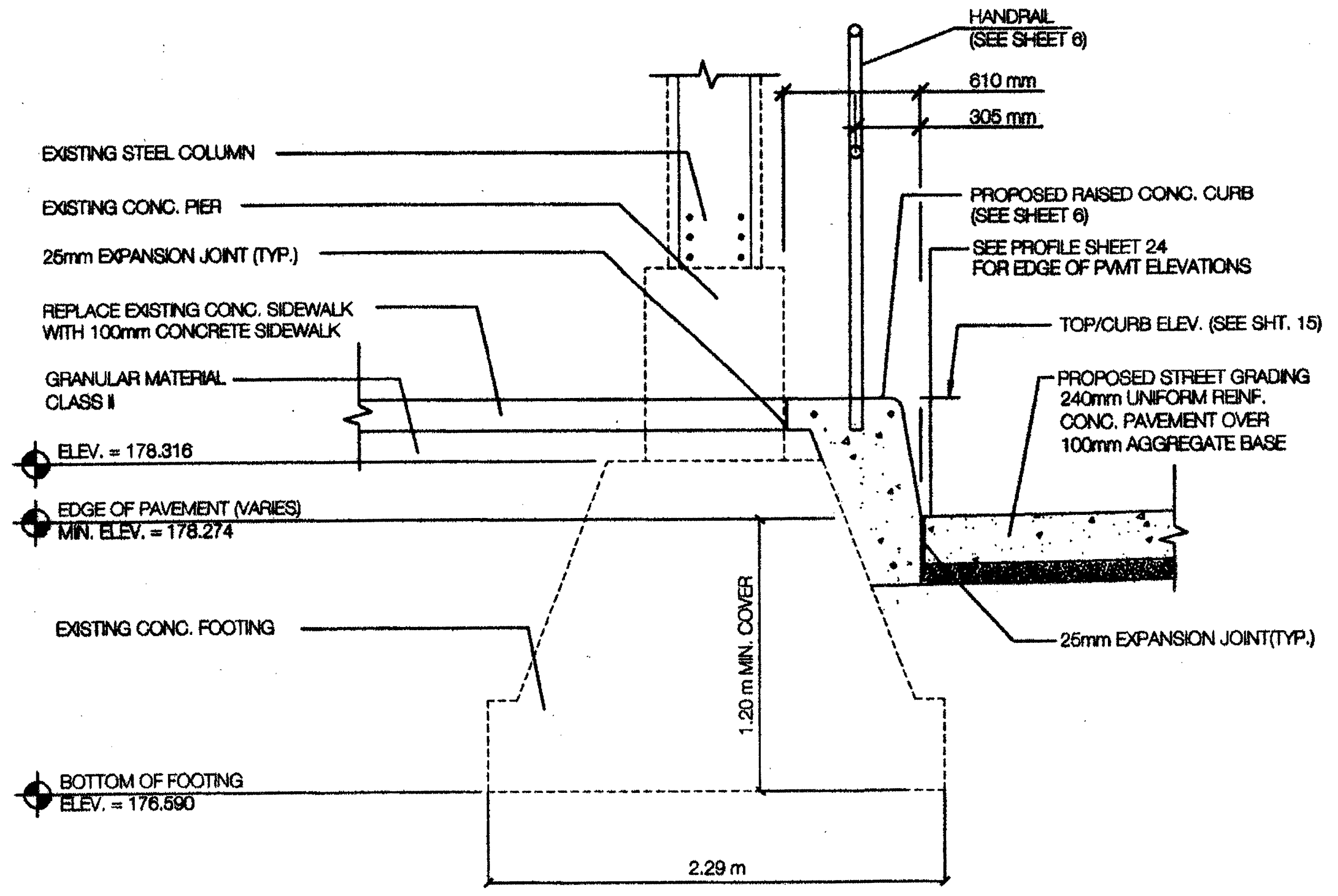
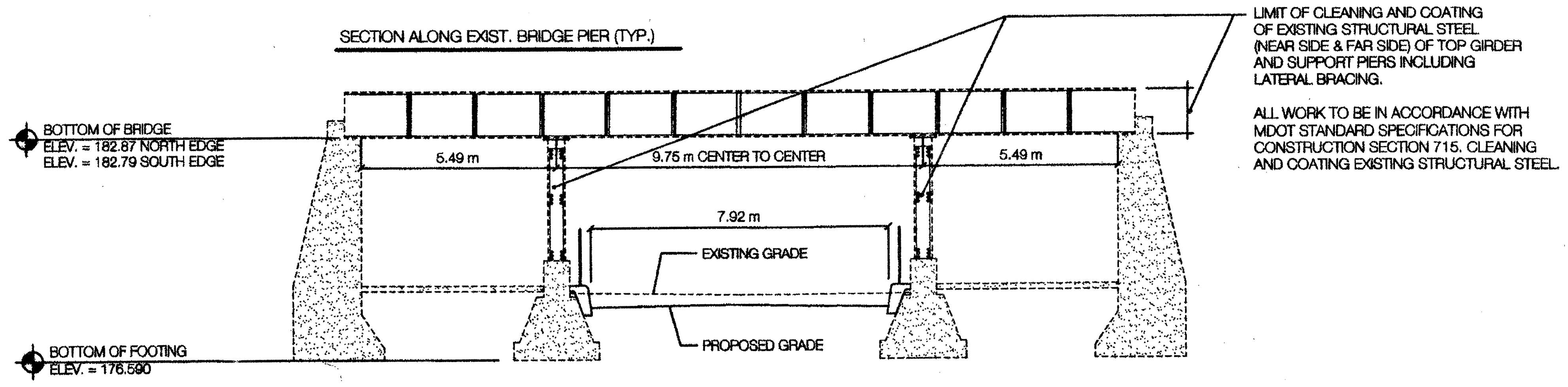

HANDRAIL (SEE SHEET 6)
610 mm
305 mm
EXISTING STEEL COLUMN
EXISTING CONC. PIER
25mm EXPANSION JOINT (TYP.)
REPLACE EXISTING CONC. SIDEWALK WITH 100mm CONCRETE SIDEWALK
GRANULAR MATERIAL CLASS II
ELEV. = 178.316
EDGE OF PAVEMENT (VARIES) MIN. ELEV. = 178.274
EXISTING CONC. FOOTING
BOTTOM OF FOOTING ELEV. = 176.590
PROPOSED RAISED CONC. CURB (SEE SHEET 6)
SEE PROFILE SHEET 24 FOR EDGE OF PVMT ELEVATIONS
TOP/CURB ELEV. (SEE SHT. 15)
PROPOSED STREET GRADING 240mm UNIFORM REINF. CONC. PAVEMENT OVER 100mm AGGREGATE BASE
25mm EXPANSION JOINT(TYP.)
1.20 m MIN. COVER
2.29 m

SECTION BETWEEN EXIST. BRIDGE PIERS (TYP.)

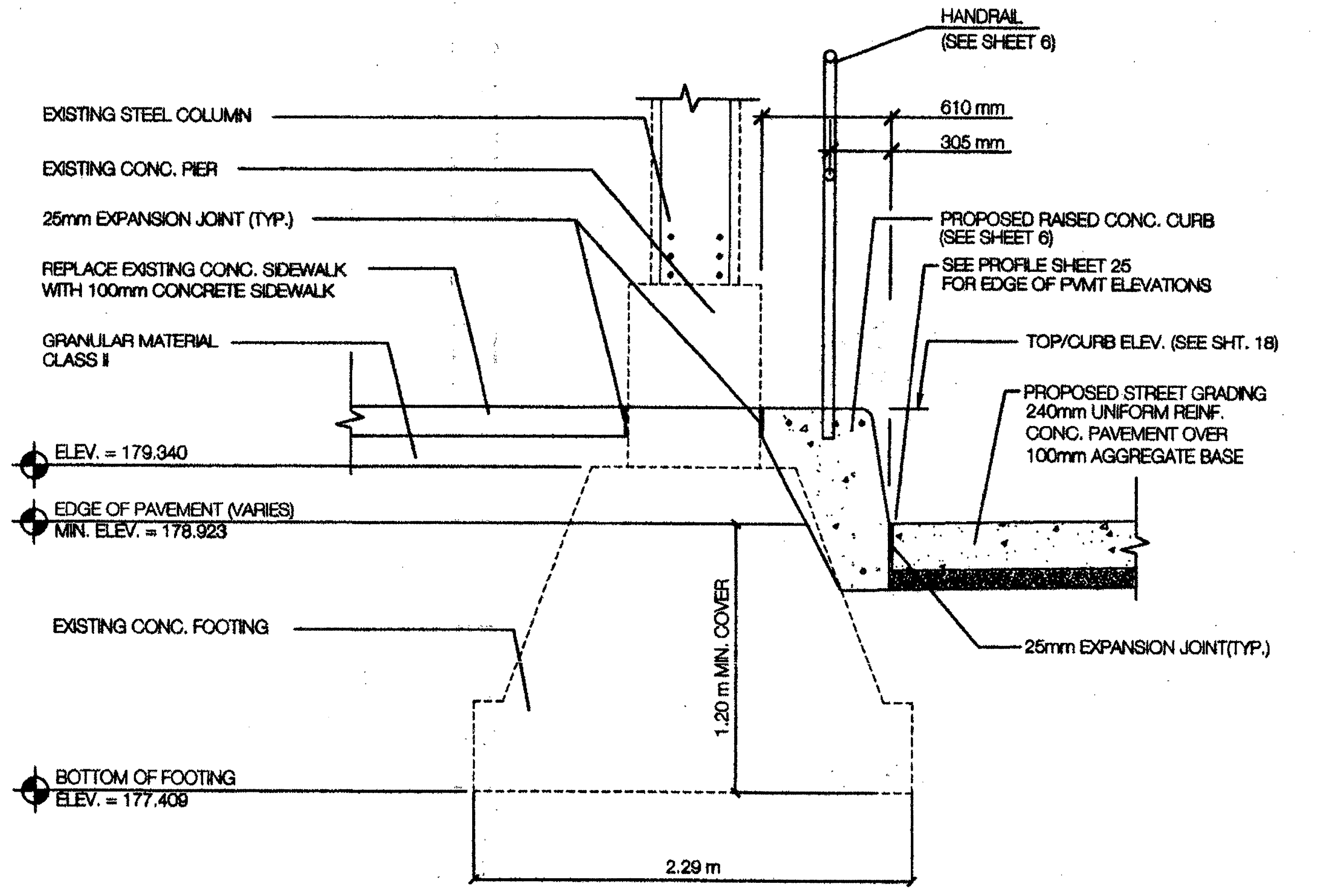

HANDRAIL (SEE SHEET 6)
610 mm
305 mm
EXISTING STEEL COLUMN
EXISTING CONC. PIER
25mm EXPANSION JOINT (TYP.)
REPLACE EXISTING CONC. SIDEWALK WITH 100mm CONCRETE SIDEWALK
GRANULAR MATERIAL CLASS II
ELEV. = 178.316
EDGE OF PAVEMENT (VARIES) MIN. ELEV. = 178.274
EXISTING CONC. FOOTING
BOTTOM OF FOOTING ELEV. = 176.590
PROPOSED RAISED CONC. CURB (SEE SHEET 6)
SEE PROFILE SHEET 24 FOR EDGE OF PVMT ELEVATIONS
TOP/CURB ELEV. (SEE SHT. 15)
PROPOSED STREET GRADING 240mm UNIFORM REINF. CONC. PAVEMENT OVER 100mm AGGREGATE BASE
25mm EXPANSION JOINT(TYP.)
1.20 m MIN. COVER
2.29 m

SECTION ALONG EXIST. BRIDGE PIER (TYP.)

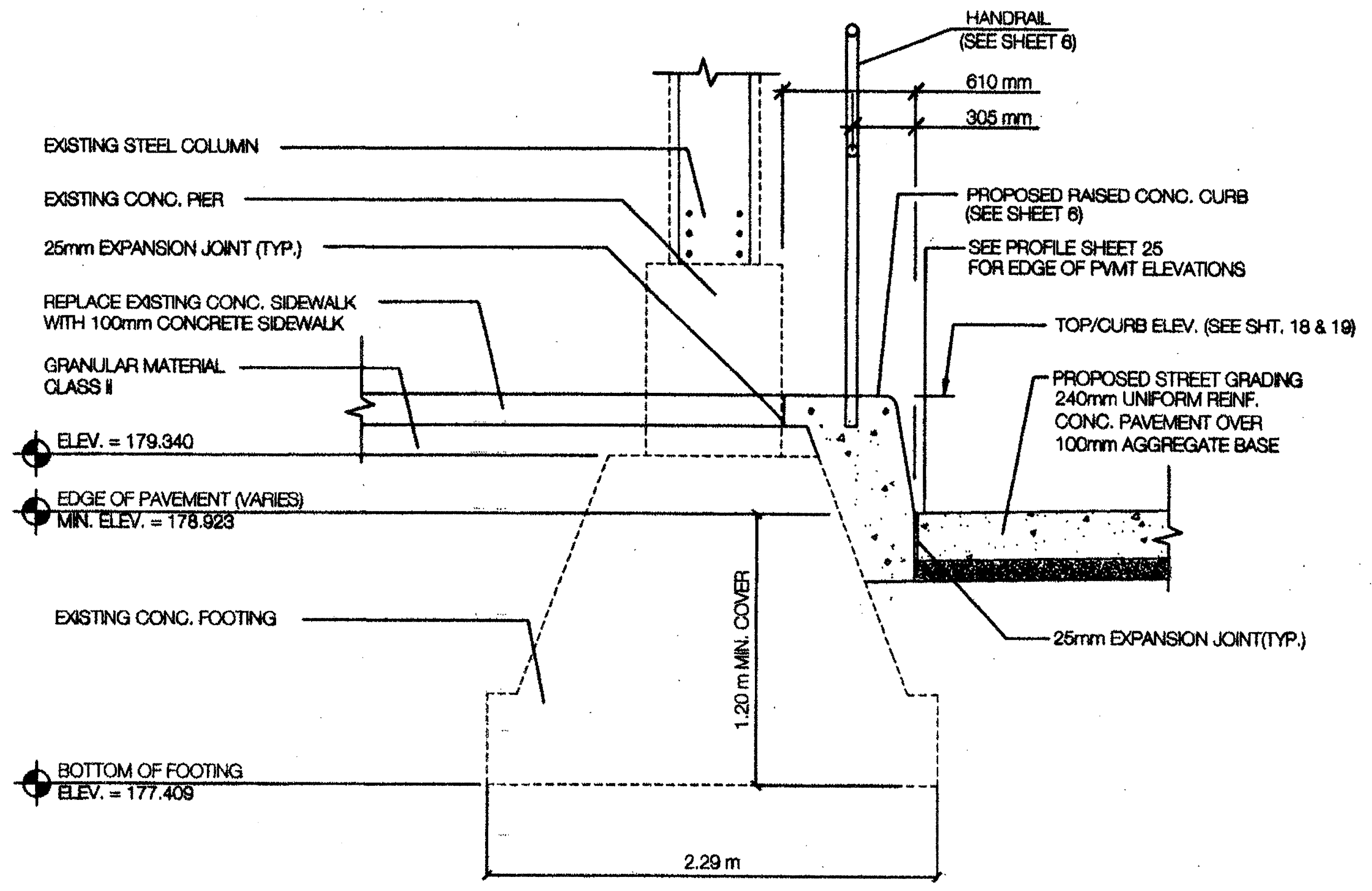

LIMIT OF CLEANING AND COATING OF EXISTING STRUCTURAL STEEL (NEAR SIDE & FAR SIDE) OF TOP GIRDER AND SUPPORT PIERS INCLUDING LATERAL BRACING.
ALL WORK TO BE IN ACCORDANCE WITH MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION SECTION 715. CLEANING AND COATING EXISTING STRUCTURAL STEEL.
BOTTOM OF BRIDGE ELEV. = 182.87 NORTH EDGE ELEV. = 182.79 SOUTH EDGE
5.49 m
9.75 m CENTER TO CENTER
5.49 m
7.92 m
EXISTING GRADE
PROPOSED GRADE
BOTTOM OF FOOTING ELEV. = 176.590

SECTION INCLUDING BRIDGE ABUTMENTS

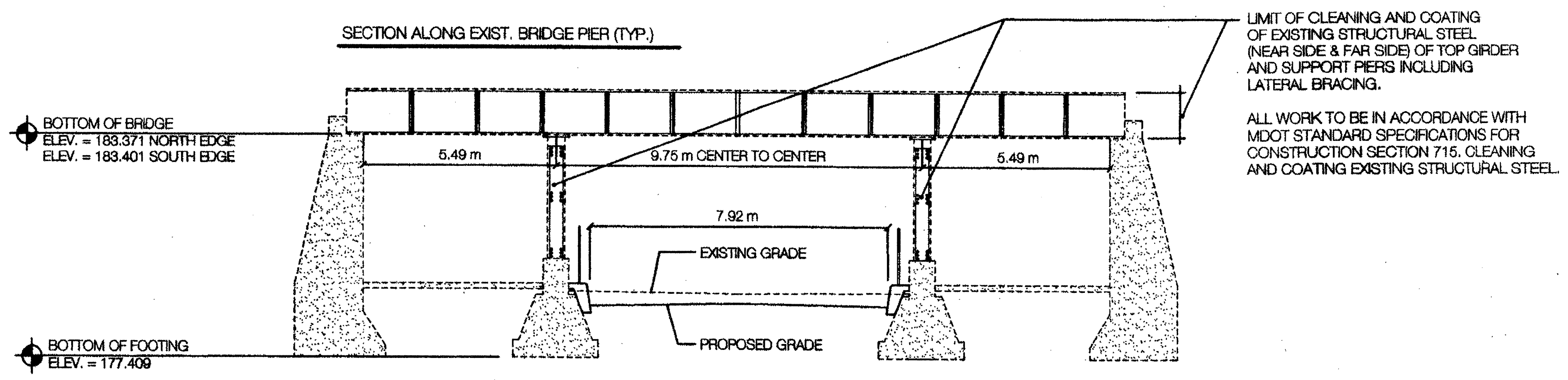
CLARK AVE


HANDRAIL (SEE SHEET 6)
610 mm
305 mm
EXISTING STEEL COLUMN
EXISTING CONC. PIER
25mm EXPANSION JOINT (TYP.)
REPLACE EXISTING CONC. SIDEWALK WITH 100mm CONCRETE SIDEWALK
GRANULAR MATERIAL CLASS II
ELEV. = 179.340
EDGE OF PAVEMENT (VARIES) MIN. ELEV. = 178.923
EXISTING CONC. FOOTING
BOTTOM OF FOOTING ELEV. = 177.409
PROPOSED RAISED CONC. CURB (SEE SHEET 6)
SEE PROFILE SHEET 25 FOR EDGE OF PVMT ELEVATIONS
TOP/CURB ELEV. (SEE SHT. 18)
PROPOSED STREET GRADING 240mm UNIFORM REINF. CONC. PAVEMENT OVER 100mm AGGREGATE BASE
25mm EXPANSION JOINT(TYP.)
1.20 m MIN. COVER
2.29 m

SECTION BETWEEN EXIST. BRIDGE PIERS (TYP.)


HANDRAIL (SEE SHEET 6)
610 mm
305 mm
EXISTING STEEL COLUMN
EXISTING CONC. PIER
25mm EXPANSION JOINT (TYP.)
REPLACE EXISTING CONC. SIDEWALK WITH 100mm CONCRETE SIDEWALK
GRANULAR MATERIAL CLASS II
ELEV. = 179.340
EDGE OF PAVEMENT (VARIES) MIN. ELEV. = 178.923
EXISTING CONC. FOOTING
BOTTOM OF FOOTING ELEV. = 177.409
PROPOSED RAISED CONC. CURB (SEE SHEET 6)
SEE PROFILE SHEET 25 FOR EDGE OF PVMT ELEVATIONS
TOP/CURB ELEV. (SEE SHT. 18 & 19)
PROPOSED STREET GRADING 240mm UNIFORM REINF. CONC. PAVEMENT OVER 100mm AGGREGATE BASE
25mm EXPANSION JOINT(TYP.)
1.20 m MIN. COVER
2.29 m

SECTION ALONG EXIST. BRIDGE PIER (TYP.)


LIMIT OF CLEANING AND COATING OF EXISTING STRUCTURAL STEEL (NEAR SIDE & FAR SIDE) OF TOP GIRDER AND SUPPORT PIERS INCLUDING LATERAL BRACING.
ALL WORK TO BE IN ACCORDANCE WITH MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION SECTION 715. CLEANING AND COATING EXISTING STRUCTURAL STEEL.
BOTTOM OF BRIDGE ELEV. = 183.371 NORTH EDGE ELEV. = 183.401 SOUTH EDGE
5.49 m
9.75 m CENTER TO CENTER
5.49 m
7.92 m
EXISTING GRADE
PROPOSED GRADE
BOTTOM OF FOOTING ELEV. = 177.409

SECTION INCLUDING BRIDGE ABUTMENTS

SCOTTEN AVE

QUANTITIES THIS SHEET

CLEANING AND COATING EXISTING STRUCTURAL STEEL	115 m2

FILE NAME: P:\23611\00\CAD\DETAIL1.DWG

JJR
JJR Incorporated
110 Miller Avenue
Ann Arbor, Michigan 48104
734.662.4457
734.662.7520

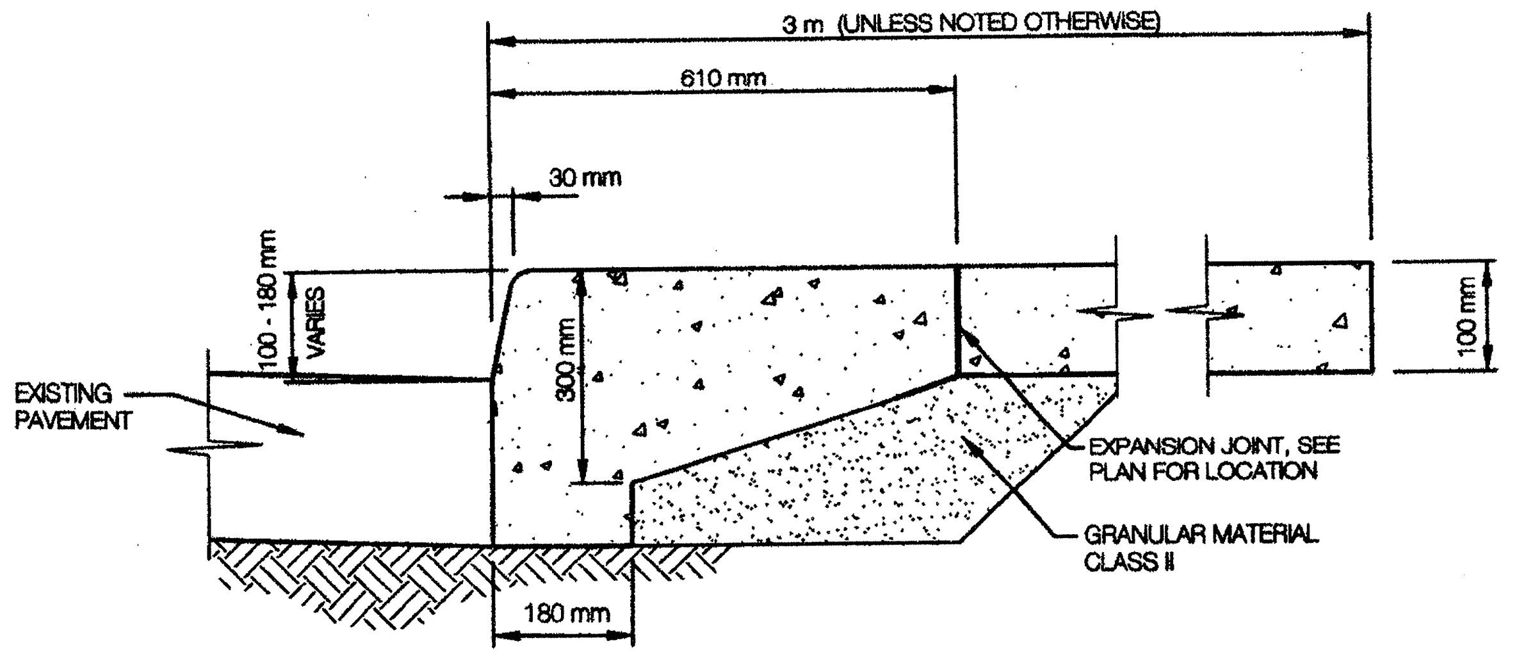
SECTIONS

DATE	SCALE	CONT. SEC.	JOB NO.	DESIGN UNIT	SHEET NO.	
07/28/00	N.T.S.	EDA82522	52624A		5	44

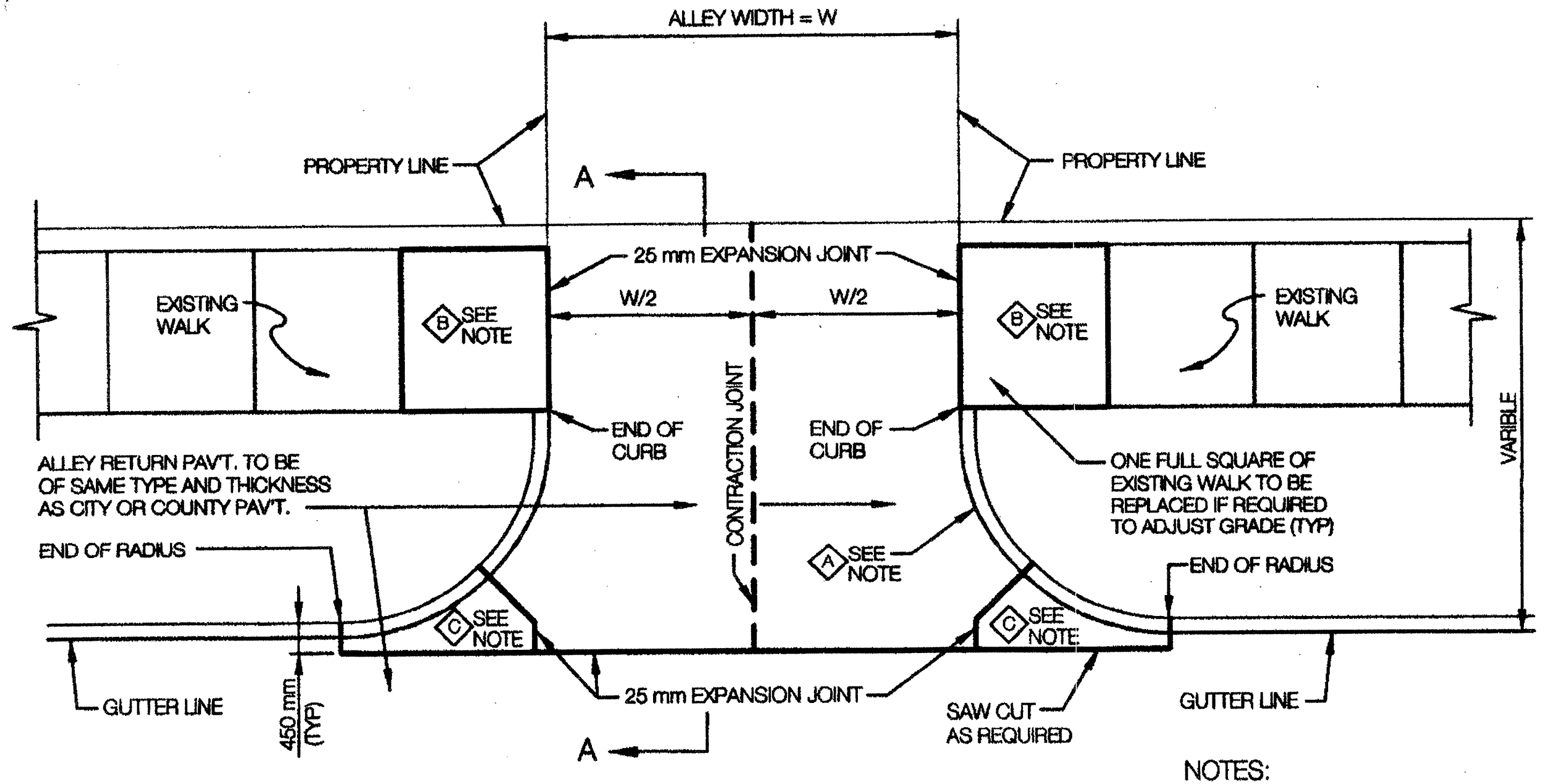
SECTION
EXISTING BY:
PROPOSED BY:
LAST CORRECTION BY:
DATE:
DATE:
DATE:
NO.
NO.

FILE NAME: P:\23611\00\CAD\DETAIL1.DWG

AUTH	DATE	NO.	FINAL R.O.W. REVISION

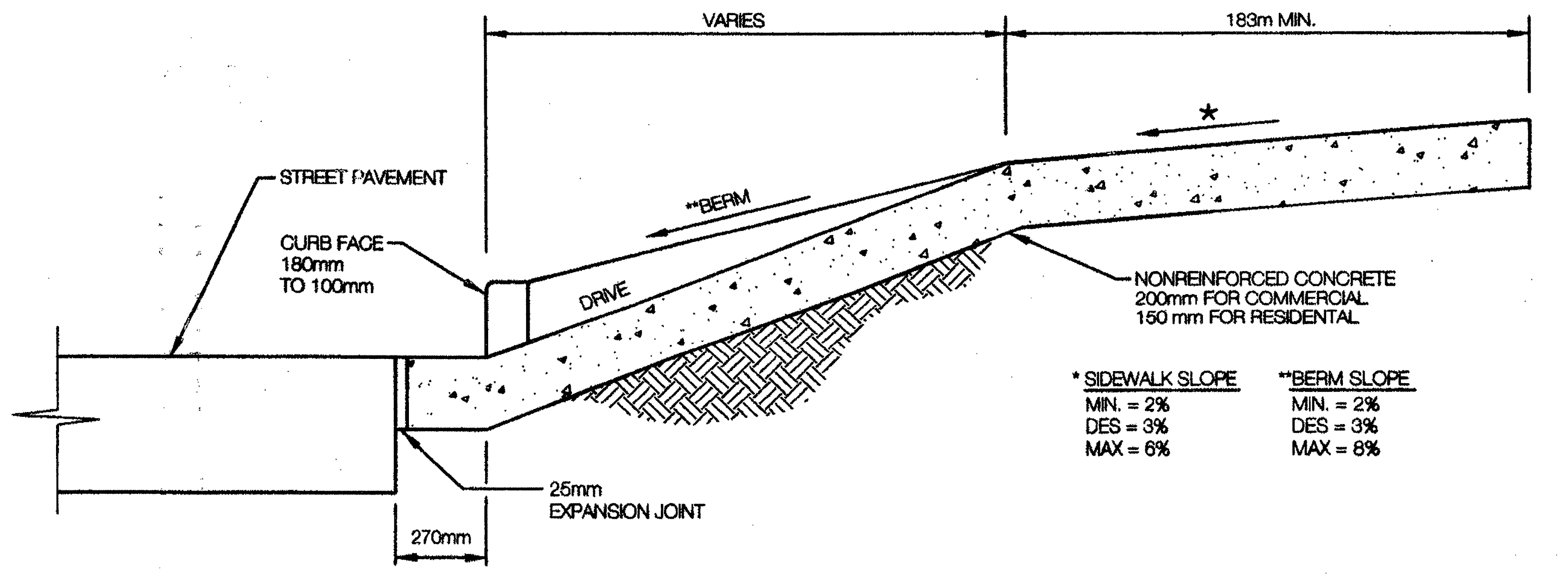

3 m (UNLESS NOTED OTHERWISE)
610 mm
30 mm
100 - 180 mm
VARIES
300 mm
100 mm
EXISTING PAVEMENT
EXPANSION JOINT, SEE PLAN FOR LOCATION
GRANULAR MATERIAL CLASS II
180 mm

INTEGRAL CURB AND SIDEWALK


ALLEY WIDTH = W
PROPERTY LINE
A
PROPERTY LINE
25 mm EXPANSION JOINT
W/2
W/2
EXISTING WALK
B SEE NOTE
B SEE NOTE
EXISTING WALK
CONTRACTION JOINT
END OF CURB
END OF CURB
VARIBLE
ALLEY RETURN PAVT. TO BE OF SAME TYPE AND THICKNESS AS CITY OR COUNTY PAVT.
ONE FULL SQUARE OF EXISTING WALK TO BE REPLACED IF REQUIRED TO ADJUST GRADE (TYP)
END OF RADIUS
A SEE NOTE
END OF RADIUS
C SEE NOTE
C SEE NOTE
GUTTER LINE
450 mm (TYP)
25 mm EXPANSION JOINT
SAW CUT AS REQUIRED
GUTTER LINE
A
STREET PAVEMENT

NOTES:
- Ⓐ RADIUS TO BE 3.0 m UNLESS OTHERWISE SHOWN ON PAVING PLAN.
- Ⓑ SIDEWALK FLAGS ABUTTING ALLEY SHALL BE 150mm THICK.
- Ⓒ KEY JOINT OR "B" JOINT IF REINFORCED PAVEMENT.

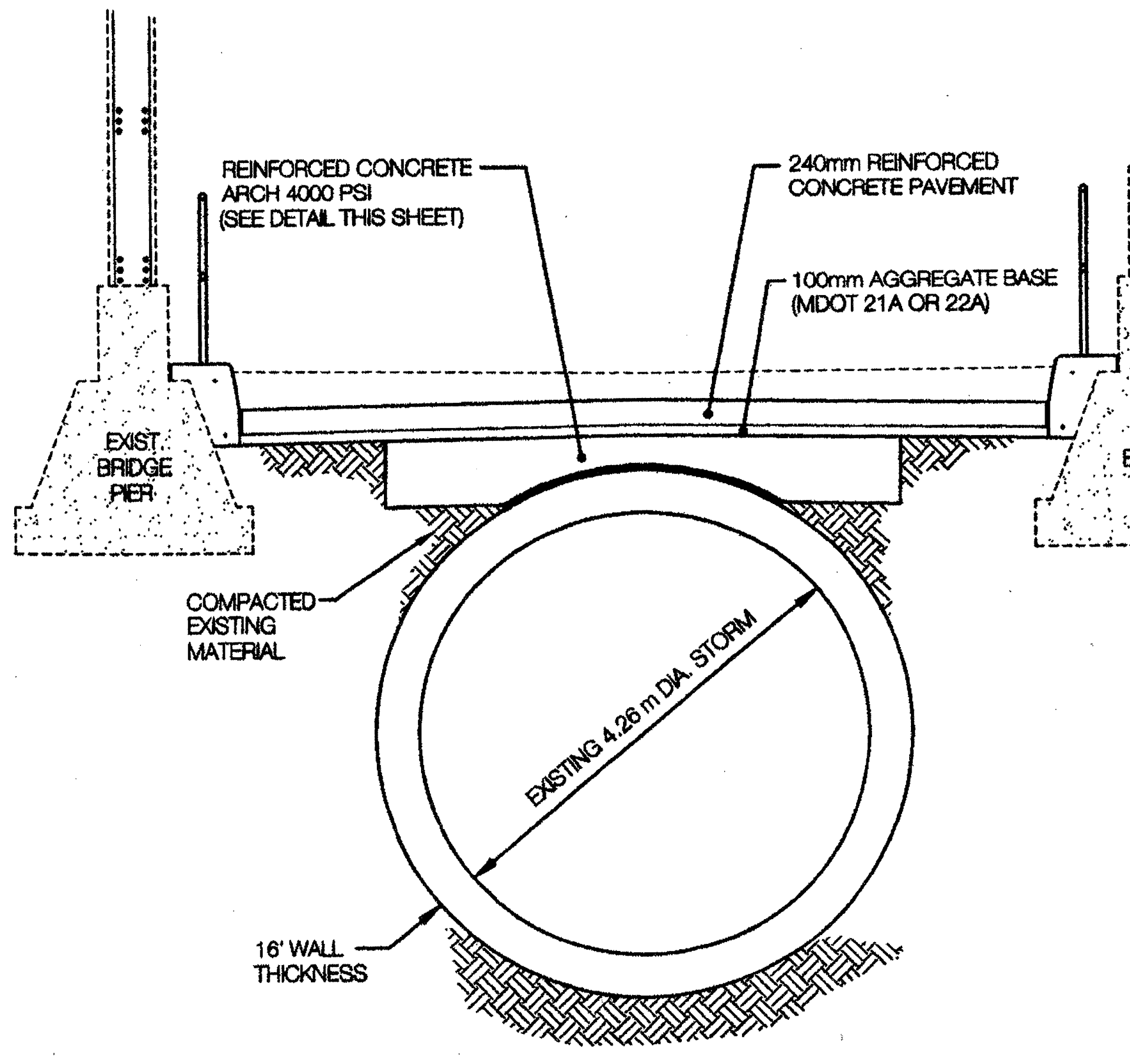
DRIVEWAY APPROACH PLAN


VARIES
183m MIN.
STREET PAVEMENT
*BERM
*
CURB FACE 180mm TO 100mm
DRIVE
NONREINFORCED CONCRETE 200mm FOR COMMERCIAL 150 mm FOR RESIDENTIAL
25mm EXPANSION JOINT
270mm

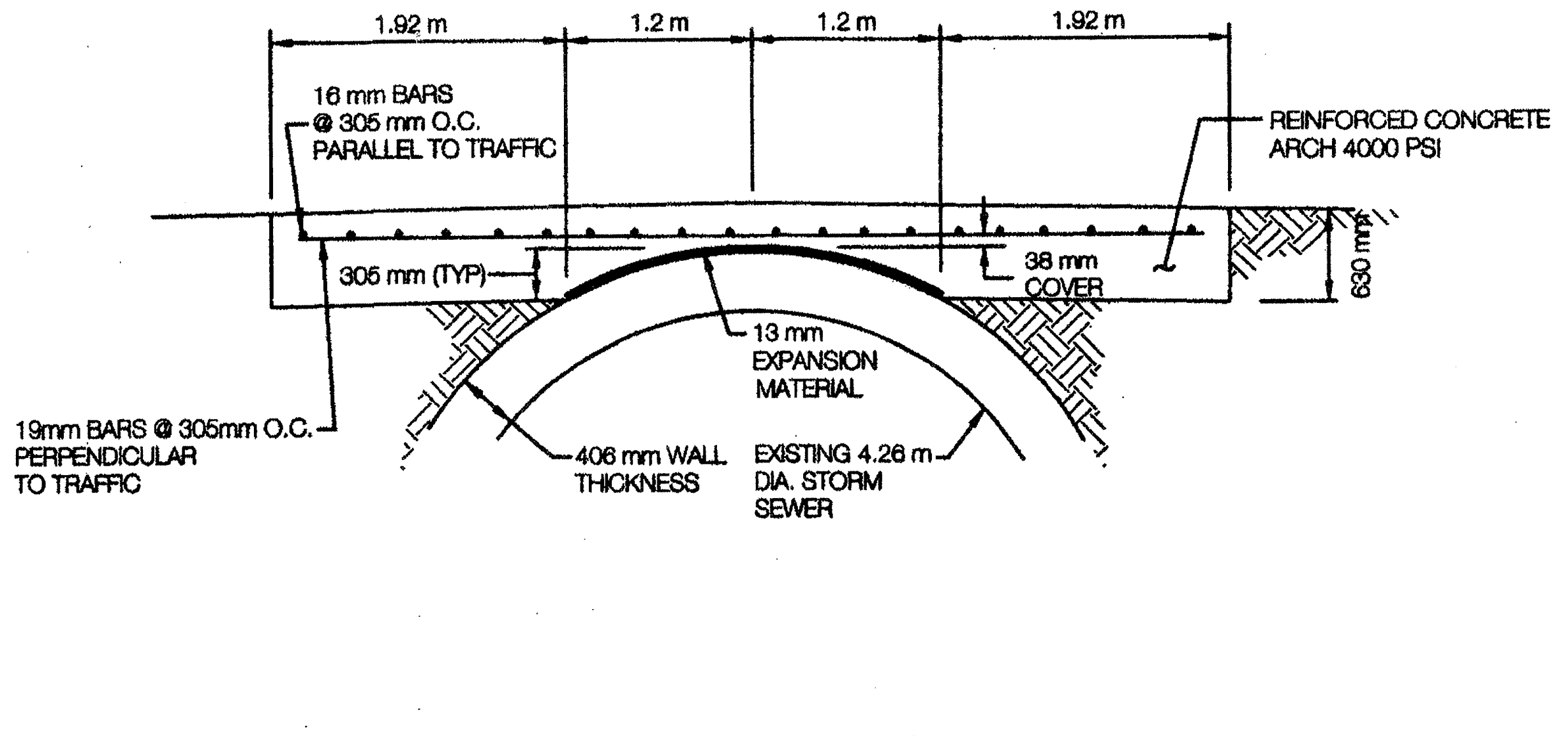
* SIDEWALK SLOPE
MIN. = 2%
DES = 3%
MAX = 6%

**BERM SLOPE
MIN. = 2%
DES = 3%
MAX = 8%

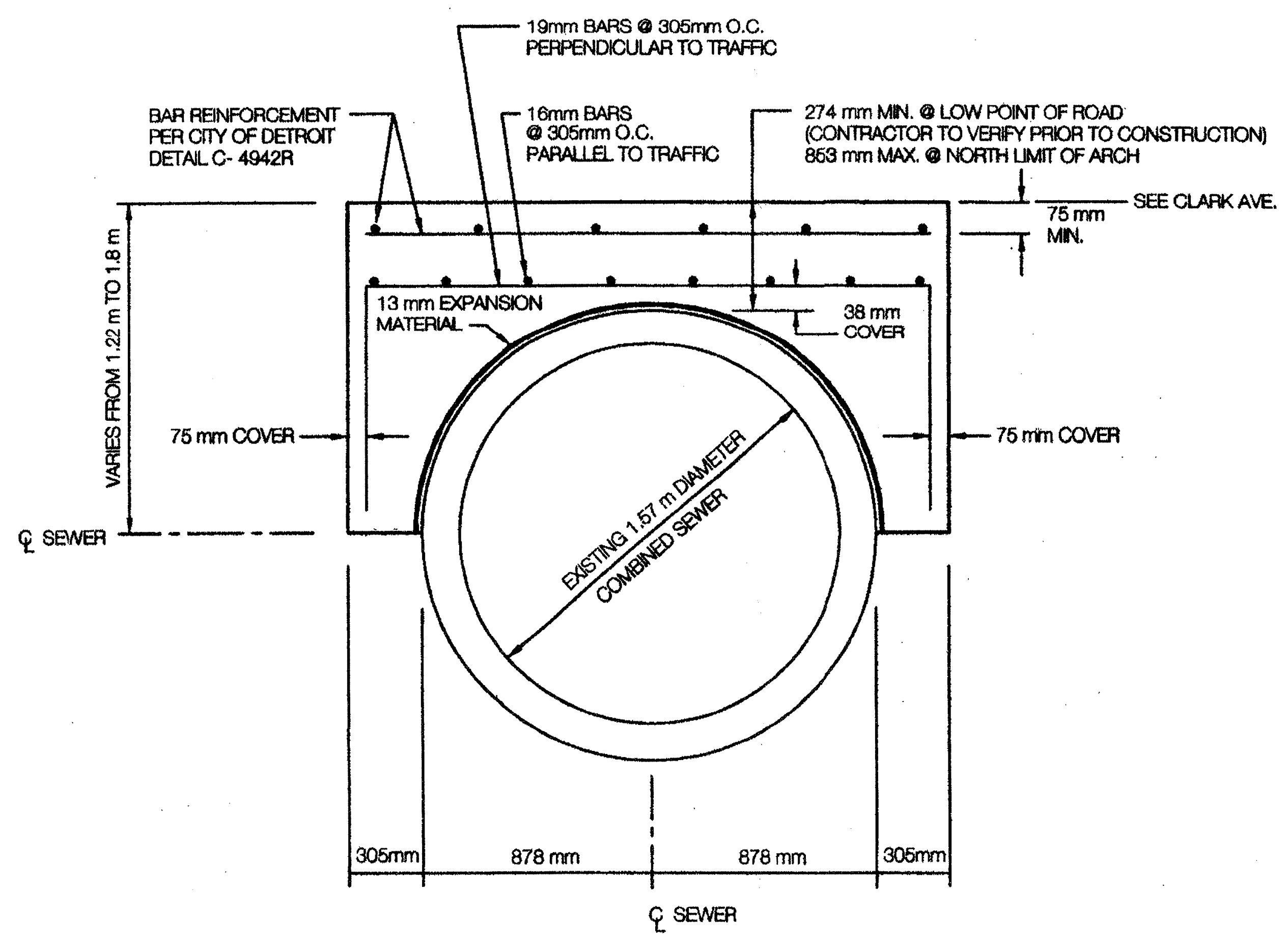
DRIVEWAY APPROACH SECTION A-A


REINFORCED CONCRETE ARCH 4000 PSI (SEE DETAIL THIS SHEET)
240mm REINFORCED CONCRETE PAVEMENT
100mm AGGREGATE BASE (MDOT 21A OR 22A)
EXIST. BRIDGE PIER
EXIST. BRIDGE PIER
COMPACTED EXISTING MATERIAL
EXISTING 4.26 m DIA. STORM
16" WALL THICKNESS

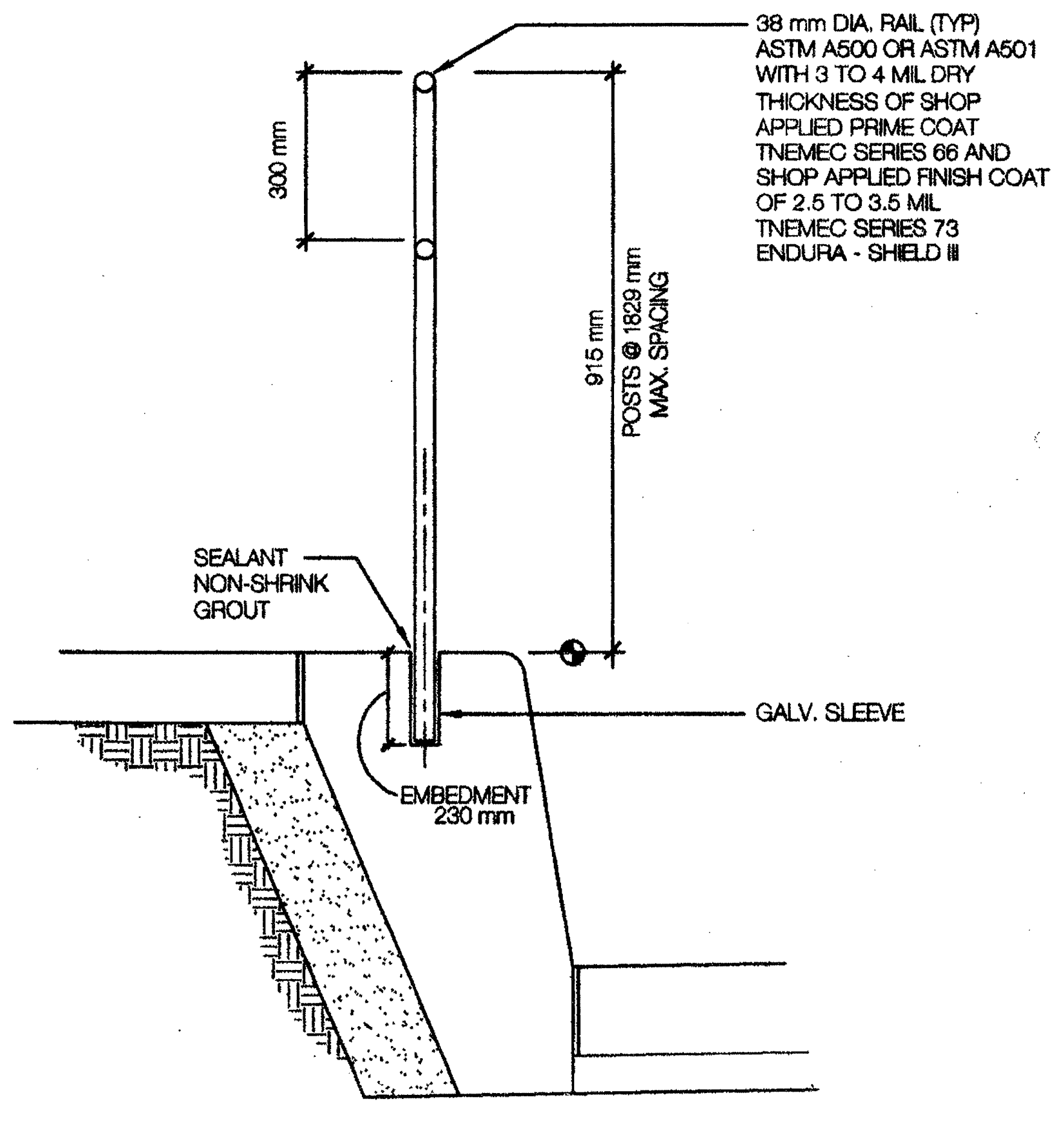
SECTION 1-1
(SEE SHEET 24)


1.92 m
1.2 m
1.2 m
1.92 m
16 mm BARS @ 305 mm O.C. PARALLEL TO TRAFFIC
REINFORCED CONCRETE ARCH 4000 PSI
305 mm (TYP)
38 mm COVER
630 mm
13 mm EXPANSION MATERIAL
19mm BARS @ 305mm O.C. PERPENDICULAR TO TRAFFIC
406 mm WALL THICKNESS
EXISTING 4.26 m DIA. STORM SEWER

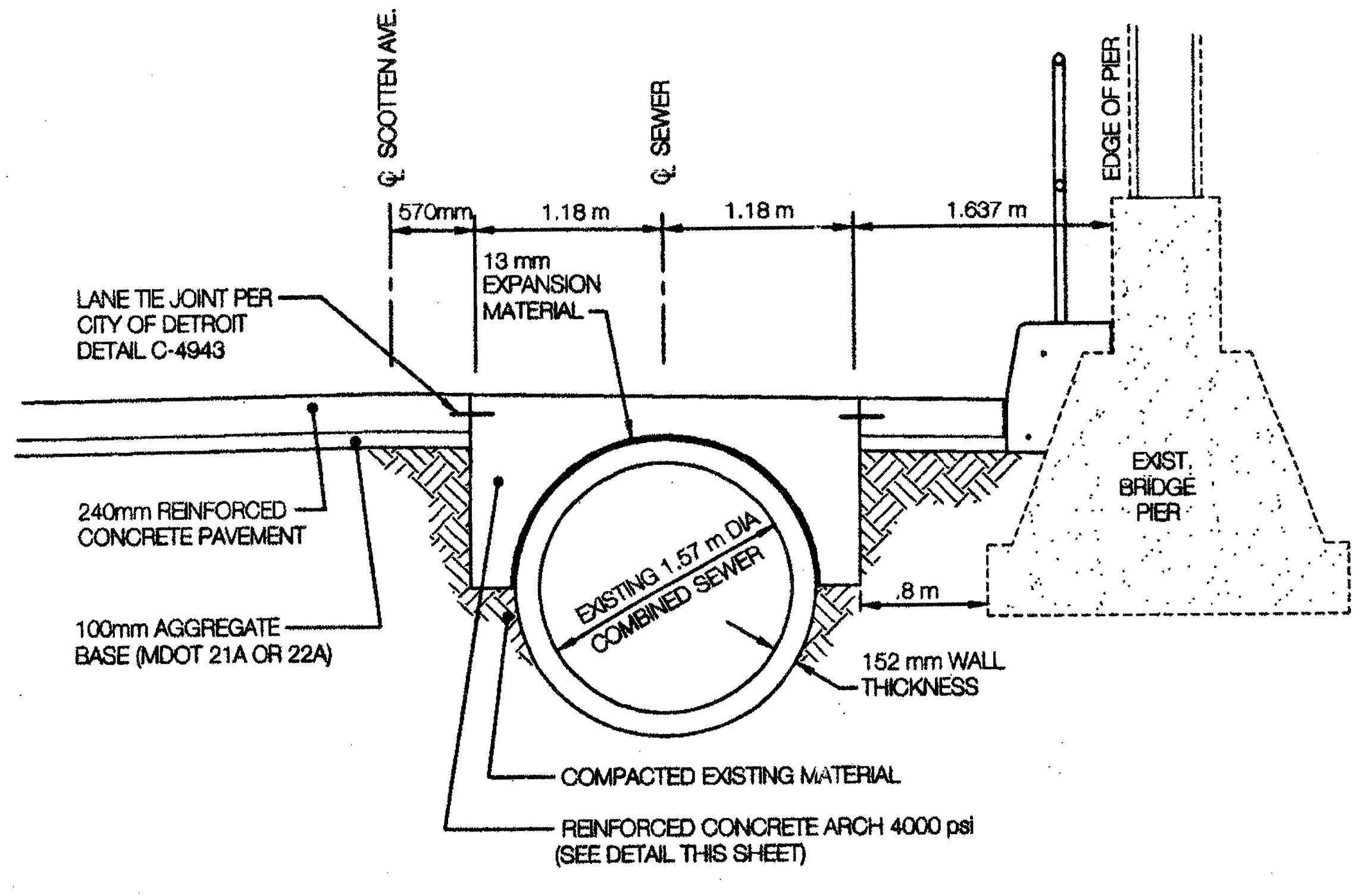
REINFORCED CONCRETE ARCH
STA 2+33.94 TO STA. 2+86.55 / ON CLARK AVE.
(SEE SHEET 24)


19mm BARS @ 305mm O.C. PERPENDICULAR TO TRAFFIC
BAR REINFORCEMENT PER CITY OF DETROIT DETAIL C- 4942R
16mm BARS @ 305mm O.C. PARALLEL TO TRAFFIC
274 mm MIN. @ LOW POINT OF ROAD (CONTRACTOR TO VERIFY PRIOR TO CONSTRUCTION) 853 mm MAX. @ NORTH LIMIT OF ARCH
SEE CLARK AVE.
75 mm MIN.
13 mm EXPANSION MATERIAL
38 mm COVER
VARIES FROM 1.22 m TO 1.8 m
75 mm COVER
75 mm COVER
℄ SEWER
EXISTING 1.57 m DIAMETER COMBINED SEWER
305mm
878 mm
878 mm
305mm
℄ SEWER

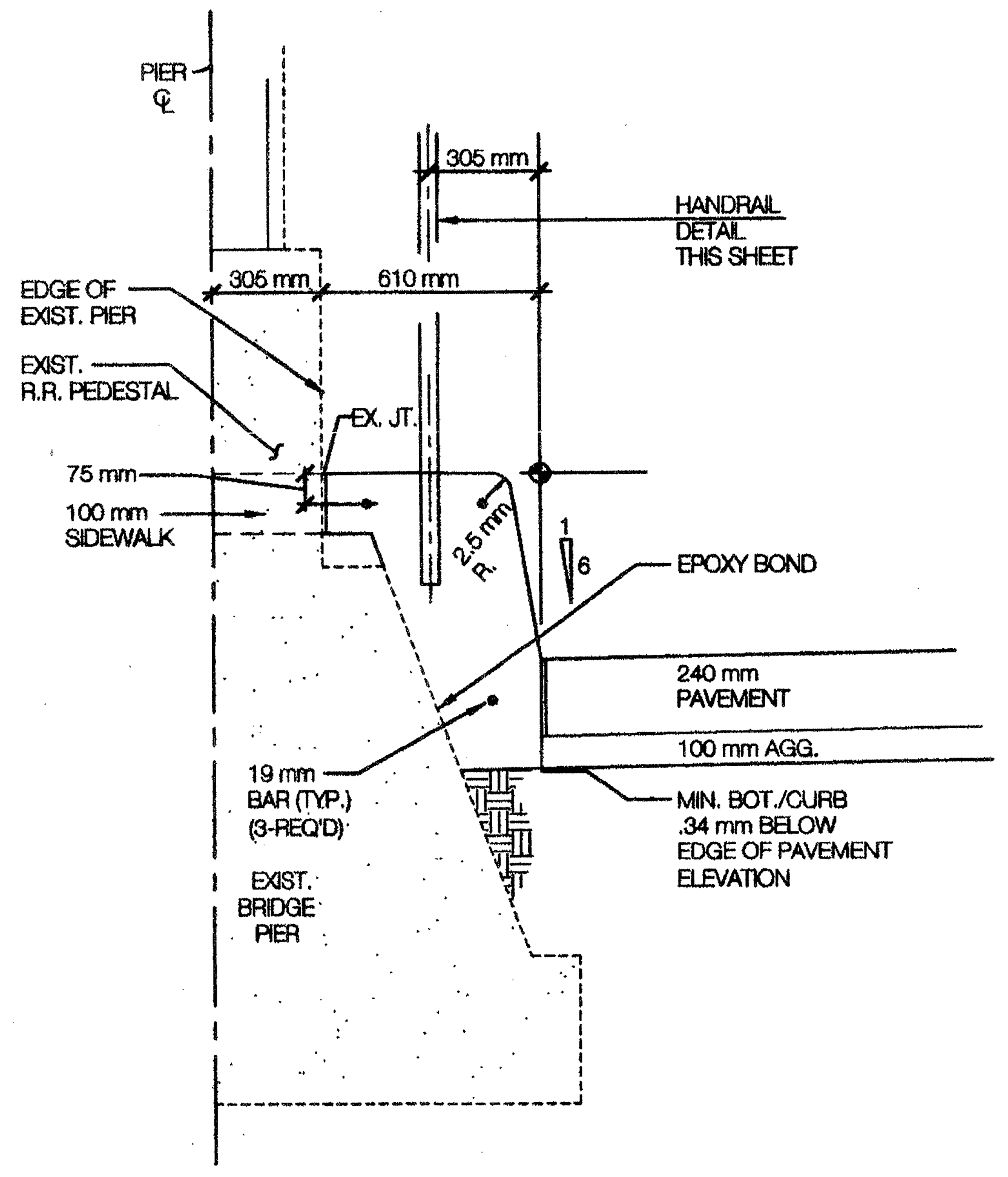
REINFORCED CONCRETE ARCH
STA 2+0.47 TO STA. 2+71.72 / ON SCOTTEN AVE.
(SEE SHEET 25)


38 mm DIA. RAIL (TYP) ASTM A500 OR ASTM A501 WITH 3 TO 4 MIL DRY THICKNESS OF SHOP APPLIED PRIME COAT TNEMEC SERIES 66 AND SHOP APPLIED FINISH COAT OF 2.5 TO 3.5 MIL TNEMEC SERIES 73 ENDURA - SHIELD III
300 mm
915 mm
POSTS @ 1829 mm MAX. SPACING
SEALANT NON-SHRINK GROUT
GALV. SLEEVE
EMBEDMENT 230 mm

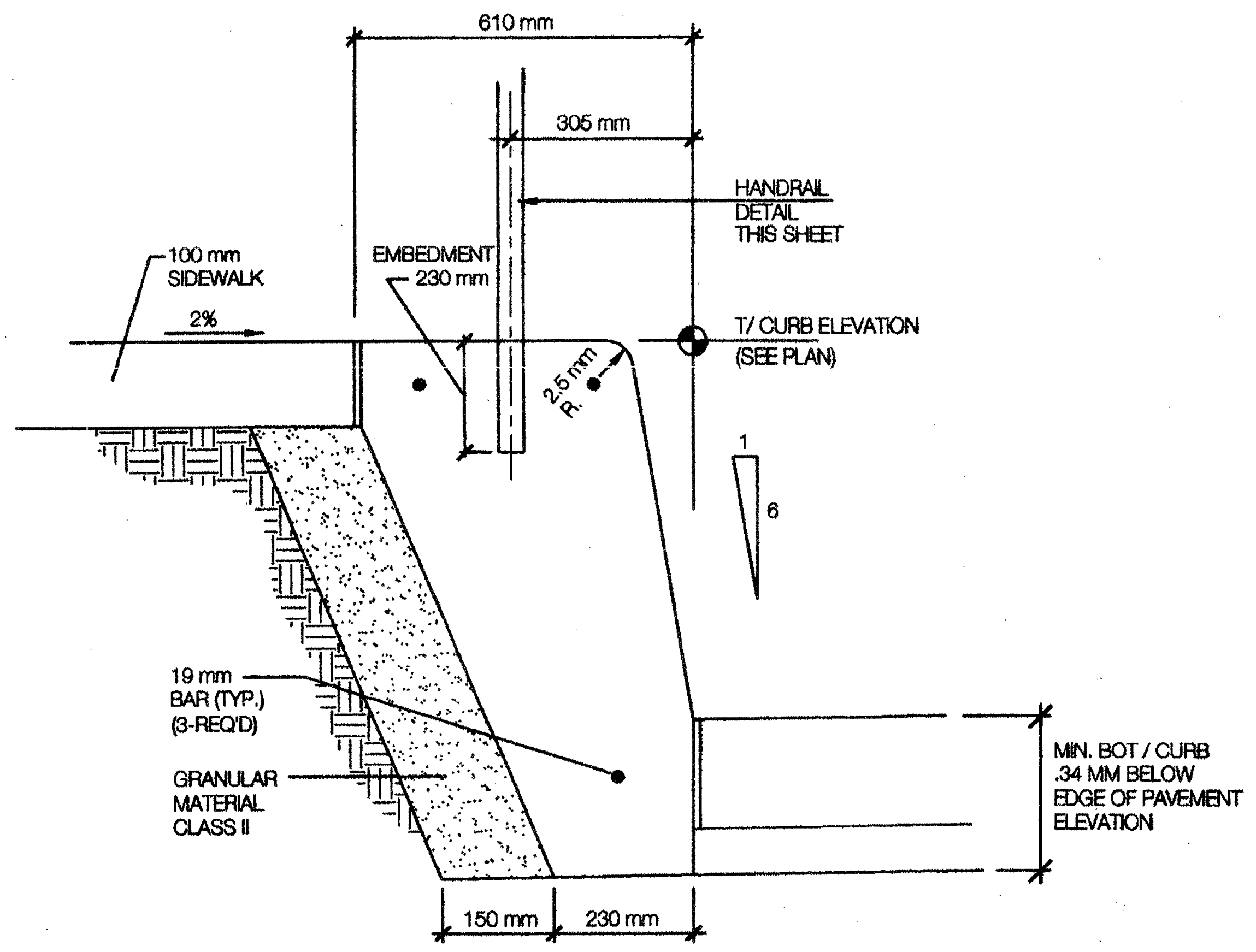
HANDRAIL


℄ SCOTTEN AVE.
℄ SEWER
EDGE OF PIER
570mm
1.18 m
1.18 m
1.637 m
LANE TIE JOINT PER CITY OF DETROIT DETAIL C-4943
13 mm EXPANSION MATERIAL
EXIST. BRIDGE PIER
240mm REINFORCED CONCRETE PAVEMENT
EXISTING 1.57 m DIA. COMBINED SEWER
.8 m
100mm AGGREGATE BASE (MDOT 21A OR 22A)
152 mm WALL THICKNESS
COMPACTED EXISTING MATERIAL
REINFORCED CONCRETE ARCH 4000 psi (SEE DETAIL THIS SHEET)

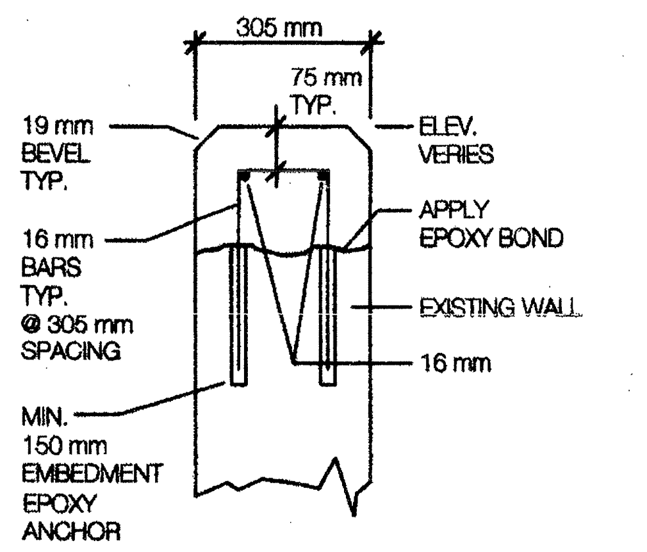
SECTION 2-2
(SEE SHEET 25)


PIER ℄
305 mm
HANDRAIL DETAIL THIS SHEET
305 mm
610 mm
EDGE OF EXIST. PIER
EXIST. R.R. PEDESTAL
EX. JT.
75 mm
100 mm SIDEWALK
2.5 mm R.
1
6
EPOXY BOND
240 mm PAVEMENT
100 mm AGG.
19 mm BAR (TYP.) (3-REQ'D)
MIN. BOT./CURB .34 mm BELOW EDGE OF PAVEMENT ELEVATION
EXIST. BRIDGE PIER

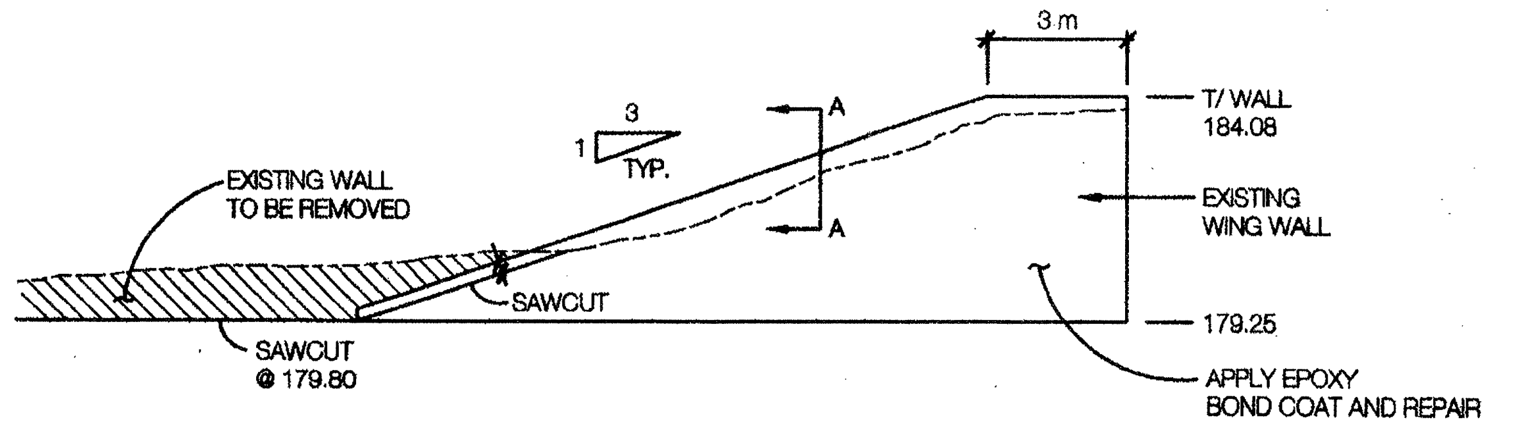
CURB DETAIL AT R/R PIERS
STA 0+24.39 TO STA. 0+87.00 / ON CLARK AVE.
(SEE SHEET 15)


610 mm
305 mm
HANDRAIL DETAIL THIS SHEET
100 mm SIDEWALK
EMBEDMENT 230 mm
2%
2.5 mm R.
T/ CURB ELEVATION (SEE PLAN)
1
6
19 mm BAR (TYP.) (3-REQ'D)
GRANULAR MATERIAL CLASS II
MIN. BOT./ CURB .34 MM BELOW EDGE OF PAVEMENT ELEVATION
150 mm
230 mm

RAISED CURB W/ HANDRAIL DETAIL
(SEE SHEET 15 &18)


305 mm
75 mm TYP.
19 mm BEVEL TYP.
ELEV. VARIES
16 mm BARS TYP. @ 305 mm SPACING
APPLY EPOXY BOND
EXISTING WALL
16 mm
MIN. 150 mm EMBEDMENT EPOXY ANCHOR

SECTION A-A


3 m
T/ WALL 184.08
3
1
TYP.
A
A
EXISTING WALL TO BE REMOVED
EXISTING WING WALL
SAWCUT
SAWCUT @ 179.80
179.25
APPLY EPOXY BOND COAT AND REPAIR EXPOSED SPALLED AREAS

ELEVATION - CLARK ST. WING WALL
(LOOKING EAST)

JJR
JJR Incorporated
110 Miller Avenue
Ann Arbor, Michigan 48104
734.662.4457
734.662.7520

CIVIL DETAILS

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AUTH	DATE	NO.	REVISION

DETOUR SIGN QUANTITIES

SIGN	SIZE	QUANTITY
M4-8A	600 mm X 450 mm	4
M4-9	750 mm X 600 mm	17
M4-10R	1200 mm X 450 mm	2
M4-10L	1200 mm X 450 mm	1
R11-2	1200 mm X 750 mm	2
R11-4	1200 mm X 450 mm	1
W20-2	1200 mm X 1200 mm	4
W20-3	1200 mm X 1200 mm	3
" CLARK AVE" PLAQUE	900 mm X 150 mm	8
"SCOTTEN AVE" PLAQUE	900 mm X 150 mm	10
"CLARK AVE / SCOTTEN AVE" PLAQUE	900 mm X 300 mm	3

LEGEND :

⊥ SINGLE-POST SIGN SUPPORT

⫫ DOUBLE-POST SIGN SUPPORT

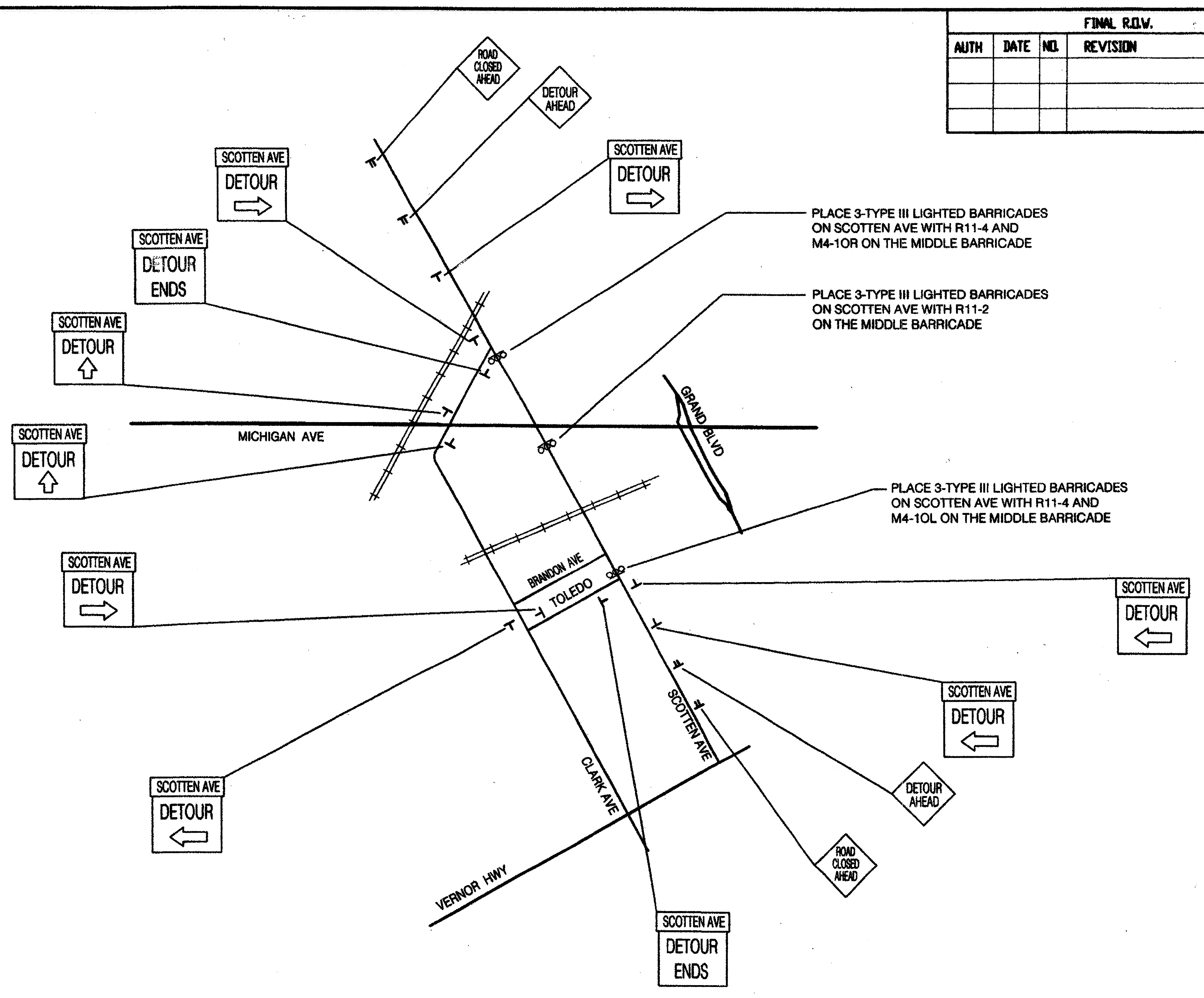
ꝏ TYPE III BARRICADE ASSEMBLY

DETOUR ENDS	M4-8A
ROAD CLOSED	R11-2
ROAD CLOSED TO THRU TRAFFIC	R11-4
DETOUR ⇧	M4-9
DETOUR AHEAD	W20-2
DETOUR ⇨	M4-10R
⇦ DETOUR	M4-10L
ROAD CLOSED AHEAD	W20-3

NOTE TO CONTRACTOR :

PHASED CONSTRUCTION WILL BE REQUIRED TO MAINTAIN THROUGH TRAFFIC ON SCOTTEN AND CLARK AND ACCESS TO ALL FACILITIES AT THE TECH. PARK. FLAGMEN SHALL BE UTILIZED AS REQUIRED TO MAINTAIN TWO WAY TRAFFIC ON CLARK AVE DURING RESURFACING OPERATIONS.

THRU TRAFFIC ON SCOTTEN AVE WILL BE REROUTED VIA TOLEDO AVE AND CLARK DURING SCOTTEN AVE RENOVATION AT R.R. OVERPASS (PHASE I). SIMILARLY THRU TRAFFIC ON CLARK AVE WILL BE REROUTED VIA TOLEDO AVE AND SCOTTEN DURING CLARK AVE RENOVATION AT R.R. OVERPASS (PHASE II).


ROAD CLOSED AHEAD
DETOUR AHEAD
SCOTTEN AVE DETOUR ⇨
SCOTTEN AVE DETOUR ENDS
SCOTTEN AVE DETOUR ⇧
SCOTTEN AVE DETOUR ⇧
SCOTTEN AVE DETOUR ⇨
MICHIGAN AVE
GRAND BLVD
BRANDON AVE
TOLEDO
SCOTTEN AVE DETOUR ⇨
SCOTTEN AVE DETOUR ⇦
SCOTTEN AVE DETOUR ⇦
SCOTTEN AVE DETOUR ⇦
SCOTTEN AVE
CLARK AVE
DETOUR AHEAD
ROAD CLOSED AHEAD
VERNOR HWY
SCOTTEN AVE DETOUR ENDS

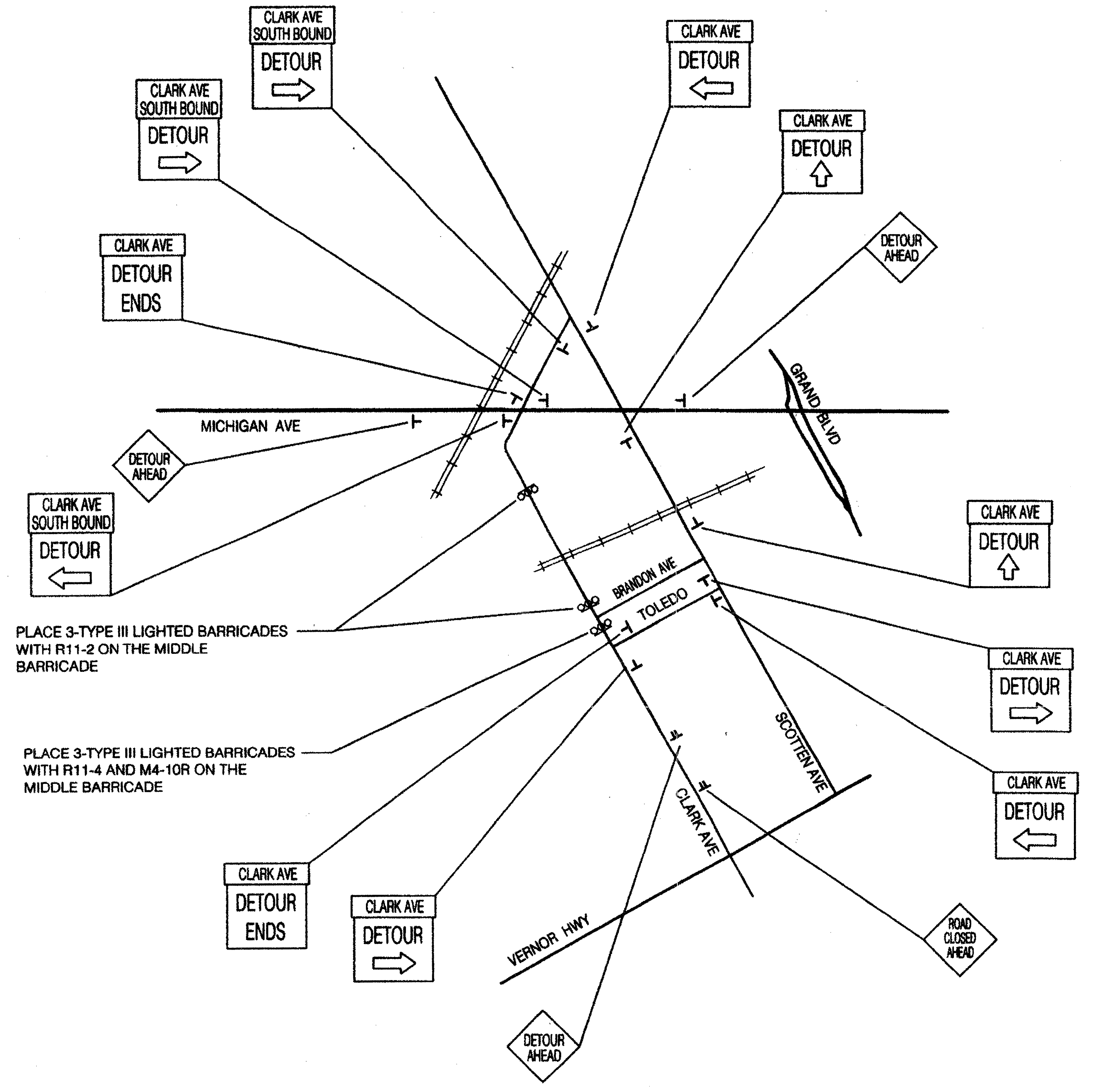
PLACE 3-TYPE III LIGHTED BARRICADES ON SCOTTEN AVE WITH R11-4 AND M4-10R ON THE MIDDLE BARRICADE

PLACE 3-TYPE III LIGHTED BARRICADES ON SCOTTEN AVE WITH R11-2 ON THE MIDDLE BARRICADE

PLACE 3-TYPE III LIGHTED BARRICADES ON SCOTTEN AVE WITH R11-4 AND M4-10L ON THE MIDDLE BARRICADE

PHASE I

(DETOUR DURING RENOVATION AT R.R. OVERPASS ON SCOTTEN AVE.)


CLARK AVE SOUTH BOUND DETOUR ⇨
CLARK AVE SOUTH BOUND DETOUR ⇨
CLARK AVE DETOUR ⇦
CLARK AVE DETOUR ⇧
CLARK AVE DETOUR ENDS
DETOUR AHEAD
MICHIGAN AVE
GRAND BLVD
DETOUR AHEAD
CLARK AVE SOUTH BOUND DETOUR ⇦
BRANDON AVE
TOLEDO
CLARK AVE DETOUR ⇧
CLARK AVE DETOUR ⇨
CLARK AVE DETOUR ⇦
SCOTTEN AVE
CLARK AVE
CLARK AVE DETOUR ENDS
CLARK AVE DETOUR ⇨
VERNOR HWY
ROAD CLOSED AHEAD
DETOUR AHEAD

PLACE 3-TYPE III LIGHTED BARRICADES WITH R11-2 ON THE MIDDLE BARRICADE

PLACE 3-TYPE III LIGHTED BARRICADES WITH R11-4 AND M4-10R ON THE MIDDLE BARRICADE

PHASE II

(DETOUR DURING RENOVATION AT R.R. OVERPASS ON CLARK AVE.)

North

TEMPORARY CLARK AVE & SCOTTEN AVE

DETOUR BETWEEN. US-12 AND VERNOR HWY

JJR
JJR Incorporated
110 Miller Avenue
Ann Arbor, Michigan 48104
✆734.662.4457
🖷734.662.7520

DATE	SCALE	CONT. SEC.	JOB NO.	DESIGN UNIT	SHEET NO.	
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DATE:

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CONTROL SECTION EDA82522 JOB NO. -----A SH. NO. 8

EXISTING BY: DATE:
PROPOSED BY: DATE:
LAST CORRECTION BY: DATE:

FILE NAME: P:\23611\00\CAD\CLARK1.DWG

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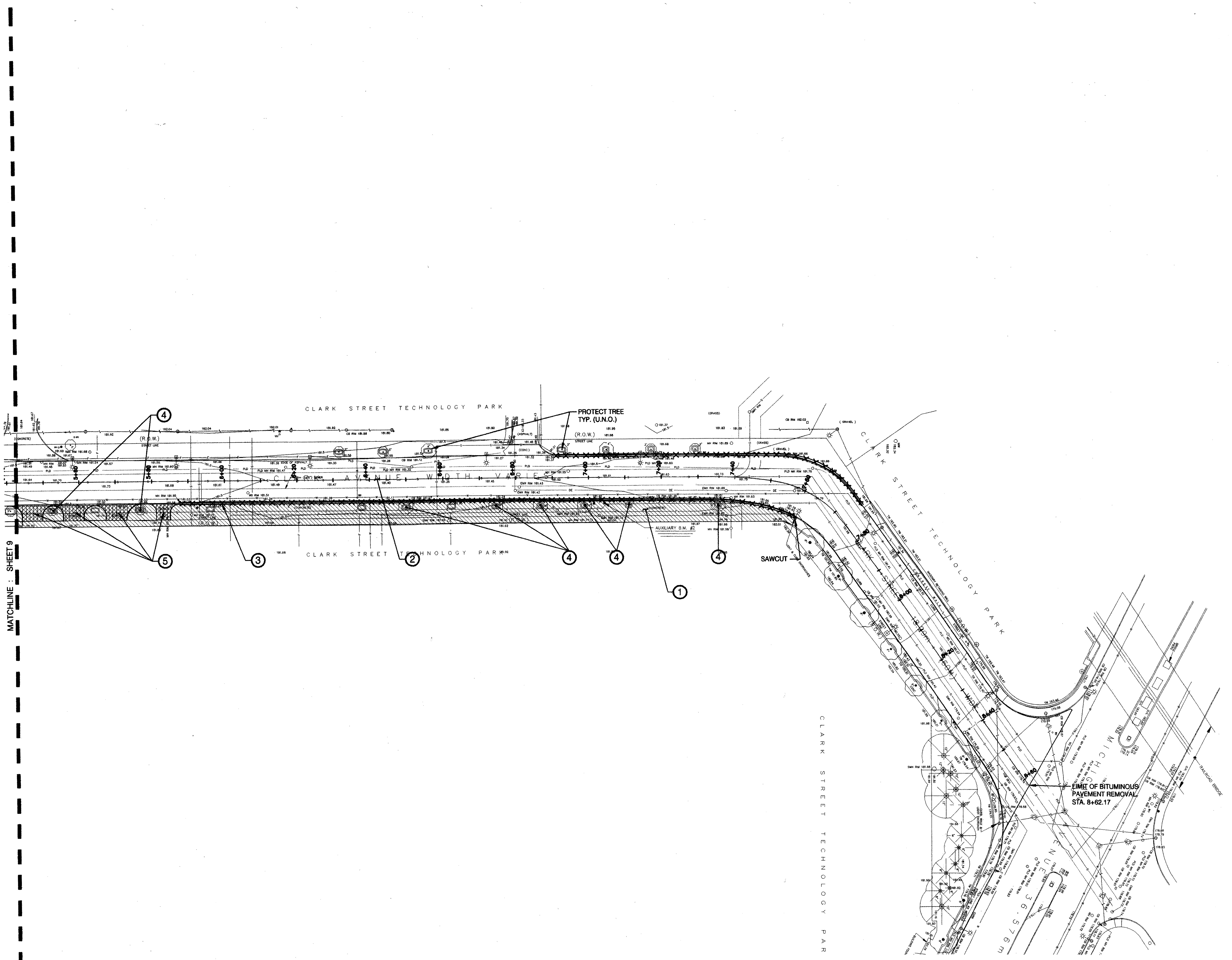
AUTH	DATE	NO.	REVISION



MATCHLINE : SHEET 9
CLARK STREET TECHNOLOGY PARK
PROTECT TREE TYP. (U.N.O.)
(R.O.W.)
CLARK AVENUE WIDTH VARIES
AUXILIARY B.M.
SAWCUT
LIMIT OF BITUMINOUS PAVEMENT REMOVAL STA. 8+62.17
MICHIGAN AVENUE 36.576 m
①
②
③
④
⑤

REMOVAL LEGEND

REMOVING SIDEWALK	①	▨
REMOVING TOP 76mm OF EXISTING BITUMINOUS SURFACE (COLD MILLING)	②	STA. 5+42.62 TO STA. 8+62.17
REMOVING CURB	③	✕✕✕✕✕
REMOVING EXISTING TREES	④	
PAVEMENT, REMOVE	⑤	▩

NOTE :

ALL EXISTING UTILITIES SHALL BE PROTECTED FROM DAMAGE DURING DEMOLITION AND RECONSTRUCTION.

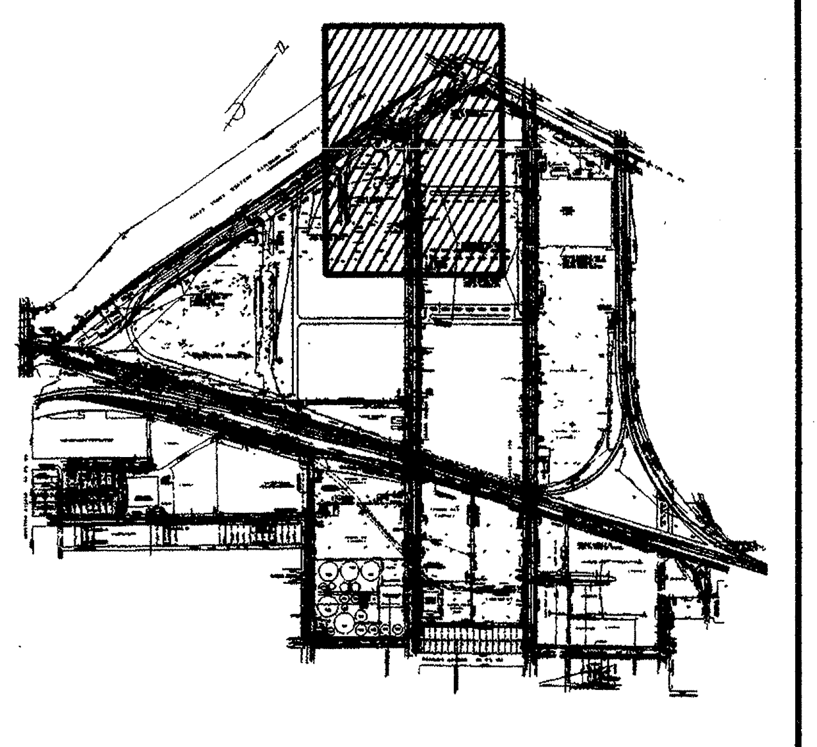
EXISTING CURB, SIDEWALK, AND DRIVE APPROACHES NOT INDICATED FOR REMOVAL SHALL BE PROTECTED FROM DAMAGE DURING DEMOLITION AND RECONSTRUCTION.

SEE SHEET NO. 2 FOR GENERAL NOTES

* PAVEMENT REPAIR QUANTITIES ESTIMATED FOR REPLACEMENT OF UNACCEPTABLE PAVEMENT EXPOSED FOLLOWING COLD MILLING OPERATIONS.

QUANTITIES THIS SHEET

PAVEMENT, REMOVE	127 square meter
CURB, REMOVE	260 meters
SIDEWALK, REMOVE	1167 square meter
COLD MILLING 76 mm BIT. SURFACE	4184 square meter
TREE, REMOVE, 50 TO 200 mm	8 ea
* PAVEMENT REPAIR, REMOVE	418 square meter
* SAWCUT, INTERMEDIATE	275 meters
* PAVEMENT REPAIR NON-REINFORCED CONCRETE 200mm	418 square meter



KEY PLAN

JJR
JJR Incorporated
110 Miller Avenue
Ann Arbor, Michigan 48104
☎734.662.4457
734.662.7520

CLARK AVE. - SITE PREPARATION PLAN

DATE	SCALE	CONT. SEC.	JOB NO.	DESIGN UNIT	SHEET NO.	
07/28/00	1:500	EDA82522	52624A		8	44

FILE NAME: P:\23611\00\CAD\CLARK2.DWG

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SECTION | NO. | NO.

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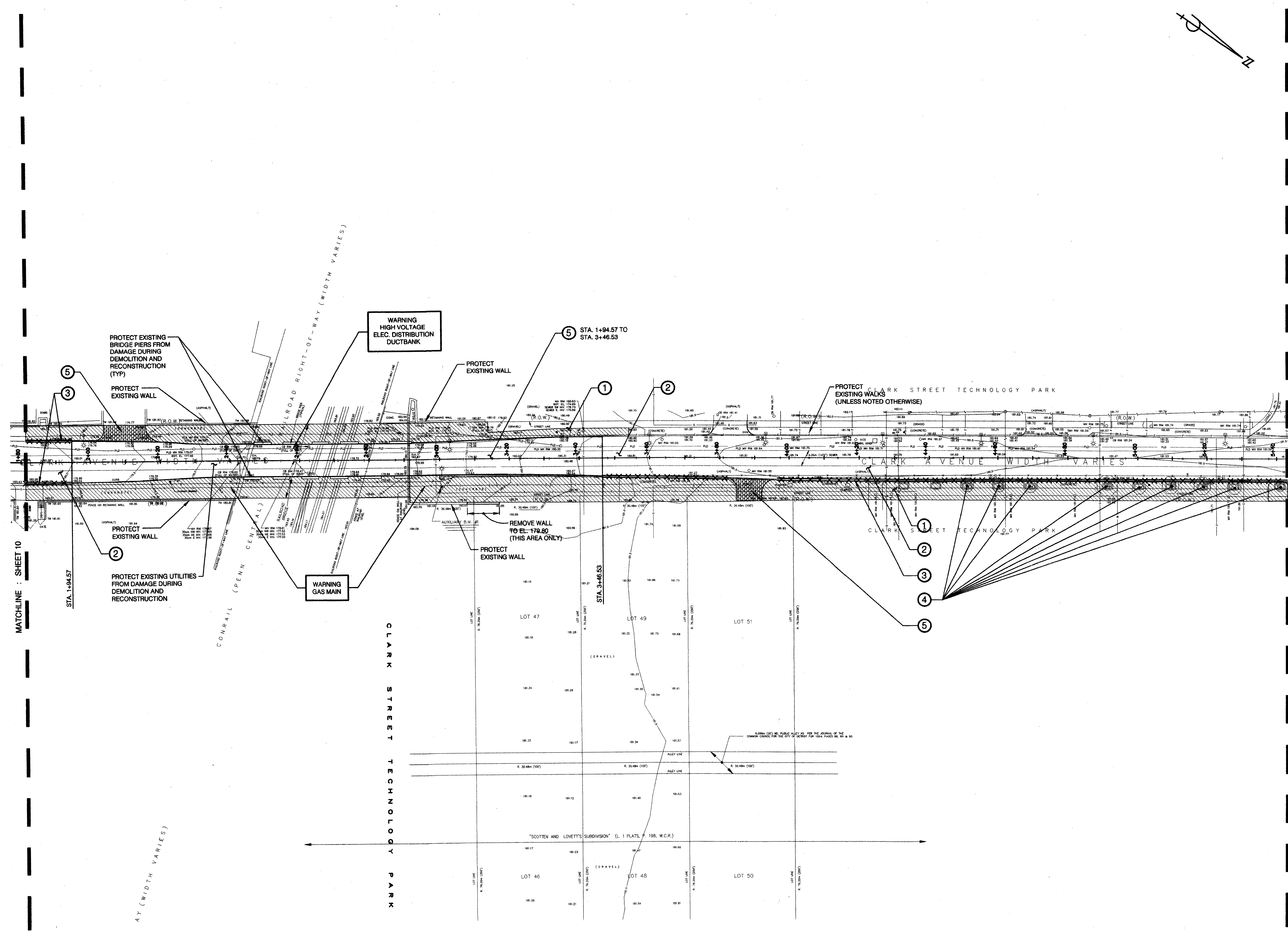

PROTECT EXISTING BRIDGE PIERS FROM DAMAGE DURING DEMOLITION AND RECONSTRUCTION (TYP)
WARNING HIGH VOLTAGE ELEC. DISTRIBUTION DUCTBANK
⑤ STA. 1+94.57 TO STA. 3+46.53
PROTECT EXISTING WALL
PROTECT EXISTING WALL
PROTECT EXISTING WALKS (UNLESS NOTED OTHERWISE)
CLARK STREET TECHNOLOGY PARK
CLARK AVENUE WIDTH VARIES
RAILROAD RIGHT-OF-WAY (WIDTH VARIES)
CONRAIL (PENN CENTRAL)
PROTECT EXISTING WALL
PROTECT EXISTING UTILITIES FROM DAMAGE DURING DEMOLITION AND RECONSTRUCTION
WARNING GAS MAIN
REMOVE WALL TO EL. 179.80 (THIS AREA ONLY)
PROTECT EXISTING WALL
AUXILIARY B.M. #1
STA. 1+94.57
STA. 3+46.53
MATCHLINE : SHEET 10
MATCHLINE : SHEET 8
CLARK STREET TECHNOLOGY PARK
LOT 47
LOT 49
LOT 51
LOT 46
LOT 48
LOT 50
(GRAVEL)
ALLEY LINE
"SCOTTEN AND LOVETT'S SUBDIVISION" (L. 1 PLATS, P. 198, W.C.R.)
①
②
③
④
⑤
N

REMOVAL LEGEND

REMOVING SIDEWALK	①	▨
REMOVING TOP 76mm OF EXISTING BITUMINOUS SURFACE (COLD MILLING)	②	STA 1+81.27 TO STA 1+94.57 & STA 3+46.53 STA 5+42.62
REMOVING CURB	③	✕✕✕✕✕
REMOVING EXISTING TREES	④	
PAVEMENT, REMOVAL	⑤	▩ AND STA 1+94.57 STA 3+46.53

NOTE :

ALL EXISTING UTILITIES SHALL BE PROTECTED FROM DAMAGE DURING DEMOLITION AND RECONSTRUCTION.

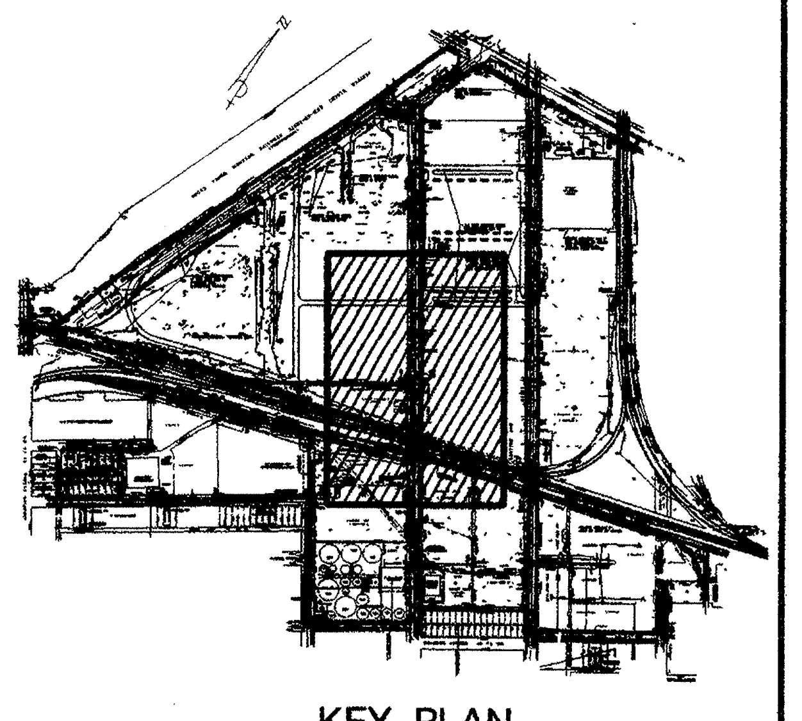
EXISTING CURB, SIDEWALK, AND DRIVE APPROACHES NOT INDICATED FOR REMOVAL SHALL BE PROTECTED FROM DAMAGE DURING DEMOLITION AND RECONSTRUCTION.

SEE SHEET NO. 2 FOR GENERAL NOTES

* PAVEMENT REPAIR QUANTITIES ESTIMATED FOR REPLACEMENT OF UNACCEPTABLE PLAVEMENT EXPOSED FOLLOWING COLD MILLING OPERATIONS.

QUANTITIES THIS SHEET

PAVEMENT, REMOVE	1608 square meter
CURB, REMOVE	411 meters
SIDEWALK, REMOVE	2768 square meter
COLD MILLING 76 mm BIT. SURFACE	2531 square meter
TREE, REMOVE, 50 TO 200 mm	9 ea
* PAVEMENT REPAIR, REMOVE	260 square meter
* SAWCUT, INTERMEDIATE	175 meters
* PAVEMENT REPAIR NON-REINFORCED CONCRETE 200mm	260 square meter
MASONRY AND CONCRETE STRUCTURES, REMOVE	3 cubic meters



KEY PLAN

JJR
JJR Incorporated
110 Miller Avenue
Ann Arbor, Michigan 48104
☎734.662.4457
734.662.7520

CLARK AVE. - SITE PREPARATION PLAN

DATE	SCALE	CONT. SEC.	JOB NO.	DESIGN UNIT	SHEET NO.	
07/28/00	1:500	EDA82522	52624A		9	44

SECTION

NO.

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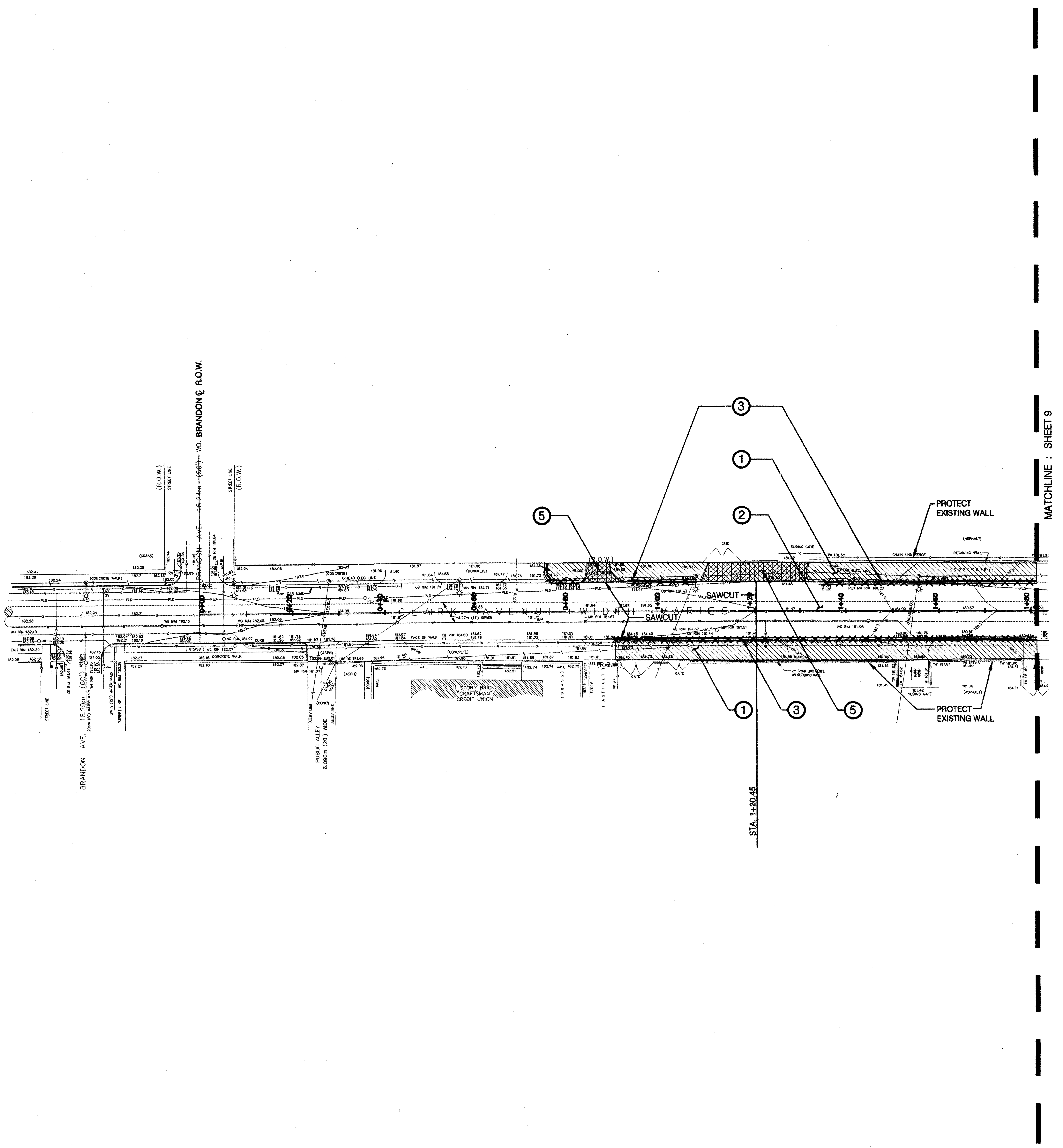
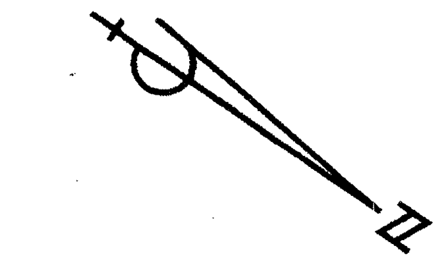

(R.O.W.)
STREET LINE
BRANDON ℄ R.O.W.
WD. BRANDON AVE.
(GRASS)
(CONCRETE WALK)
CONCRETE WALK
CLARK AVENUE WIDTH VARIES
⑤
③
①
②
SAWCUT
SAWCUT
PROTECT EXISTING WALL
PROTECT EXISTING WALL
GATE
SLIDING GATE
CHAIN LINK FENCE
RETAINING WALL
(ASPHALT)
(CONCRETE)
O'HEAD ELEC. LINE
2m CHAIN LINK FENCE ON RETAINING WALL
RAMP DOWN
0+80
1+00
1+20
1+40
1+60
1+80
STA. 1+20.45
BRANDON AVE. 18.29m (60')
PUBLIC ALLEY 6.096m (20') WIDE
1 STORY BRICK "CRAFTSMAN" CREDIT UNION
(GRASS)
(ASPHALT)
MATCHLINE : SHEET 9



FINAL R.O.V.			
AUTH	DATE	NO.	REVISION

REMOVAL LEGEND

REMOVING SIDEWALK	①	▨
REMOVING TOP 76mm OF EXISTING BITUMINOUS SURFACE (COLD MILLING)	②	STA. 1+20.45 TO STA. 1+81.27
REMOVING CURB	③	✕✕✕
REMOVING EXISTING TREES	④	
PAVEMENT REMOVAL	⑤	▩

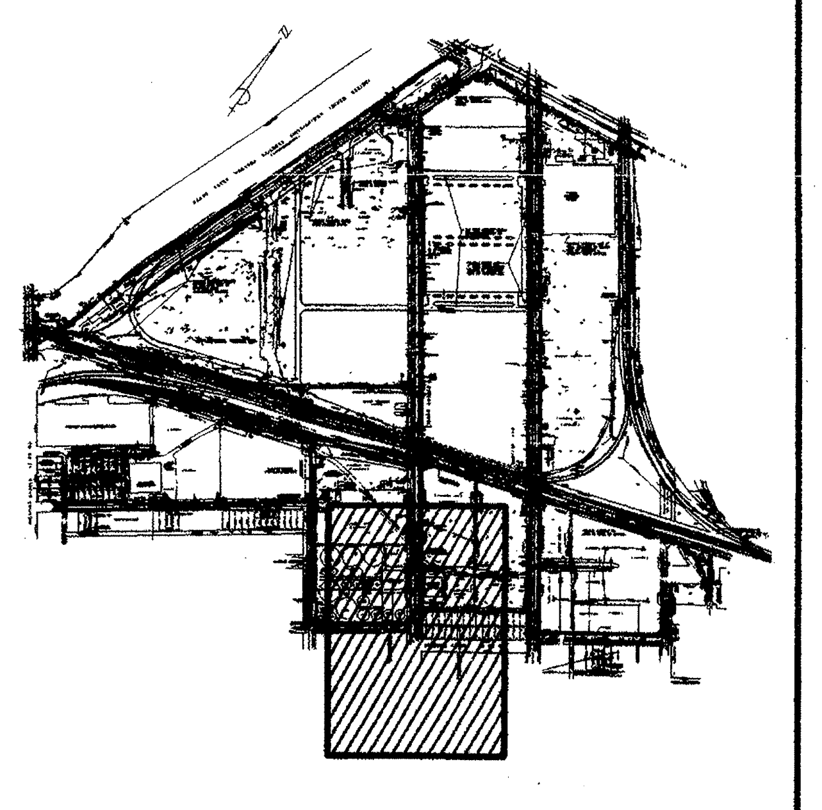
NOTE :

ALL EXISTING UTILITIES SHALL BE PROTECTED FROM DAMAGE DURING DEMOLITION AND RECONSTRUCTION.

* PAVEMENT REPAIR QUANTITIES ESTIMATED FOR REPLACEMENT OF UNACCEPTABLE PLAVEMENT EXPOSED FOLLOWING COLD MILLING OPERATIONS.

QUANTITIES THIS SHEET

PAVEMENT, REMOVE	131 square meter
CURB, REMOVE	162 meters
SIDEWALK, REMOVE	772 square meter
COLD MILLING 76 mm BIT. SURFACE	736 square meter
TREE, REMOVE, 50 TO 200 mm	N/A ea
* PAVEMENT REPAIR, REMOVE	74 square meter
* SAWCUT, INTERMEDIATE	50 meters
* PAVEMENT REPAIR NON-REINFORCED CONCRETE 200mm	74 square meter



KEY PLAN

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CLARK AVE. - SITE PREPARATION PLAN

DATE	SCALE	CONT. SEC.	JOB NO.	DESIGN UNIT	SHEET NO.	
07/28/00	1:500	EDA82522	52624A		10	44

SECTION

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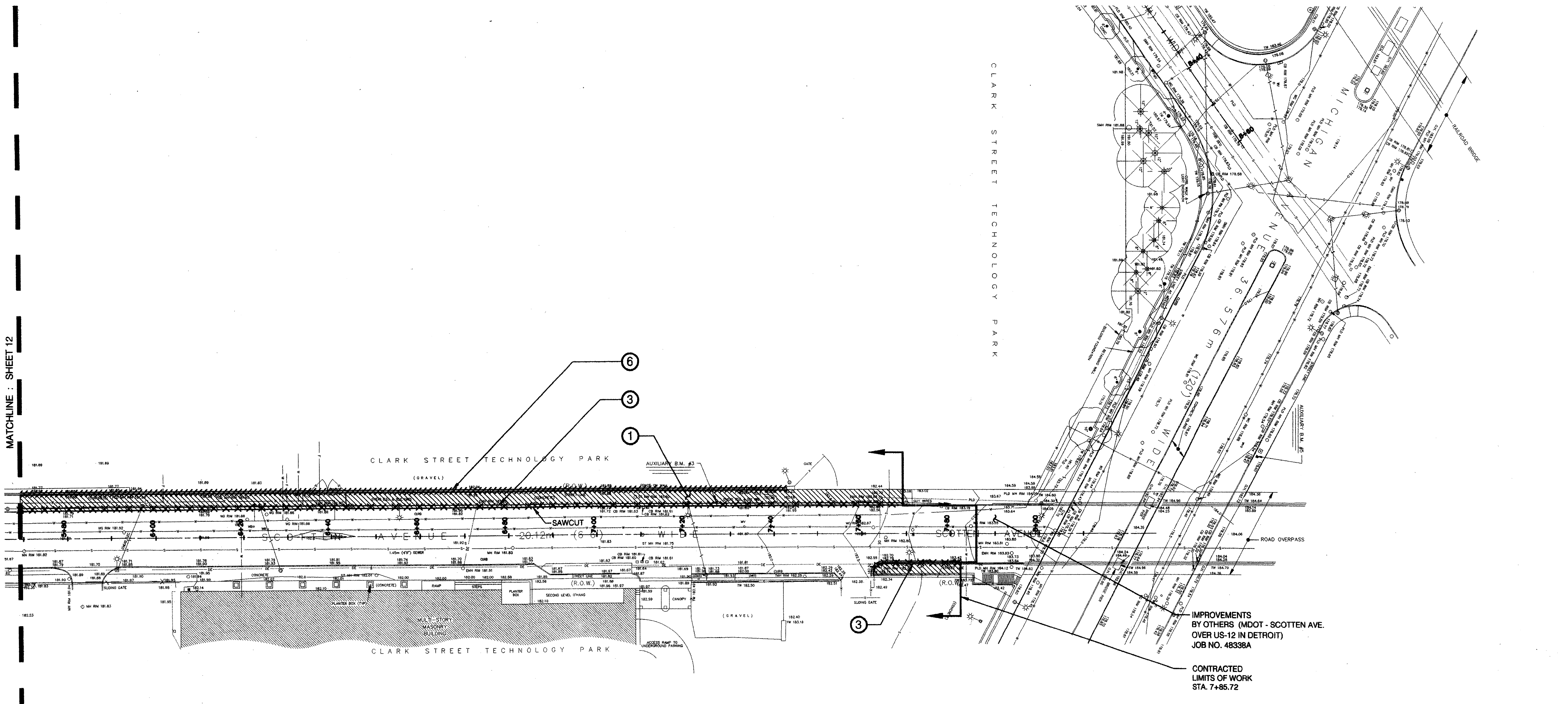
DATE:

FILE NAME: P:\23611\00\CAD\SCOTTEN.DWG


MATCHLINE : SHEET 12
CLARK STREET TECHNOLOGY PARK
(GRAVEL)
AUXILIARY B.M. #3
SAWCUT
SCOTTEN AVENUE 20.12m (66') WIDE
MICHIGAN AVENUE 36.576m (120') WIDE
RAILROAD BRIDGE
AUXILIARY B.M. #5
ROAD OVERPASS
SLIDING GATE
MULTI-STORY MASONRY BUILDING
ACCESS RAMP TO UNDERGROUND PARKING
(R.O.W.)
⑥
③
①
③

IMPROVEMENTS
BY OTHERS (MDOT - SCOTTEN AVE.
OVER US-12 IN DETROIT)
JOB NO. 48338A

CONTRACTED
LIMITS OF WORK
STA. 7+85.72

FINAL R.O.W.			
AUTH	DATE	NO.	REVISION

REMOVAL LEGEND

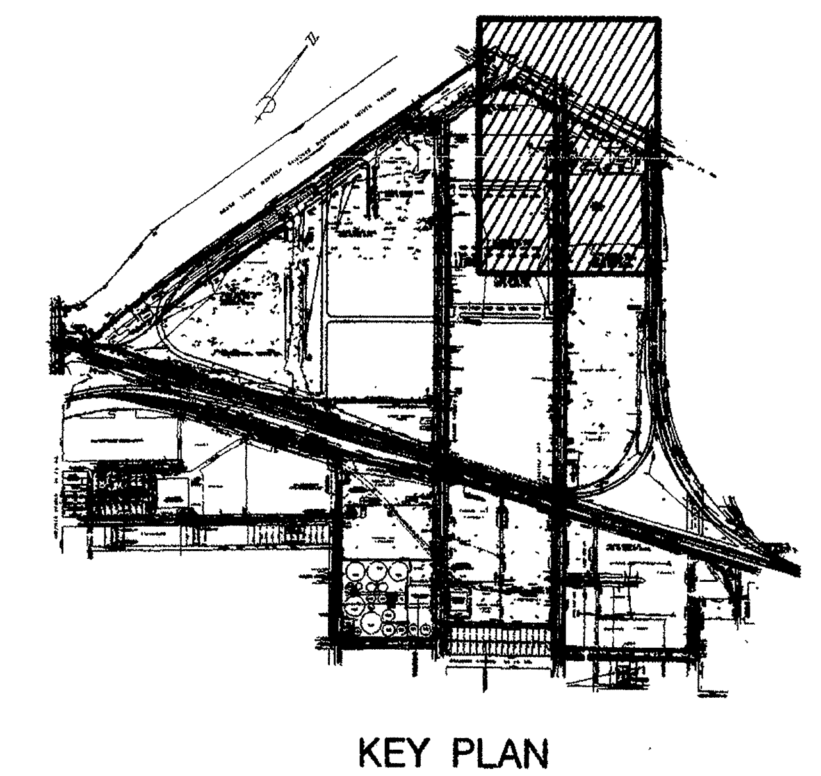
REMOVING SIDEWALK AND CONCRETE DRIVEWAY PAVEMENT	①	▧
REMOVING TOP 76mm OF BITUMINOUS SURFACE COLD MILLING	②	▦
REMOVING CURB & WALL	③	✕✕✕✕✕
STRUCTURES, REMOVE FENCE, REMOVE	⑥	////////

NOTE :

CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES FROM DAMAGE DURING DEMOLITION AND RECONSTRUCTION.

QUANTITIES THIS SHEET

PAVEMENT, REMOVE	N/A square meter
CURB, REMOVE	222 meters
SIDEWALK, REMOVE	659 square meter
COLD MILLING 76 mm BIT. SURFACE	N/A square meter
TREE, REMOVE, 50 TO 200 mm	N/A ea
MASONRY AND CONCRETE STRUCTURE, REMOVE	42 cube meters
FENCE, REMOVE	175 meters


KEY PLAN

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110 Miller Avenue
Ann Arbor, Michigan 48104
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734.662.7520

SCOTTEN AVE. - SITE PREPARATION PLAN

DATE	SCALE	CONT. SEC.	JOB NO.	DESIGN UNIT	SHEET NO.	
07/28/00	1:500	EDA82522	52624A		11	44

CONTROL SECTION EDA82522
JOB NO. 52624A
SH. NO. 12

EXISTING BY:
PROPOSED BY:
LAST CORRECTION BY:

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DATE:
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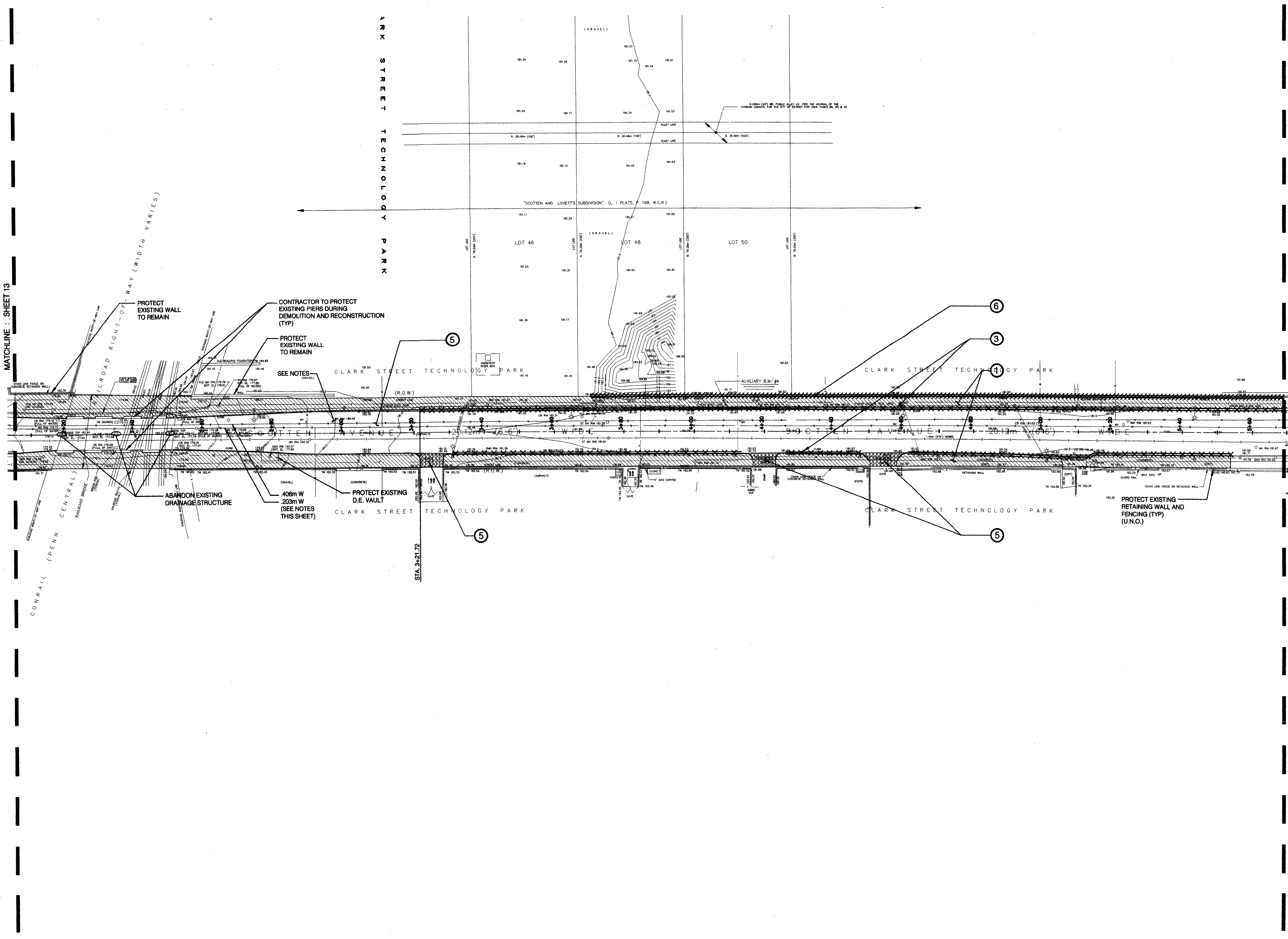
FINAL R.O.W.			
AUTH	DATE	NO.	REVISION



MATCHLINE : SHEET 13
CLARK STREET TECHNOLOGY PARK
"SCOTTEN AND LOVETT'S SUBDIVISION" (L. 1 PLATS, P. 198, W.C.R.)
6.096m (20') WD. PUBLIC ALLEY AS PER THE JOURNAL OF THE COMMON COUNCIL FOR THE CITY OF DETROIT FOR 1894, PAGES 88, 89 & 90
ALLEY LINE
R. 30.48m (100')
(GRAVEL)
LOT 46
LOT 48
LOT 50
CONRAIL (PENN CENTRAL) RAILROAD RIGHT-OF-WAY (WIDTH VARIES)
PROTECT EXISTING WALL TO REMAIN
CONTRACTOR TO PROTECT EXISTING PIERS DURING DEMOLITION AND RECONSTRUCTION (TYP)
PROTECT EXISTING WALL TO REMAIN
SEE NOTES
⑤
⑥
③
①
(R.O.W.)
AUXILIARY B.M. #4
SCOTTEN AVENUE 20.12m (66') WIDE
ABANDON EXISTING DRAINAGE STRUCTURE
.406m W
.203m W
(SEE NOTES THIS SHEET)
PROTECT EXISTING D.E. VAULT
STA. 3+21.72
PROTECT EXISTING RETAINING WALL AND FENCING (TYP) (U.N.O.)
MATCHLINE : SHEET 11

REMOVAL LEGEND

REMOVING SIDEWALK AND CONCRETE DRIVEWAY PAVEMENT	①	▨
REMOVING TOP 76mm OF EXISTING BITUMINOUS	②	▩
REMOVING CURB	③	✕✕✕✕✕
REMOVING EXISTING TREES	④	
PAVEMENT, REMOVE	⑤	▩ AND STA. 2+05.40 TO STA. 3+19.41
STRUCTURES, REMOVE FENCE, REMOVE	⑥	//////////

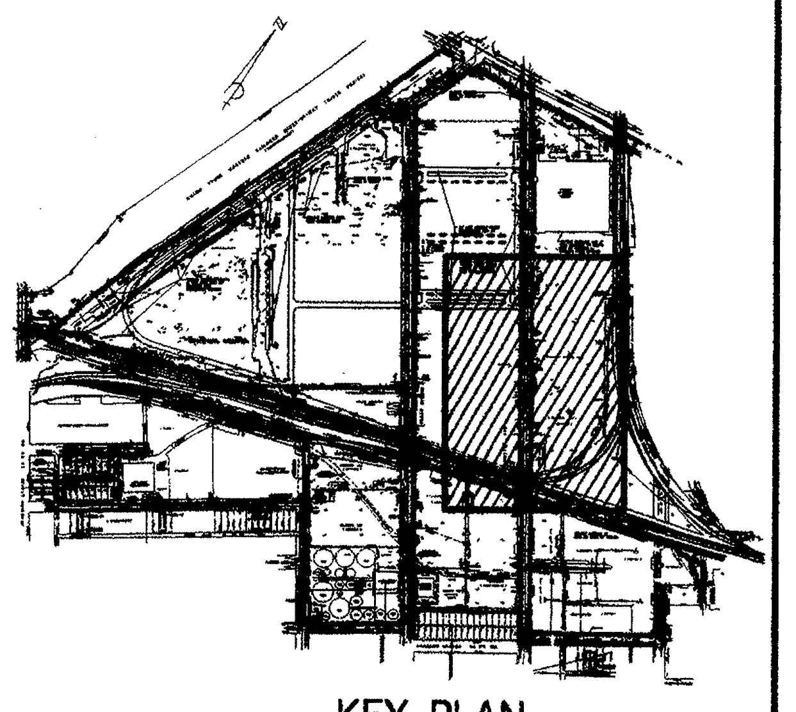
NOTE :

CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES FROM DAMAGE DURING DEMOLITION AND RECONSTRUCTION.

EXISTING WATER MAINS WITHIN ⑤ SHALL BE RELOCATED VERTICALLY AS REQUIRED TO MAINTAIN 1.53 m MINIMUM COVER BELOW PROPOSED FINISH GRADE EXISTING R.R. OVERPASS PIERS TO BE PROTECTED AGAINST UNDERMINING. CONTINUOUS WATER SERVICE SHALL BE MAINTAINED. ALL MATERIAL AND INSTALLATION PER CITY OF DETROIT REQUIREMENTS.

QUANTITIES THIS SHEET

PAVEMENT, REMOVE	1314 square meter
CURB, REMOVE	475 meters
SIDEWALK, REMOVE	2781 square meter
COLD MILLING 76 mm BIT. SURFACE	N/A square meter
TREE, REMOVE, 50 TO 200 mm	N/A ea
WATERMAIN DI .406 m TR DET G	110 meters
WATERMAIN DI .203 m TR DET G	110 meters
MASONRY AND CONCRETE STRUCTURE, REMOVE	48 cube meters
FENCE, REMOVE	200 meters
DRAINAGE STRUCTURE, ABANDON	3 ea


KEY PLAN

JJR
JJR Incorporated
110 Miller Avenue
Ann Arbor, Michigan 48104
☎734.662.4457
734.662.7520

SCOTTEN AVE. - SITE PREPARATION PLAN

DATE	SCALE	CONT. SEC.	JOB NO.	DESIGN UNIT	SHEET NO.	
07/28/00	1:500	EDA82522	52624A		12	44

SECTION

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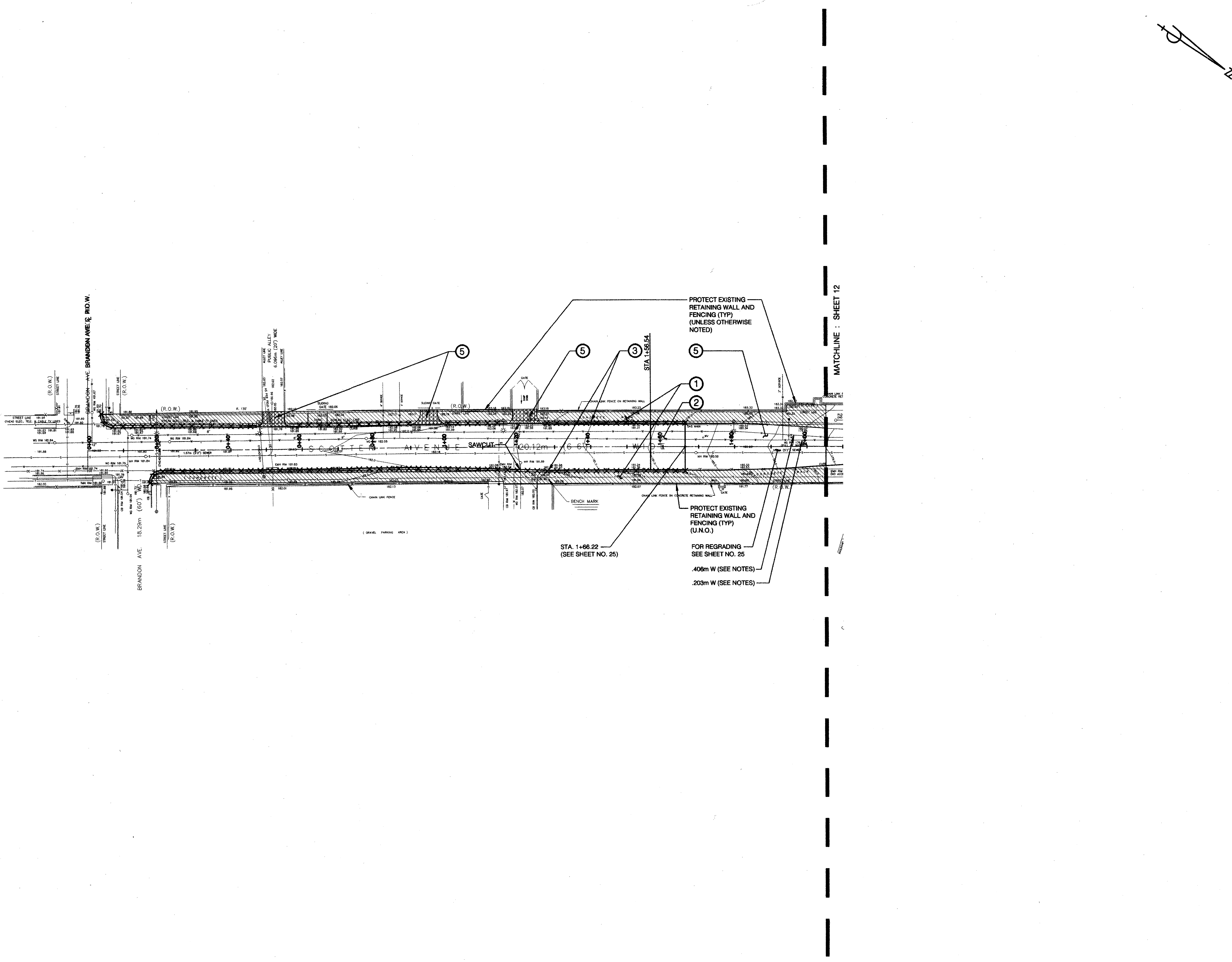
		FINAL R.O.W.	
AUTH	DATE	NO.	REVISION



PROTECT EXISTING RETAINING WALL AND FENCING (TYP) (UNLESS OTHERWISE NOTED)
⑤
⑤
③
⑤
①
②
STA 1+56.54
MATCHLINE : SHEET 12
BRANDON AVE. ℄ R.O.W.
BRANDON AVE. 18.29m (60') WD.
PUBLIC ALLEY 6.096m (20') WIDE
ALLEY LINE
STREET LINE
(R.O.W.)
O'HEAD ELEC., TELE. & CABLE TV LINES
1.57m (5'2") SEWER
SCOTTEN AVENUE 20.12m (66') WIDE
SAWCUT
SLIDING GATE 182.06
SLIDING GATE
GATE
CHAIN LINK FENCE ON RETAINING WALL
(CONCRETE)
CHAIN LINK FENCE
BENCH MARK
CHAIN LINK FENCE ON CONCRETE RETAINING WALL
GAS MAIN
(GRAVEL PARKING AREA)
0+00
0+20
0+40
0+60
0+80
1+00
1+20
1+40
1+60
1+80
2+00
PROTECT EXISTING RETAINING WALL AND FENCING (TYP) (U.N.O.)
STA. 1+66.22 (SEE SHEET NO. 25)
FOR REGRADING SEE SHEET NO. 25
.406m W (SEE NOTES)
.203m W (SEE NOTES)
N

REMOVAL LEGEND

REMOVING SIDEWALK	①	▨
REMOVING TOP 76mm OF COLD MILLING BITUMINOUS SURFACE	②	STA. 1+56.54 TO STA. 1+66.22
REMOVING CURB	③	✕✕✕✕✕
REMOVING EXISTING TREES	④	
PAVEMENT REMOVAL	⑤	▩ AND STA. 1+66.22 TO STA. 2+05.40

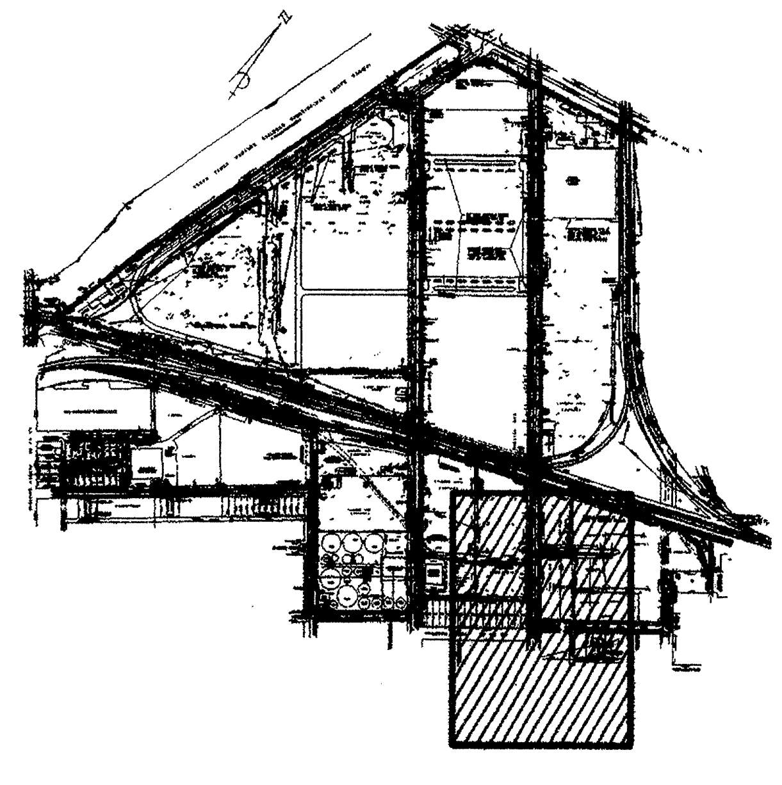
NOTE :

ALL EXISTING UTILITIES SHALL BE PROTECTED FROM DAMAGE DURING DEMOLITION AND RECONSTRUCTION.

EXISTING WATER MAINS WITHIN ⑤ SHALL BE RELOCATED VERTICALLY AS REQUIRED TO MAINTAIN 1.53 m MINIMUM COVER BELOW PROPOSED FINISH GRADE EXISTING R.R. OVERPASS PIERS TO BE PROTECTED AGAINST UNDERMINING. CONTINUOUS WATER SERVICE SHALL BE MAINTAINED. ALL MATERIAL AND INSTALLATION PER CITY OF DETROIT REQUIREMENTS.

QUANTITIES THIS SHEET

PAVEMENT, REMOVE	520 square meter
CURB, REMOVE	287 meters
SIDEWALK, REMOVE	1221 square meter
COLD MILLING 76 mm BIT. SURFACE	125 square meter
TREE, REMOVE, 50 TO 200 mm	N/A ea
WATERMAIN DI .406m, TR DET G	35 meters
WATERMAIN DI, .203m, TR DET G	35 meters



KEY PLAN

JJR
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734.662.7520

SCOTTEN AVE. - SITE PREPARATION PLAN

DATE	SCALE	CONT. SEC.	JOB NO.	DESIGN UNIT	SHEET NO.	
07/28/00	1:500	EDA82522	52624A		13	44

SECTION
NO.
NO. 14

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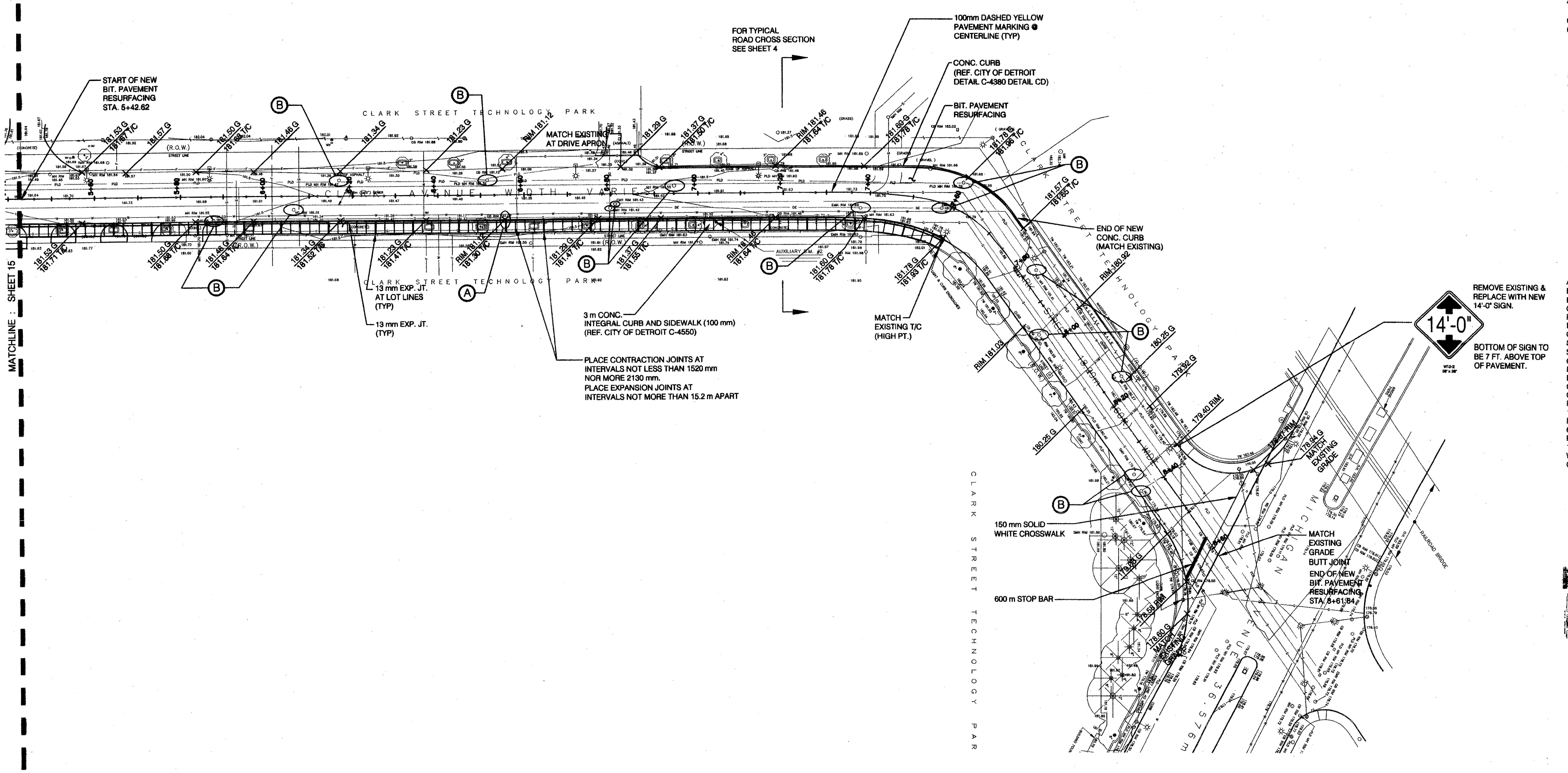


MATCHLINE : SHEET 15
START OF NEW BIT. PAVEMENT RESURFACING STA. 5+42.62
CLARK STREET TECHNOLOGY PARK
CLARK AVENUE WIDTH VARIES
MATCH EXISTING AT DRIVE APRON
(R.O.W.)
STREET LINE
181.53 G / 181.67 T/C
181.57 G
181.50 G / 181.68 T/C
181.46 G
181.34 G
181.23 G
RIM 181.12
181.29 G
181.37 G / 181.50 T/C
RIM 181.46 / 181.64 T/C
181.60 G / 181.78 T/C
181.78 G / 181.96 T/C
181.57 G / 181.65 T/C
181.53 G / 181.71 T/C
181.50 G / 181.68 T/C
181.46 G / 181.64 T/C
181.34 G / 181.52 T/C
181.23 G / 181.41 T/C
RIM 181.12 / 181.30 T/C
181.29 G / 181.47 T/C
181.37 G / 181.55 T/C
RIM 181.46 / 181.64 T/C
181.60 G / 181.78 T/C
181.78 G / 181.93 T/C
AUXILIARY B.M. #2
13 mm EXP. JT. AT LOT LINES (TYP)
13 mm EXP. JT. (TYP)
FOR TYPICAL ROAD CROSS SECTION SEE SHEET 4
100mm DASHED YELLOW PAVEMENT MARKING @ CENTERLINE (TYP)
CONC. CURB (REF. CITY OF DETROIT DETAIL C-4380 DETAIL CD)
BIT. PAVEMENT RESURFACING
END OF NEW CONC. CURB (MATCH EXISTING)
3 m CONC. INTEGRAL CURB AND SIDEWALK (100 mm) (REF. CITY OF DETROIT C-4550)
PLACE CONTRACTION JOINTS AT INTERVALS NOT LESS THAN 1520 mm NOR MORE 2130 mm.
PLACE EXPANSION JOINTS AT INTERVALS NOT MORE THAN 15.2 m APART
MATCH EXISTING T/C (HIGH PT.)
RIM 180.92
RIM 181.03
180.25 G
179.92 G
179.40 RIM
180.25 G
178.87 RIM
178.94 G
MATCH EXISTING GRADE
CLARK STREET TECHNOLOGY PARK
MICHIGAN AVENUE 36.576 m
150 mm SOLID WHITE CROSSWALK
600 m STOP BAR
178.58 RIM
178.60 G
MATCH EXISTING GRADE
MATCH EXISTING GRADE BUTT JOINT
END OF NEW BIT. PAVEMENT RESURFACING STA. 8+61.84
RAILROAD BRIDGE
REMOVE EXISTING & REPLACE WITH NEW 14'-0" SIGN.
14'-0"
W12-2 36" x 36"
BOTTOM OF SIGN TO BE 7 FT. ABOVE TOP OF PAVEMENT.
A
B

LAYOUT LEGEND

BITUMINOUS PAVEMENT RESURFACING	STA. 5+42.62 TO STA. 8+61.84
CONCRETE PAVEMENT REPLACEMENT	▨
CONCRETE SIDEWALK WITH INTEGRAL CURB	CONT. JT. EXP. JT.
PROPOSED CATCH BASIN AND SEWER	■—
ADJUST EXISTING CATCH BASIN	Ⓐ
ADJUST EXISTING MANHOLE OR HANDHOLE	Ⓑ
CONSTRUCT CATCH BASIN	Ⓒ
CONSTRUCT MANHOLE	Ⓓ
ABANDON EXISTING CATCH BASIN	Ⓔ
CONSTRUCT STANDARD 150 mm CONCRETE SIDEWALK	Ⓩ

NOTES :

FOR SIDEWALK JOINTING STANDARD SEE CITY OF DETROIT DETAIL STANDARD NO. C-4462

BITUMINOUS PAVEMENT RESURFACING WILL MATCH THE EXISTING EDGE OF PAVEMENT WHERE EXISTING CURB IS TO REMAIN AND BE 180 mm BELOW PROPOSED NEW CURBING. PROVIDE PAVEMENT CROSSECTIONAL PROFILE PER CITY OF DETROIT STANDARDS.

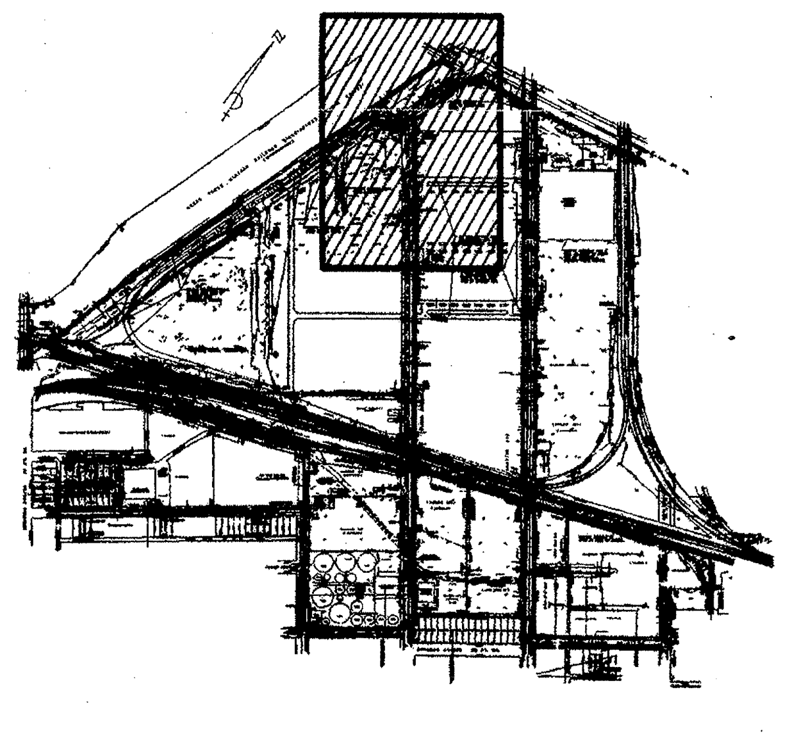
ALL RIM ELEVATIONS OF EXISTING MANHOLE OR HANDHOLE TO BE ADJUSTED ACCORDINGLY

SIDEWALKS AT ALL INTERSECTIONS FROM SPRING POINT TO SPRING POINT WILL BE 150mm CONCRETE.

CONSTRUCT SIDEWALK RAMPS AT INTERSECTIONS WHERE THERE ARE TRAFFIC CONTROLS.

QUANTITIES THIS SHEET

AGGREGATE BASE, 100 mm	N/A square meter
BITUMINOUS MIXTURE, 1100L, 20AA	375 tons (metric)
BITUMINOUS MIXTURE, 1100T, 20AA	375 tons (metric)
CONCRETE PAVEMENT REINFORCED 240mm	N/A square meter
INTEGRAL CURB & WALK, 610 mm	214 meters
CURB CONC, DET CD	90 meters
SIDEWALK, CONCRETE 100mm	511 square meter
SIDEWALK RAMP	N/A square meter
CONCRETE PAVEMENT - NON-REINFORCED 200 mm	N/A square meter
DRAINAGE STRUCTURE COVER, ADJ. CASE 1	13 ea.
CONDITIONING EXISTING PAVEMENT	375 tons (metric)
PAVT MRKG, OVERLAY COLD PLASTIC, 100 mm, YELLOW	78 meters
PAVT MRKG, OVERLAY COLD PLASTIC, 600 mm, STOP BAR	10 meters
PAVT MRKG, OVERLAY COLD PLASTIC, 150 mm, CROSSWALK	30 meters
WATER SHUTOFF, ADJ.	4 ea.
GRANULAR MATERIAL, CLASS II	15 cubic meters



KEY PLAN

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110 Miller Avenue
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734.662.7520

CLARK AVE. - LAYOUT & MATERIAL PLAN

DATE	SCALE	CONT. SEC.	JOB NO.	DESIGN UNIT	SHEET NO.	
07/28/00	1:500	EDA82522	52624A		14	44

SECTION

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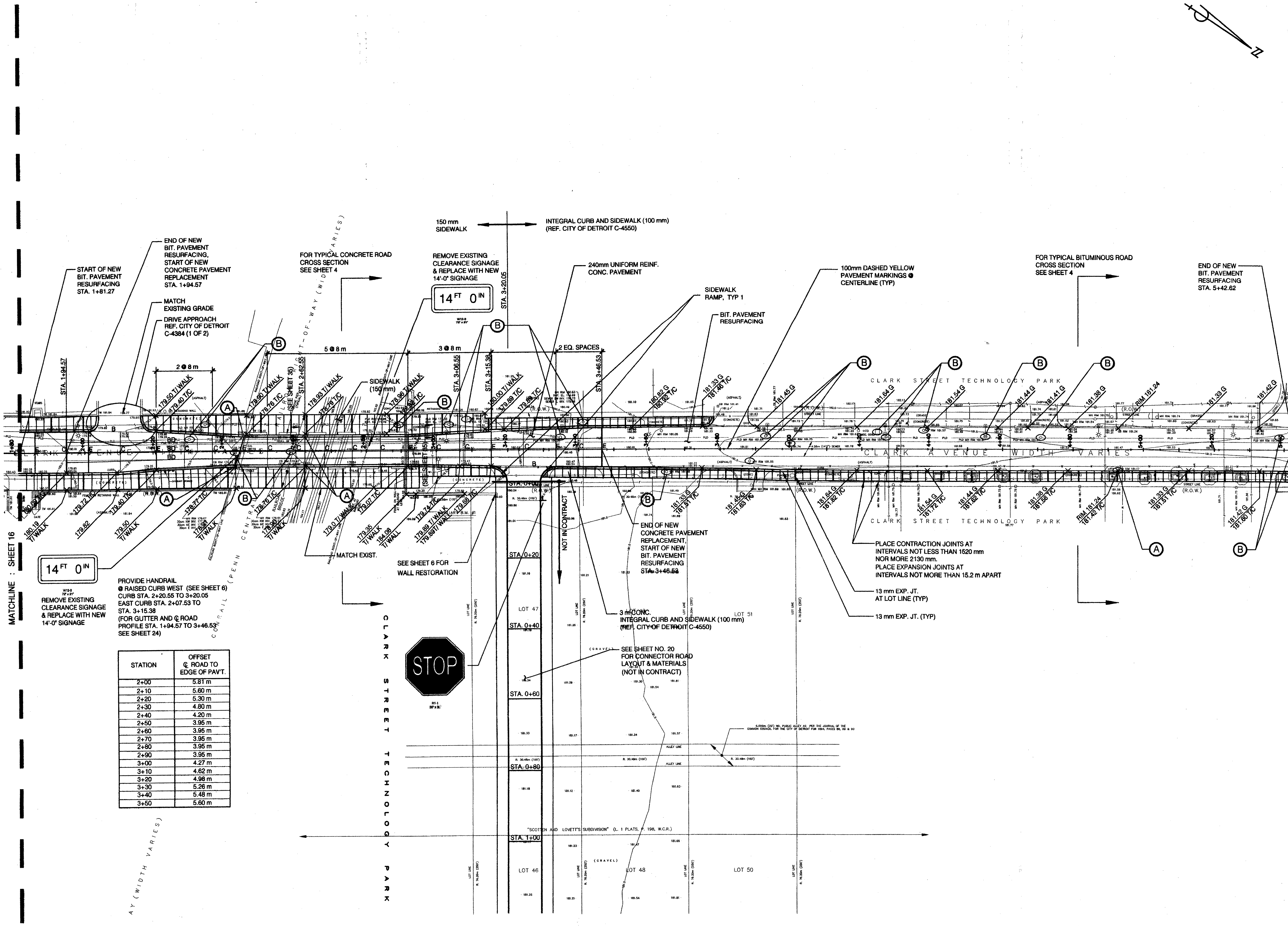

MATCHLINE : SHEET 16
START OF NEW BIT. PAVEMENT RESURFACING STA. 1+81.27
END OF NEW BIT. PAVEMENT RESURFACING, START OF NEW CONCRETE PAVEMENT REPLACEMENT STA. 1+94.57
MATCH EXISTING GRADE
DRIVE APPROACH REF. CITY OF DETROIT C-4384 (1 OF 2)
STA. 1+94.57
2 @ 8 m
FOR TYPICAL CONCRETE ROAD CROSS SECTION SEE SHEET 4
5 @ 8 m
3 @ 8 m
STA. 2+62.55
(SEE SHEET 35)
SIDEWALK (150 mm)
150 mm SIDEWALK
INTEGRAL CURB AND SIDEWALK (100 mm) (REF. CITY OF DETROIT C-4550)
REMOVE EXISTING CLEARANCE SIGNAGE & REPLACE WITH NEW 14'-0" SIGNAGE
14 FT 0 IN
W12-3 72" x 21"
STA. 3+20.05
STA. 3+06.55
STA. 3+15.38
STA. 3+46.53
2 EQ. SPACES
240mm UNIFORM REINF. CONC. PAVEMENT
SIDEWALK RAMP, TYP 1
BIT. PAVEMENT RESURFACING
100mm DASHED YELLOW PAVEMENT MARKINGS @ CENTERLINE (TYP)
FOR TYPICAL BITUMINOUS ROAD CROSS SECTION SEE SHEET 4
END OF NEW BIT. PAVEMENT RESURFACING STA. 5+42.62
179.50 T/WALK
179.40 T/C
178.90 T/WALK
178.76 T/C
178.93 T/WALK
178.79 T/C
178.96 T/WALK
180.00 T/WALK
179.89 T/C
180.82 G
180.92 T/C
181.33 G
181.46 T/C
181.45 G
181.64 G
181.54 G
181.44 G
181.41 G
181.38 G
RIM 181.24
181.33 G
181.42 G
180.19 T/WALK
179.82
179.72 T/WALK
179.40 T/C
179.50 T/WALK
179.77 T/C
179.0 T/WALK
179.07 T/C
179.35 T/WALK
184.98 T/WALK
179.74 T/C
179.89 T/WALK
181.33 G
181.51 T/C
181.45 G
181.63 T/C
181.64 G
181.82 T/C
181.54 G
181.72 T/C
181.44 G
181.62 T/C
181.38 G
181.56 T/C
RIM 181.24
181.42 T/C
181.33 G
181.51 T/C
181.42 G
181.60 T/C
CLARK AVENUE WIDTH VARIES
CLARK STREET TECHNOLOGY PARK
RAILROAD RIGHT-OF-WAY (WIDTH VARIES)
CONRAIL (PENN CENTRAL)
MATCH EXIST.
SEE SHEET 6 FOR WALL RESTORATION
REMOVE EXISTING CLEARANCE SIGNAGE & REPLACE WITH NEW 14'-0" SIGNAGE
14 FT 0 IN
PROVIDE HANDRAIL @ RAISED CURB WEST (SEE SHEET 6) CURB STA. 2+20.55 TO 3+20.05 EAST CURB STA. 2+07.53 TO STA. 3+15.38 (FOR GUTTER AND ℄ ROAD PROFILE STA. 1+94.57 TO 3+46.53 SEE SHEET 24)
STOP
NOT IN CONTRACT
STA. 0+20
STA. 0+40
STA. 0+60
STA. 0+80
STA. 1+00
LOT 46
LOT 47
LOT 48
LOT 50
LOT 51
END OF NEW CONCRETE PAVEMENT REPLACEMENT, START OF NEW BIT. PAVEMENT RESURFACING STA. 3+46.53
3 m CONC. INTEGRAL CURB AND SIDEWALK (100 mm) (REF. CITY OF DETROIT C-4550)
SEE SHEET NO. 20 FOR CONNECTOR ROAD LAYOUT & MATERIALS (NOT IN CONTRACT)
PLACE CONTRACTION JOINTS AT INTERVALS NOT LESS THAN 1520 mm NOR MORE 2130 mm. PLACE EXPANSION JOINTS AT INTERVALS NOT MORE THAN 15.2 m APART
13 mm EXP. JT. AT LOT LINE (TYP)
13 mm EXP. JT. (TYP)
6.096m (20') WD. PUBLIC ALLEY AS PER THE JOURNAL OF THE COMMON COUNCIL FOR THE CITY OF DETROIT FOR 1894, PAGES 88, 89 & 90
"SCOTTEN AND LOVETT'S SUBDIVISION" (L. 1 PLATS, P. 198, W.C.R.)
(GRAVEL)
A
B
N

STATION	OFFSET ℄ ROAD TO EDGE OF PAV'T.
2+00	5.81 m
2+10	5.60 m
2+20	5.30 m
2+30	4.80 m
2+40	4.20 m
2+50	3.95 m
2+60	3.95 m
2+70	3.95 m
2+80	3.95 m
2+90	3.95 m
3+00	4.27 m
3+10	4.62 m
3+20	4.98 m
3+30	5.26 m
3+40	5.48 m
3+50	5.60 m

LAYOUT LEGEND

BITUMINOUS PAVEMENT RESURFACING	STA. 1+81.27 TO STA. 1+94.57 AND STA. 3+46.53 TO STA. 5+42.62
CONCRETE PAVEMENT REPLACEMENT	STA. 1+94.57 TO STA. 3+46.53
CONCRETE SIDEWALK WITH INTEGRAL CURB	CONT. JT. EXP. JT.
PROPOSED CATCH BASIN AND SEWER	■—
ADJUST EXISTING CATCH BASIN	Ⓐ
ADJUST EXISTING MANHOLE OR HANDHOLE	Ⓑ
CONSTRUCT CATCH BASIN	Ⓒ
CONSTRUCT MANHOLE	Ⓓ
ABANDON EXISTING CATCH BASIN	Ⓔ
CONSTRUCT STANDARD 150 mm CONCRETE SIDEWALK	Ⓩ
25 mm TRANSVERSE EXPANSION JOINT W/ LOAD TRANSFER DEVICE	E
LONGITUDINAL LANE TIE JOINT	D
TRANSVERSE CONTRACTION JOINT FOR CONCRETE PAVEMENT	C
LONGITUDINAL BULKHEAD CONSTRUCTION JOINT	B
OPTIONAL B OR D JOINT	BD

NOTES :

FOR SIDEWALK JOINTING STANDARD SEE CITY OF DETROIT DETAIL STANDARD NO. C-4462

BITUMINOUS PAVEMENT RESURFACING WILL MATCH THE EXISTING EDGE OF PAVEMENT WHERE EXISTING CURB IS TO REMAIN AND BE 180 mm BELOW PROPOSED NEW CURBING.

ALL RIM ELEVATIONS OF EXISTING MANHOLE OR HANDHOLE TO BE ADJUSTED ACCORDINGLY

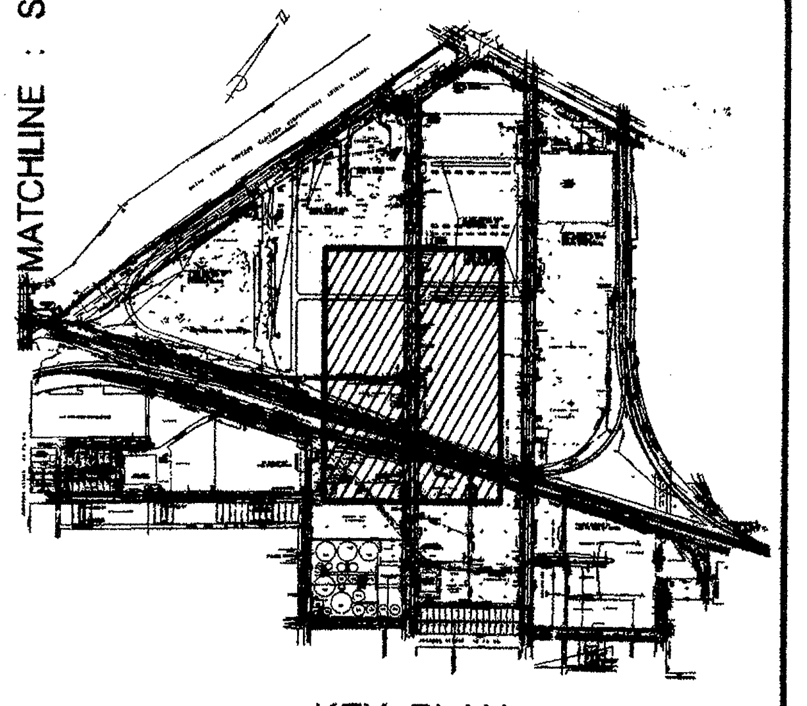
SIDEWALKS AT ALL INTERSECTIONS FROM SPRING POINT TO SPRING POINT MUST BE 150mm CONCRETE.

CONSTRUCT SIDEWALK RAMPS AT INTERSECTIONS WHERE THERE ARE TRAFFIC CONTROLS.

QUANTITIES THIS SHEET

AGGREGATE BASE, 100 mm	1408 square meter
BITUMINOUS MIXTURE, 1100L, 20AA	238 tons (metric)
BITUMINOUS MIXTURE, 1100T, 20AA	238 tons (metric)
CONCRETE PAVEMENT REINFORCED 240mm	1221 square meter
INTEGRAL CURB & WALK, 610 mm	221 meters
CURB CONC, DET CD	N/A meters
SIDEWALK, CONCRETE 100mm	1936 square meter
SIDEWALK RAMP	12 square meter
CONCRETE PAVEMENT NONREINFORCED 200 mm	45 square meter
DR. STRUCTURE COVER, ADJ, CASE 1	25 ea
DR. STRUCTURE, COVER, ADJ. ADDITIONAL DEPTH	7 ea
CONDITIONING EXISTING PAVEMENT	238 tons (metric)
PAVT MRKG, OVERLAY COLD PLASTIC, 100 mm, YELLOW	90 meters
WATER SHUTOFF, ADJ.	2 ea.
SUBGRADE UNDERCUTTING, TYPE II	40 cubic meters
GRANULAR MATERIAL CLASS II	83 cubic meters

MATCHLINE : SHEET 14



KEY PLAN

JJR
JJR Incorporated
110 Miller Avenue
Ann Arbor, Michigan 48104
☎734.662.4457
734.662.7520

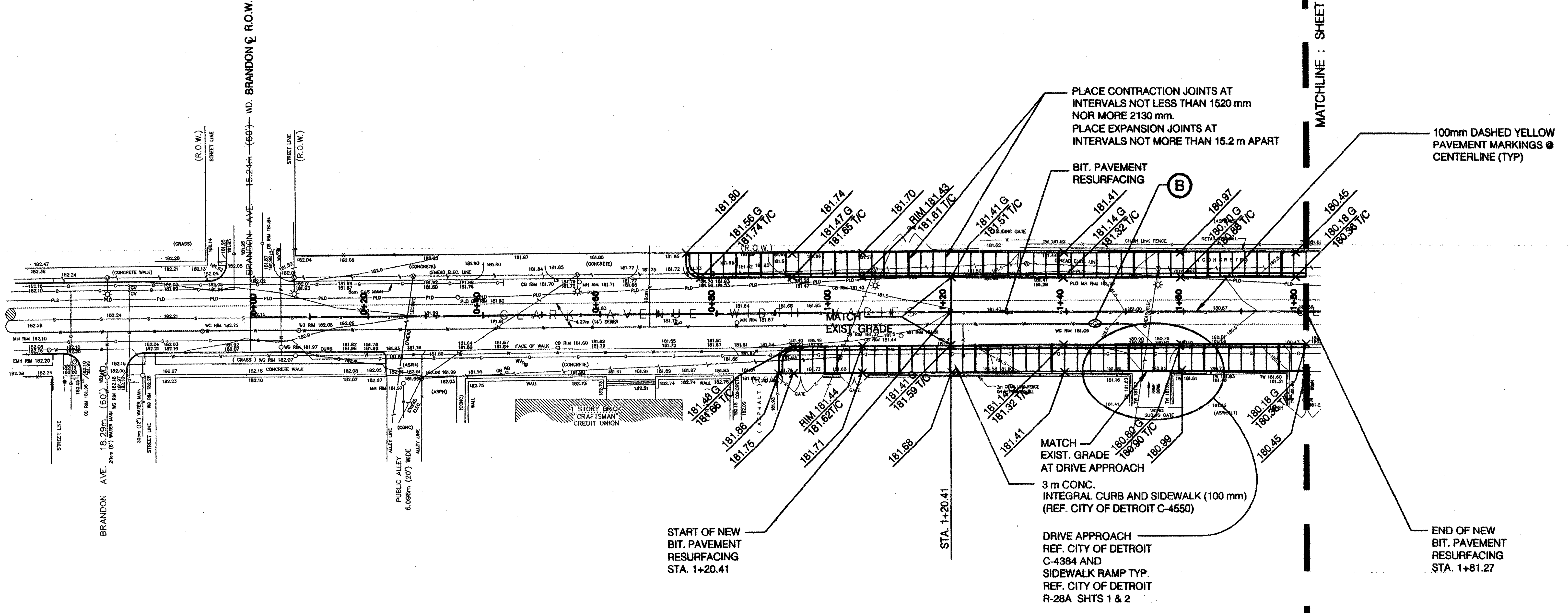
CLARK AVE. - LAYOUT & MATERIALS PLAN

DATE	SCALE	CONT. SEC.	JOB NO.	DESIGN UNIT	SHEET NO.	
07/28/00	1:500	EDA82522	52624A		15	44

EXISTING BY: DATE:
PROPOSED BY: DATE:
LAST CORRECTION BY: DATE:

FILE NAME: P:\23611\00\CAD\CLARK3.DWG

AUTH	DATE	NO.	REVISION
			FINAL R.O.W.


(R.O.W.)
STREET LINE
BRANDON ℄ R.O.W.
AVE. 15.24m (50') WD.
BRANDON AVE. 18.29m (60')
PUBLIC ALLEY 6.096m (20') WIDE
CLARK AVENUE
(CONCRETE WALK)
(GRASS)
1 STORY BRICK "CRAFTSMAN" CREDIT UNION
MATCH EXIST. GRADE
1+00
1+20
1+40
1+60
1+80
MATCHLINE : SHEET 15
PLACE CONTRACTION JOINTS AT INTERVALS NOT LESS THAN 1520 mm NOR MORE 2130 mm.
PLACE EXPANSION JOINTS AT INTERVALS NOT MORE THAN 15.2 m APART
BIT. PAVEMENT RESURFACING
B
100mm DASHED YELLOW PAVEMENT MARKINGS @ CENTERLINE (TYP)
181.90
181.56 G
181.74 T/C
181.74
181.47 G
181.65 T/C
181.70
RIM 181.43
181.61 T/C
181.41 G
181.57 T/C
181.41
181.14 G
181.32 T/C
180.97
180.70 G
180.88 T/C
180.45
180.18 G
180.36 T/C
181.48 G
181.66 T/C
181.86
181.75
RIM 181.44
181.62 T/C
181.71
181.41 G
181.59 T/C
181.68
181.14 G
181.32 T/C
181.41
180.80 G
180.90 T/C
180.99
180.18 G
180.36 T/C
180.45
START OF NEW BIT. PAVEMENT RESURFACING STA. 1+20.41
STA. 1+20.41
MATCH EXIST. GRADE AT DRIVE APPROACH
3 m CONC. INTEGRAL CURB AND SIDEWALK (100 mm) (REF. CITY OF DETROIT C-4550)
DRIVE APPROACH REF. CITY OF DETROIT C-4384 AND SIDEWALK RAMP TYP. REF. CITY OF DETROIT R-28A SHTS 1 & 2
END OF NEW BIT. PAVEMENT RESURFACING STA. 1+81.27

LAYOUT LEGEND

BITUMINOUS PAVEMENT RESURFACING	STA. 1+20.41 TO STA. 1+81.27
CONCRETE PAVEMENT REPLACEMENT	N/A
CONCRETE SIDEWALK WITH INTEGRAL CURB	CONT. JT. EXP. JT.
PROPOSED CATCH BASIN AND SEWER	■—
ADJUST EXISTING CATCH BASIN	Ⓐ
ADJUST EXISTING MANHOLE OR HANDHOLE	Ⓑ
CONSTRUCT CATCH BASIN	Ⓒ
CONSTRUCT MANHOLE	Ⓓ
ABANDON EXISTING CATCH BASIN	Ⓔ
STONING AND GRADING	Ⓢ
CONSTRUCT STANDARD 150 mm CONCRETE SIDEWALK	Ⓩ

NOTES :

FOR SIDEWALK JOINTING STANDARD SEE CITY OF DETROIT DETAIL STANDARD NO. C-4462

BITUMINOUS PAVEMENT RESURFACING WILL MATCH THE EXISTING EDGE OF PAVEMENT WHERE EXISTING CURB IS TO REMAIN AND BE 180 mm BELOW PROPOSED NEW CURBING. PROVIDE PAVEMENT CROSSECTIONAL PROFILE PER CITY OF DETROIT STANDARDS.

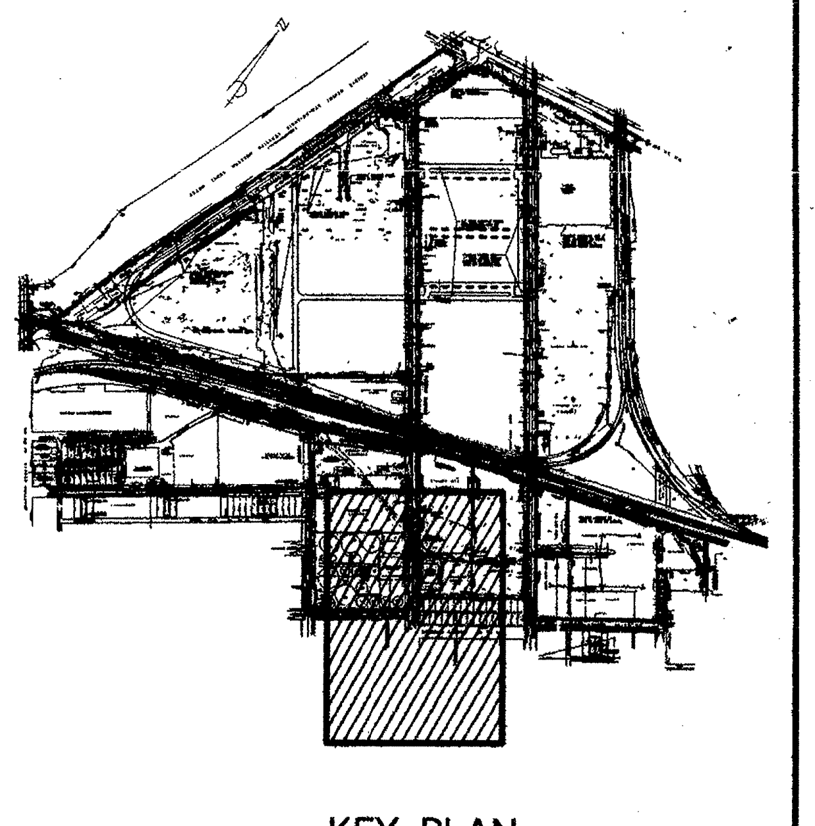
ALL RIM ELEVATIONS OF EXISTING MANHOLE OR HANDHOLE TO BE ADJUSTED ACCORDINGLY

SIDEWALKS AT ALL INTERSECTIONS FROM SPRING POINT TO SPRING POINT MUST BE 150mm CONCRETE.

CONSTRUCT SIDEWALK RAMPS AT INTERSECTIONS WHERE THERE ARE TRAFFIC CONTROLS.

QUANTITIES THIS SHEET

AGGREGATE BASE, 100 mm	N/A square meter
BITUMINOUS MIXTURE, 1100L, 20AA	63 tons (metric)
BITUMINOUS MIXTURE, 1100T, 20AA	63 tons (metric)
CONCRETE PAVEMENT REINFORCED 240mm	N/A square meter
INTEGRAL CURB & WALK, 610 mm	204 meters
CURB CONC, DET CD	N/A meters
SIDEWALK, CONCRETE 100mm	731 square meter
SIDEWALK RAMP	12 square meter
CONCRETE PAVEMENT NON-REINFORCED, 200 mm	35 square meter
DR. STRUCTURE, COVER, ADJ. CASE 1	1 ea
CONDITIONING EXISTING PAVEMENT	63 tons (metric)
PAVT MRKG, OVERLAY COLD PLASTIC, 100 mm, YELLOW	15 meters
WATER SHUTOFF, ADJ.	1 ea
GRANULAR MATERIAL CLASS II	15 cubic meters



KEY PLAN

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CLARK AVE. - LAYOUT & MATERIAL PLAN

DATE	SCALE	CONT. SEC.	JOB NO.	DESIGN UNIT	SHEET NO.	
07/28/00	1:500	EDA82522	52624A		16	44

SECTION

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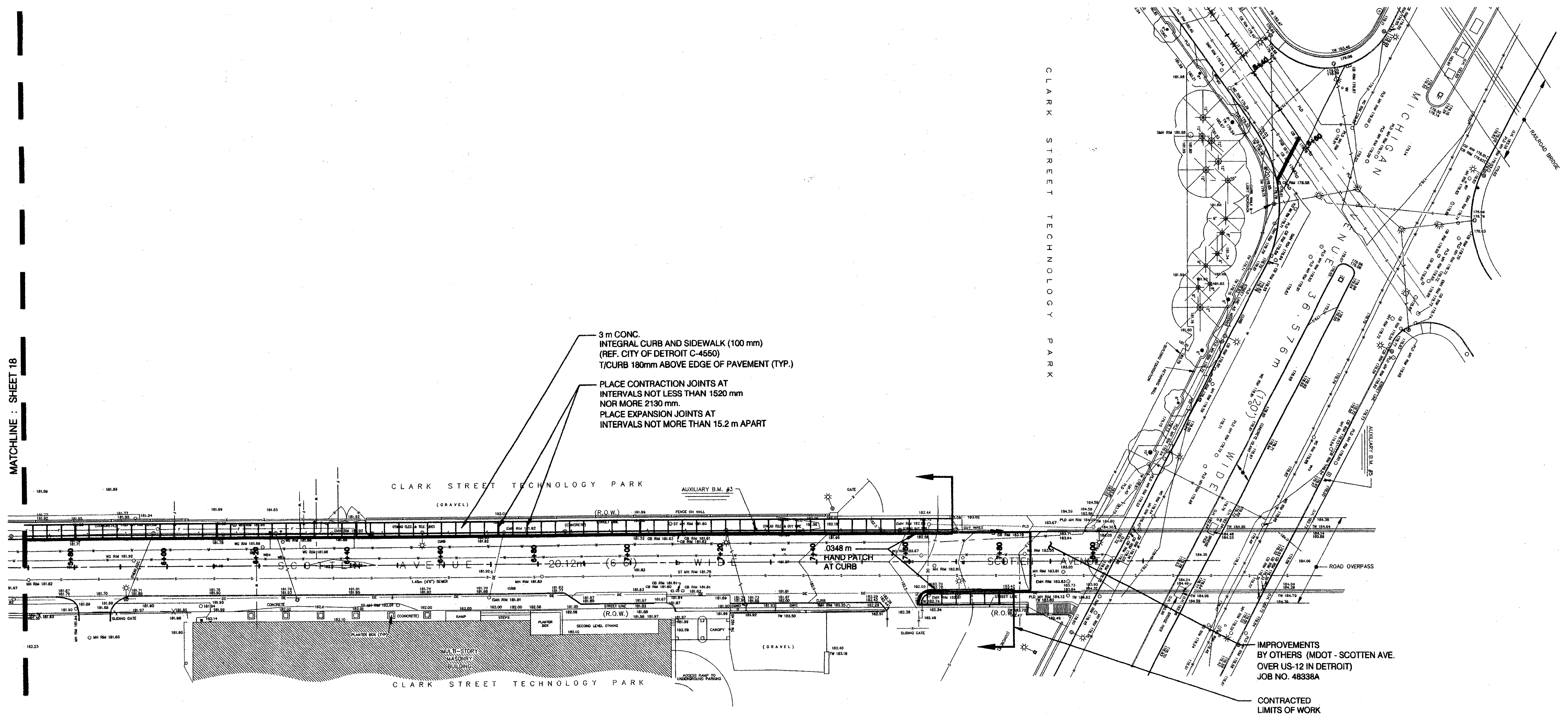
FILE NAME: P:\23611\00\CAD\SCOTTEN1.DWG

FINAL R.O.W.			
AUTH	DATE	NO.	REVISION


MATCHLINE : SHEET 18
CLARK STREET TECHNOLOGY PARK
(GRAVEL)
(R.O.W.)
AUXILIARY B.M. #3
FENCE ON WALL
GATE
SCOTTEN AVENUE
20.12m (66') WIDE
MICHIGAN AVENUE
36.576m (120') WIDE
RAILROAD BRIDGE
AUXILIARY B.M.
ROAD OVERPASS
SECOND LEVEL (TRAIN)
CANOPY
SLIDING GATE
ACCESS RAMP TO UNDERGROUND PARKING

3 m CONC.
INTEGRAL CURB AND SIDEWALK (100 mm)
(REF. CITY OF DETROIT C-4550)
T/CURB 180mm ABOVE EDGE OF PAVEMENT (TYP.)

PLACE CONTRACTION JOINTS AT
INTERVALS NOT LESS THAN 1520 mm
NOR MORE 2130 mm.
PLACE EXPANSION JOINTS AT
INTERVALS NOT MORE THAN 15.2 m APART

0348 m
HAND PATCH
AT CURB

IMPROVEMENTS
BY OTHERS (MDOT - SCOTTEN AVE.
OVER US-12 IN DETROIT)
JOB NO. 48338A

CONTRACTED
LIMITS OF WORK
STA. 7+85.72

LAYOUT LEGEND

BITUMINOUS PAVEMENT RESURFACING	▨
CONCRETE SIDEWALK WITH INTEGRAL CURB	CONT. JT. EXP. JT.
PROPOSED CATCH BASIN AND SEWER	■—
ADJUST EXISTING CATCH BASIN	Ⓐ
ADJUST EXISTING MANHOLE OR HANDHOLE	Ⓑ
CONSTRUCT CATCH BASIN	Ⓒ
CONSTRUCT MANHOLE	Ⓓ
ABANDON EXISTING CATCH BASIN	Ⓔ
STONING AND GRADING	Ⓢ
CONSTRUCT STANDARD 150 mm CONCRETE SIDEWALK	Ⓩ

NOTES :

FOR SIDEWALK JOINTING STANDARD SEE
CITY OF DETROIT DETAIL STANDARD NO. C-4462

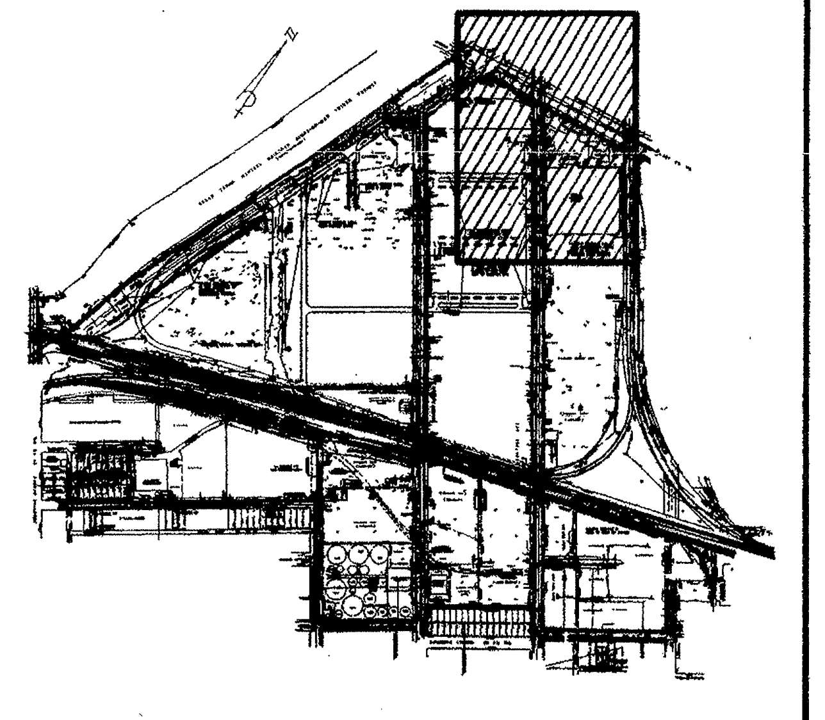
INTEGRAL CURB AND WALK TO BE PROVIDED
ADJACENT TO BITUMINOUS PAVEMENT
PER CITY OF DETROIT DETAIL C-4550

SIDEWALKS AT ALL INTERSECTIONS FROM SPRING
POINT TO SPRING POINT MUST BE 150mm CONCRETE.

CONCTRUCT SIDEWALK RAMPS AT INTERSECTIONS
WHERE THERE ARE TRAFFIC CONTROLS.

QUANTITIES THIS SHEET

AGGREGATE BASE, 100 mm	N/A square meter
BITUMINOUS MIXTURE, 1100L, 20AA	N/A tons (metric)
BITUMINOUS MIXTURE, 1100T, 20AA	N/A tons (metric)
CONCRETE PAVEMENT REINFORCED 240mm	N/A square meter
INTEGRAL CURB & WALK, 610 mm	220 meters
CURB CONC, DET CD	N/A meters
SIDEWALK, CONCRETE 100mm	526 square meter
SIDEWALK RAMP	6 square meter
CONCRETE PAVEMENT NON-REINFORCED, 200 mm	N/A square meter
HAND PATCHING	12 tons (metric)
GRANULAR MATERIAL CLASS II	16 cubic meters



KEY PLAN

JJR
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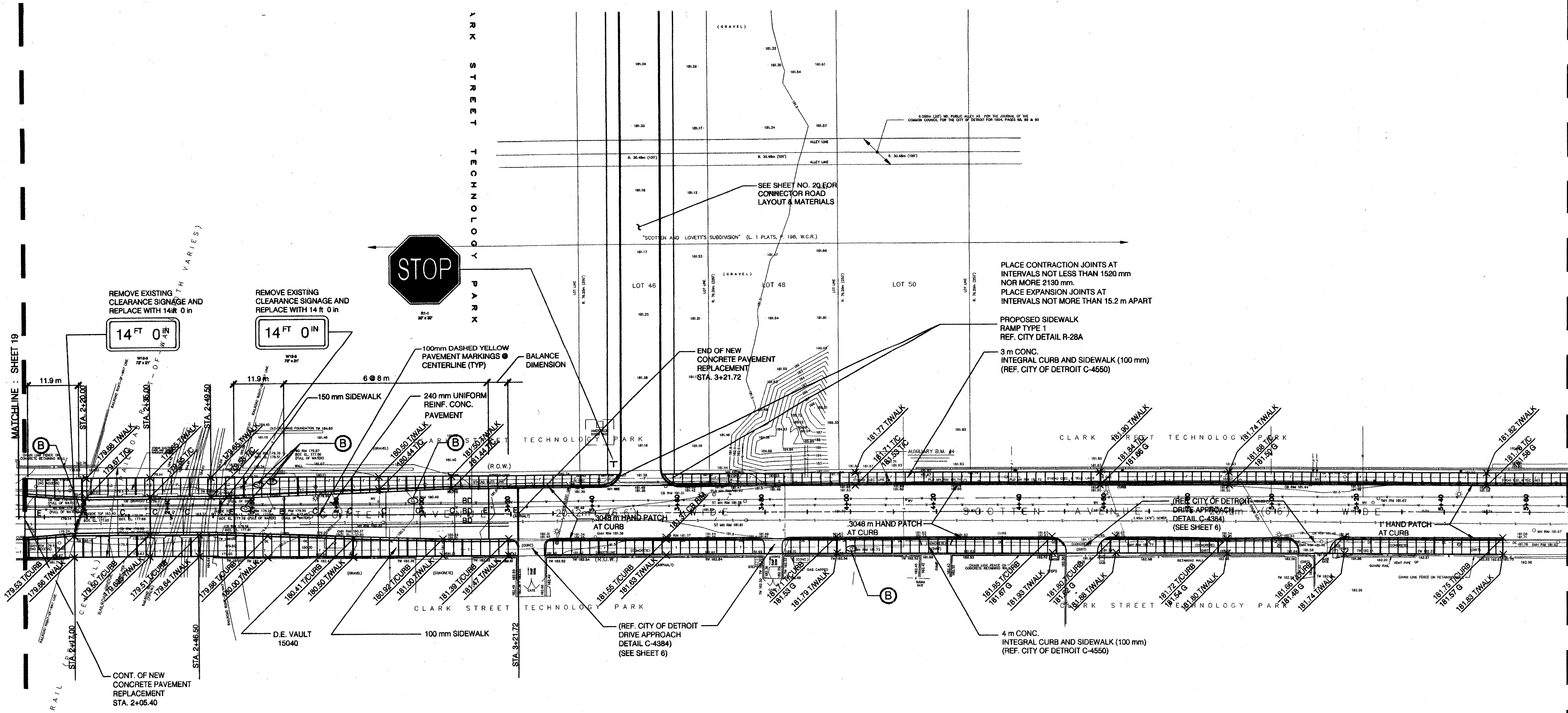
Ann Arbor, Michigan 48104
☎734.662.4457
734.662.7520

SCOTTEN AVE. - LAYOUT & MATERIALS PLAN

DATE	SCALE	CONT. SEC.	JOB NO.	DESIGN UNIT	SHEET NO.	
07/28/00	1:500	EDA82522	52624A		17	44

FINAL R.O.W.			
AUTH	DATE	NO.	REVISION


MATCHLINE : SHEET 19
REMOVE EXISTING CLEARANCE SIGNAGE AND REPLACE WITH 14 ft 0 in
14FT 0IN
STOP
CLARK STREET TECHNOLOGY PARK
SEE SHEET NO. 20 FOR CONNECTOR ROAD LAYOUT & MATERIALS
"SCOTTEN AND LOVETT'S SUBDIVISION" (L. 1 PLATS, P. 198, W.C.R.)
(GRAVEL)
ALLEY LINE
LOT 46
LOT 48
LOT 50
PLACE CONTRACTION JOINTS AT INTERVALS NOT LESS THAN 1520 mm NOR MORE 2130 mm.
PLACE EXPANSION JOINTS AT INTERVALS NOT MORE THAN 15.2 m APART
PROPOSED SIDEWALK RAMP TYPE 1 REF. CITY DETAIL R-28A
3 m CONC. INTEGRAL CURB AND SIDEWALK (100 mm) (REF. CITY OF DETROIT C-4550)
100mm DASHED YELLOW PAVEMENT MARKINGS @ CENTERLINE (TYP)
BALANCE DIMENSION
END OF NEW CONCRETE PAVEMENT REPLACEMENT STA. 3+21.72
11.9 m
11.9 m
6 @ 8 m
150 mm SIDEWALK
240 mm UNIFORM REINF. CONC. PAVEMENT
STA. 2+20.00
STA. 2+35.00
STA. 2+49.50
STA. 2+17.00
STA. 2+46.50
STA. 3+21.72
SCOTTEN AVENUE 20.12m (66') WIDE
3048 m HAND PATCH AT CURB
(REF. CITY OF DETROIT DRIVE APPROACH DETAIL C-4384) (SEE SHEET 6)
1" HAND PATCH AT CURB
AUXILIARY B.M. #4
D.E. VAULT 15040
100 mm SIDEWALK
CONT. OF NEW CONCRETE PAVEMENT REPLACEMENT STA. 2+05.40
4 m CONC. INTEGRAL CURB AND SIDEWALK (100 mm) (REF. CITY OF DETROIT C-4550)
CONRAIL
(R.O.W.)

NOTE : FOR ROADWAY GRADING STA. 1+66.41 TO STA. 2+71.72 SEE SHEET 25

PROVIDE HANDRAIL ON EAST & WEST EDGE OF RAISED CURBS FROM STA. 1+66.22 TO STA. 2+18.50 (SEE SHEET 6)

STATION	OFFSET ℄ ROAD TO EDGE OF PAV'T.
2+10	4.52 m
2+20	3.94 m
2+30	3.94 m
2+40	3.94 m
2+50	3.94 m
2+60	4.25 m
2+70	4.61 m
2+80	4.99 m
2+90	5.37 m
3+00	5.74 m
3+10	5.97 m

LAYOUT LEGEND

CONCRETE PAVEMENT REPLACEMENT	STA. 2+05.40 TO STA. 3+19.41
CONCRETE SIDEWALK WITH INTEGRAL CURB	CONT. JT. EXP. JT.
PROPOSED CATCH BASIN AND SEWER	■—
ADJUST EXISTING CATCH BASIN	Ⓐ
ADJUST EXISTING MANHOLE OR HANDHOLE	Ⓑ
CONSTRUCT CATCH BASIN	Ⓒ
CONSTRUCT MANHOLE	Ⓓ
ABANDON EXISTING CATCH BASIN	Ⓔ
STONING AND GRADING	Ⓢ
CONSTRUCT STANDARD 150 mm CONCRETE SIDEWALK	Ⓩ
25 mm TRANSVERSE EXPANSION JOINT W/ LOAD TRANSFER DEVICE	E
LONGITUDINAL LANE TIE JOINT	D
TRANSVERSE CONTRACTION JOINT FOR CONCRETE PAVEMENT	C
LONGITUDINAL BULKHEAD CONSTRUCTION JOINT	B
OPTIONAL B OR D JOINT	BD

NOTES :

FOR SIDEWALK JOINTING STANDARD SEE CITY OF DETROIT DETAIL STANDARD NO. C-4462

INTEGRAL CURB AND WALK TO BE PROVIDED ADJACENT TO BITUMINOUS PAVEMENT RESURFACING PER CITY OF DETROIT DETAIL C-4550

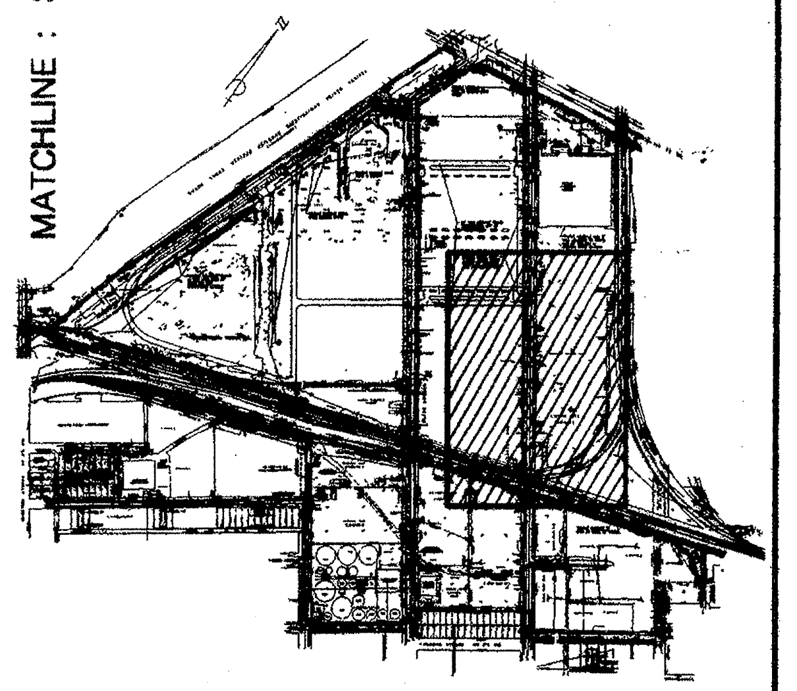
SIDEWALKS AT ALL INTERSECTIONS FROM SPRING POINT TO SPRING POINT MUST BE 150mm CONCRETE.

CONSTRUCT SIDEWALK RAMPS AT INTERSECTIONS WHERE THERE ARE TRAFFIC CONTROLS.

QUANTITIES THIS SHEET

AGGREGATE BASE, 100 mm	1166 square meter
BITUMINOUS MIXTURE, 1100L, 20AA	N/A tons (metric)
BITUMINOUS MIXTURE, 1100T, 20AA	N/A tons (metric)
CONCRETE PAVEMENT REINFORCED 240mm	1011 square meter
INTEGRAL CURB & WALK, 610 mm	713 meters
CURB CONC, DET E2	N/A meters
SIDEWALK, CONCRETE 100mm	1950 square meter
SIDEWALK RAMP	36 square meter
CONCRETE PAVEMENT NON-REINFORCED, 200 mm	100 square meter
CURB CONC. (RAISED)	72 meters
HANDRAIL	80 meters
DR. STRUCTURE, COVER, ADJ., CASE 1	6 ea
DR. STRUCTURE, COVER, ADJ. ADDITIONAL DEPTH	2 ea
HAND PATCHING	38 tons (metric)
PAVT MRKG, OVERLAY COLD PLASTIC, 100 mm, YELLOW	28 meters
WATER SHUTOFF, ADJ.	3 ea
SUBGRADE UNDERCUTTING, TYPE II	30 cubic meters
GRANULAR MATERIAL TYPE II	90 cubic meters

MATCHLINE : SHEET 17



KEY PLAN

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DATE:
DATE:

FILE NAME: P:\23611\00\CAD\SCOTTEN2.DWG

JJR
JJR Incorporated
110 Miller Avenue
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SCOTTEN AVE. - LAYOUT & MATERIALS PLAN

DATE	SCALE	CONT. SEC.	JOB NO.	DESIGN UNIT	SHEET NO.	
07/28/00	1:500	EDA82522	52624A		18	44

SECTION | NO. | NO.

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FINAL R.O.W.			
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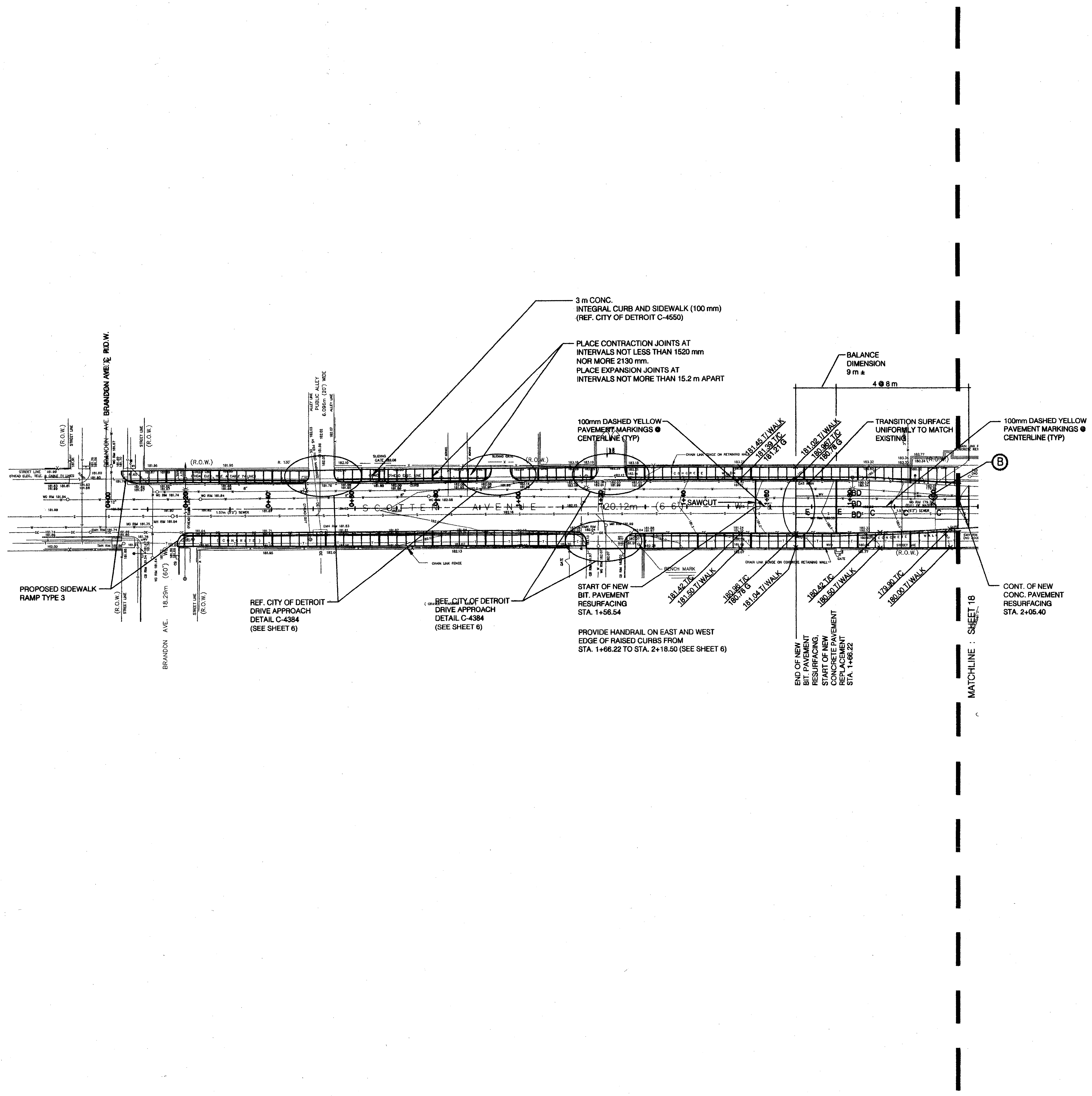


3 m CONC.
INTEGRAL CURB AND SIDEWALK (100 mm)
(REF. CITY OF DETROIT C-4550)
PLACE CONTRACTION JOINTS AT INTERVALS NOT LESS THAN 1520 mm NOR MORE 2130 mm.
PLACE EXPANSION JOINTS AT INTERVALS NOT MORE THAN 15.2 m APART
BALANCE DIMENSION 9 m ±
4 @ 8 m
100mm DASHED YELLOW PAVEMENT MARKINGS @ CENTERLINE (TYP)
181.45 T/ WALK
181.39 T/C
181.21 G
181.02 T/ WALK
180.967 T/C
180.78 G
TRANSITION SURFACE UNIFORMLY TO MATCH EXISTING
100mm DASHED YELLOW PAVEMENT MARKINGS @ CENTERLINE (TYP)
B
(R.O.W.)
BRANDON AVE. (R.O.W.)
PUBLIC ALLEY 6.096m (20') WIDE
SCOTTEN AVENUE
20.12m (66')
SAWCUT
CHAIN LINK FENCE ON RETAINING WALL
CONCRETE
1.57m (5'2") SEWER
BD
E
C
PROPOSED SIDEWALK RAMP TYPE 3
BRANDON AVE. 18.29m (60')
REF. CITY OF DETROIT DRIVE APPROACH DETAIL C-4384 (SEE SHEET 6)
REF. CITY OF DETROIT DRIVE APPROACH DETAIL C-4384 (SEE SHEET 6)
CHAIN LINK FENCE
GATE
BENCH MARK
START OF NEW BIT. PAVEMENT RESURFACING STA. 1+56.54
PROVIDE HANDRAIL ON EAST AND WEST EDGE OF RAISED CURBS FROM STA. 1+66.22 TO STA. 2+18.50 (SEE SHEET 6)
181.42 T/C
181.50 T/ WALK
180.96 T/C
180.78 G
181.04 T/ WALK
180.42 T/C
180.50 T/ WALK
179.90 T/C
180.00 T/ WALK
CHAIN LINK FENCE ON CONCRETE RETAINING WALL
END OF NEW BIT. PAVEMENT RESURFACING, START OF NEW CONCRETE PAVEMENT REPLACEMENT STA. 1+66.22
MATCHLINE : SHEET 18
CONT. OF NEW CONC. PAVEMENT RESURFACING STA. 2+05.40

LAYOUT LEGEND

BITUMINOUS PAVEMENT RESURFACING	STA. 1+56.54 TO STA. 1+66.22
CONCRETE PAVEMENT REPLACEMENT	STA. 1+66.22 TO STA. 2+05.40
CONCRETE SIDEWALK WITH INTEGRAL CURB	CONT. JT. EXP. JT.
PROPOSED CATCH BASIN AND SEWER	■—
ADJUST EXISTING CATCH BASIN	Ⓐ
ADJUST EXISTING MANHOLE OR HANDHOLE	Ⓑ
CONSTRUCT CATCH BASIN	Ⓒ
CONSTRUCT MANHOLE	Ⓓ
ABANDON EXISTING CATCH BASIN	Ⓔ
STONING AND GRADING	Ⓢ
CONSTRUCT STANDARD 150 mm CONCRETE SIDEWALK	Ⓩ
25 mm TRANSVERSE EXPANSION JOINT W/ LOAD TRANSFER DEVICE	E
LONGITUDINAL LANE TIE JOINT	D
TRANSVERSE CONTRACTION JOINT FOR CONCRETE PAVEMENT	C
LONGITUDINAL BULKHEAD CONSTRUCTION JOINT	B
OPTIONAL B OR D JOINT	BD

NOTES :

FOR SIDEWALK JOINTING STANDARD SEE CITY OF DETROIT DETAIL STANDARD NO. C-4462

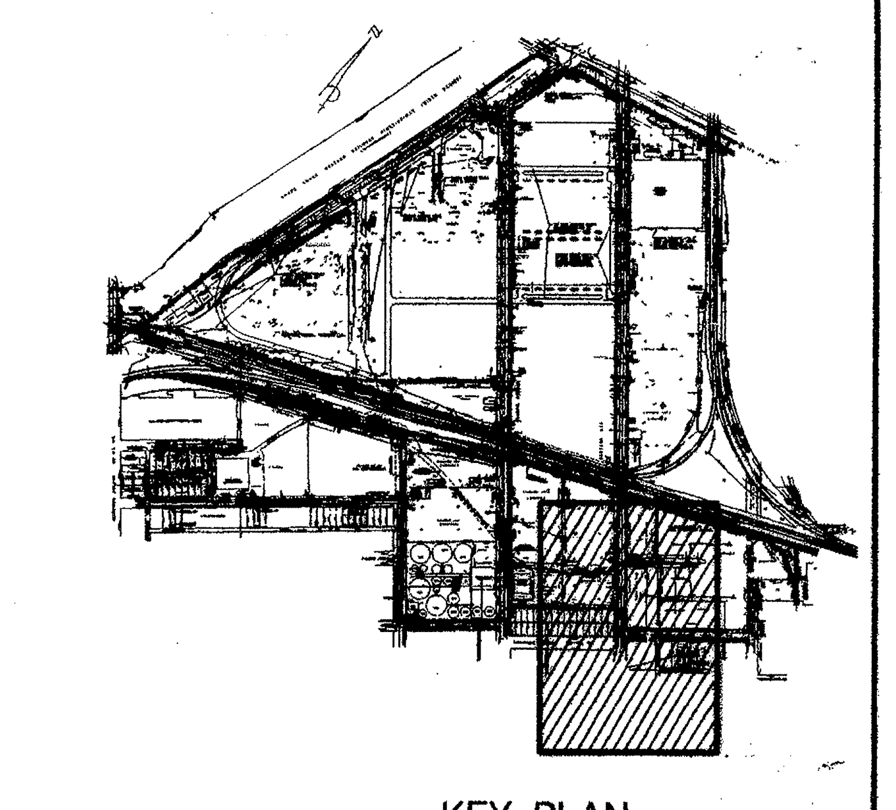
INTEGRAL CURB AND WALK TO BE PROVIDED ADJACENT TO BITUMINOUS PAVEMENT RESURFACING PER CITY OF DETROIT DETAIL C-4550

SIDEWALKS AT ALL INTERSECTIONS FROM SPRING POINT TO SPRING POINT MUST BE 150mm CONCRETE.

CONSTRUCT SIDEWALK RAMPS AT INTERSECTIONS WHERE THERE ARE TRAFFIC CONTROLS.

QUANTITIES THIS SHEET

AGGREGATE BASE, 100 mm	543 square meter
BITUMINOUS MIXTURE, 1100L, 20AA	12 tons (metric)
BITUMINOUS MIXTURE, 1100T, 20AA	12 tons (metric)
CONCRETE PAVEMENT REINFORCED 240mm	484 square meter
INTEGRAL CURB & WALK, 610 mm	384 meters
CURB CONC, DET CD	N/A meters
SIDEWALK, CONCRETE 100mm	965 square meter
SIDEWALK RAMP	12 square meter
CONCRETE PAVEMENT NON-REINFORCED, 200 mm	90 square meter
CURB CONC. (RAISED)	80 meters
HANDRAIL	80 meters
DR. STRUCTURE COVER, ADJ., CASE 1	1 ea
HAND PATCHING	20 tons (metric)
CONDITIONING EXISTING PAVEMENT	12 tons (metric)
PAVT MRKG, OVERLAY COLD PLASTIC, 100 mm, YELLOW	12 meters
WATER SHUTOFF, ADJ.	3 ea
GRANULAR MATERIAL CLASS II	27 cubic meters



KEY PLAN

JJR
JJR Incorporated
110 Miller Avenue
Ann Arbor, Michigan 48104
☎734.662.4457
734.662.7520

SCOTTEN AVE. - LAYOUT & MATERIALS PLAN

DATE	SCALE	CONT. SEC.	JOB NO.	DESIGN UNIT	SHEET NO.	
07/28/00	1:500	EDA82522	52624A		19	44

AUTH	DATE	NO.	FINAL R.O.W. REVISION

EXISTING BY:
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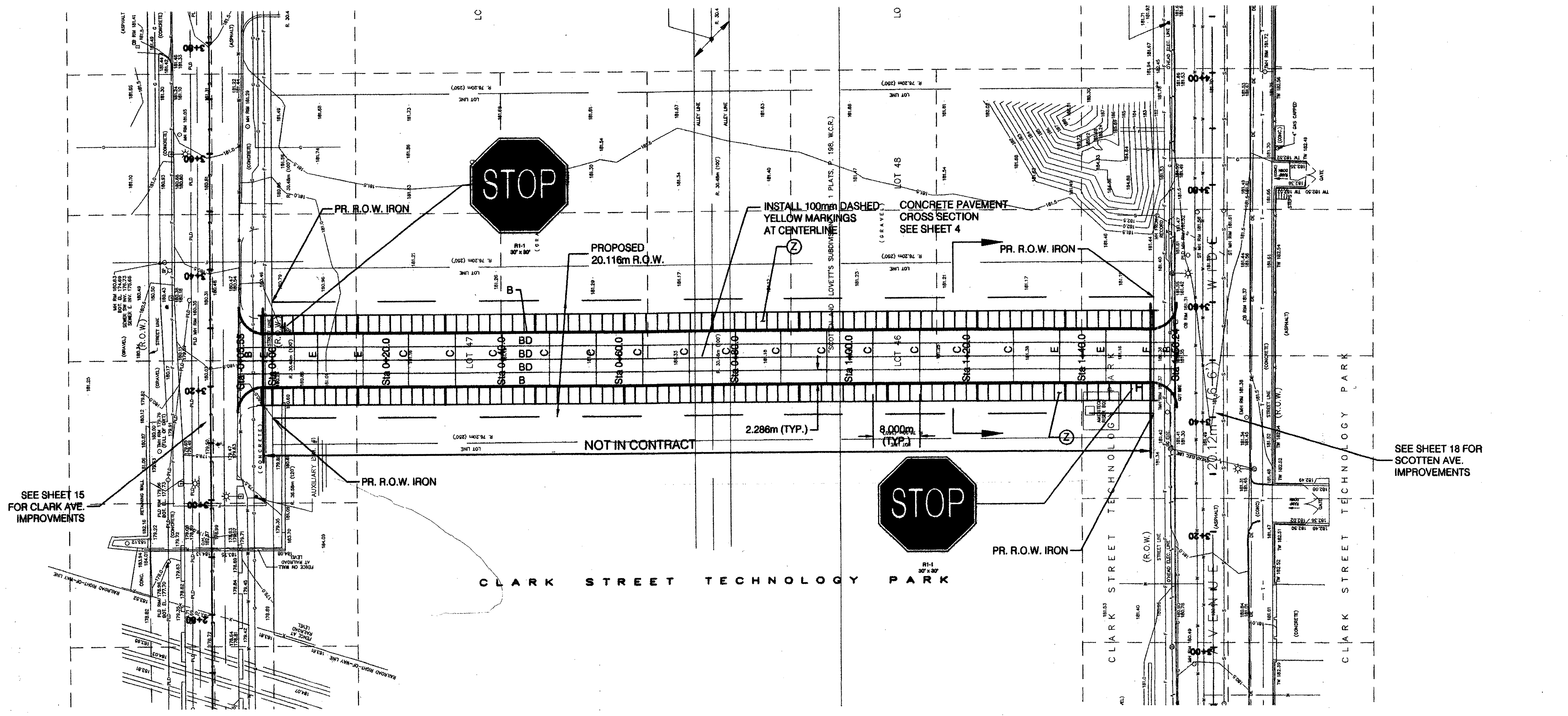
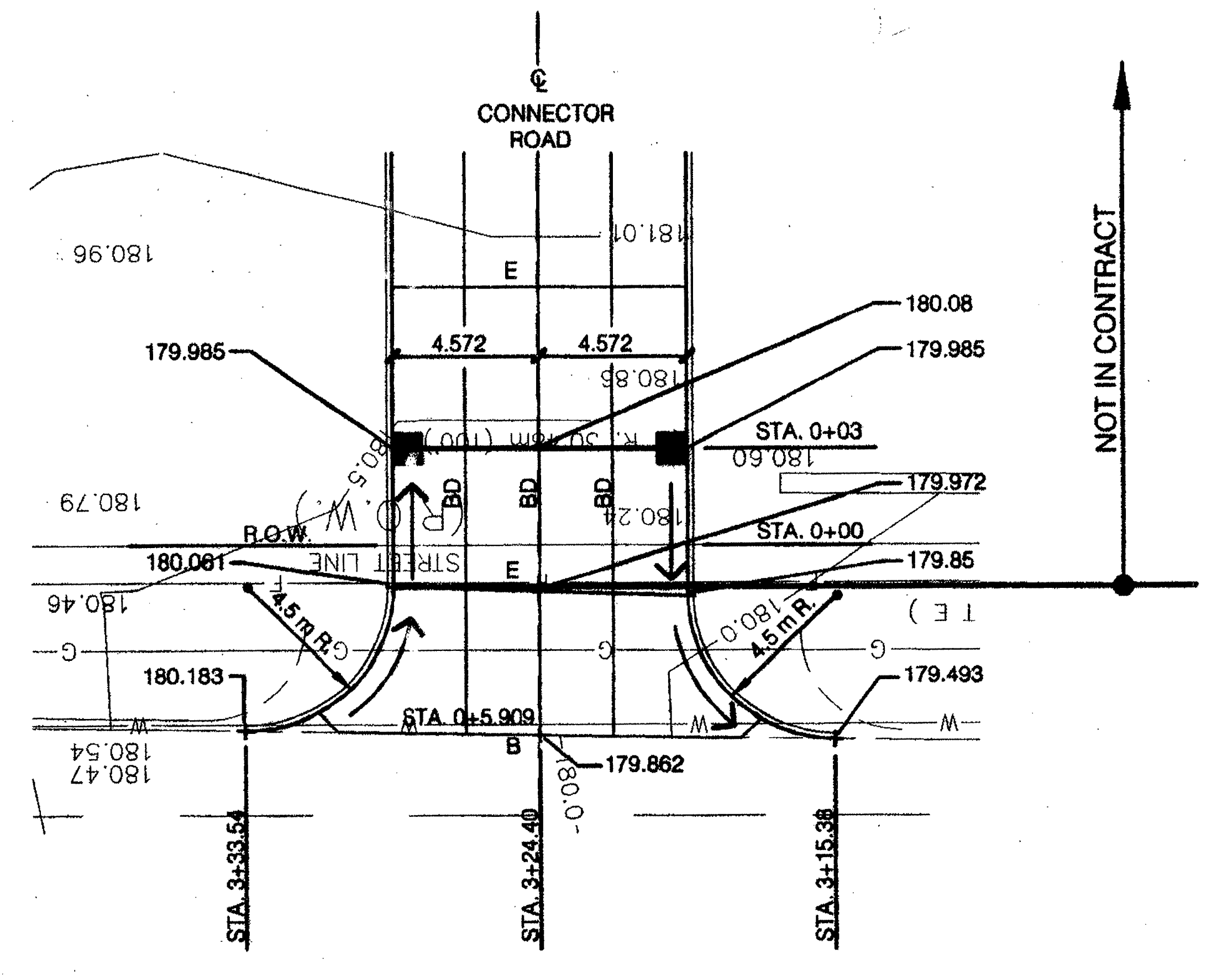
DATE:
DATE:
DATE:


STOP
STOP
PR. R.O.W. IRON
PR. R.O.W. IRON
PR. R.O.W. IRON
PR. R.O.W. IRON
PROPOSED
20.116m R.O.W.
INSTALL 100mm DASHED YELLOW MARKINGS AT CENTERLINE
CONCRETE PAVEMENT CROSS SECTION SEE SHEET 4
2.286m (TYP.)
8.000m (TYP.)
NOT IN CONTRACT
SEE SHEET 15 FOR CLARK AVE. IMPROVMENTS
SEE SHEET 18 FOR SCOTTEN AVE. IMPROVEMENTS
CLARK STREET TECHNOLOGY PARK
LOT 47
LOT 46
LOT 48
Sta 0+20.0
Sta 0+40.0
Sta 0+60.0
Sta 0+80.0
Sta 1+00.0
Sta 1+20.0
Sta 1+40.0
BD
B
C
D
E
Z

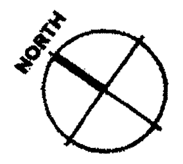
CONNECTOR ROAD - PLAN

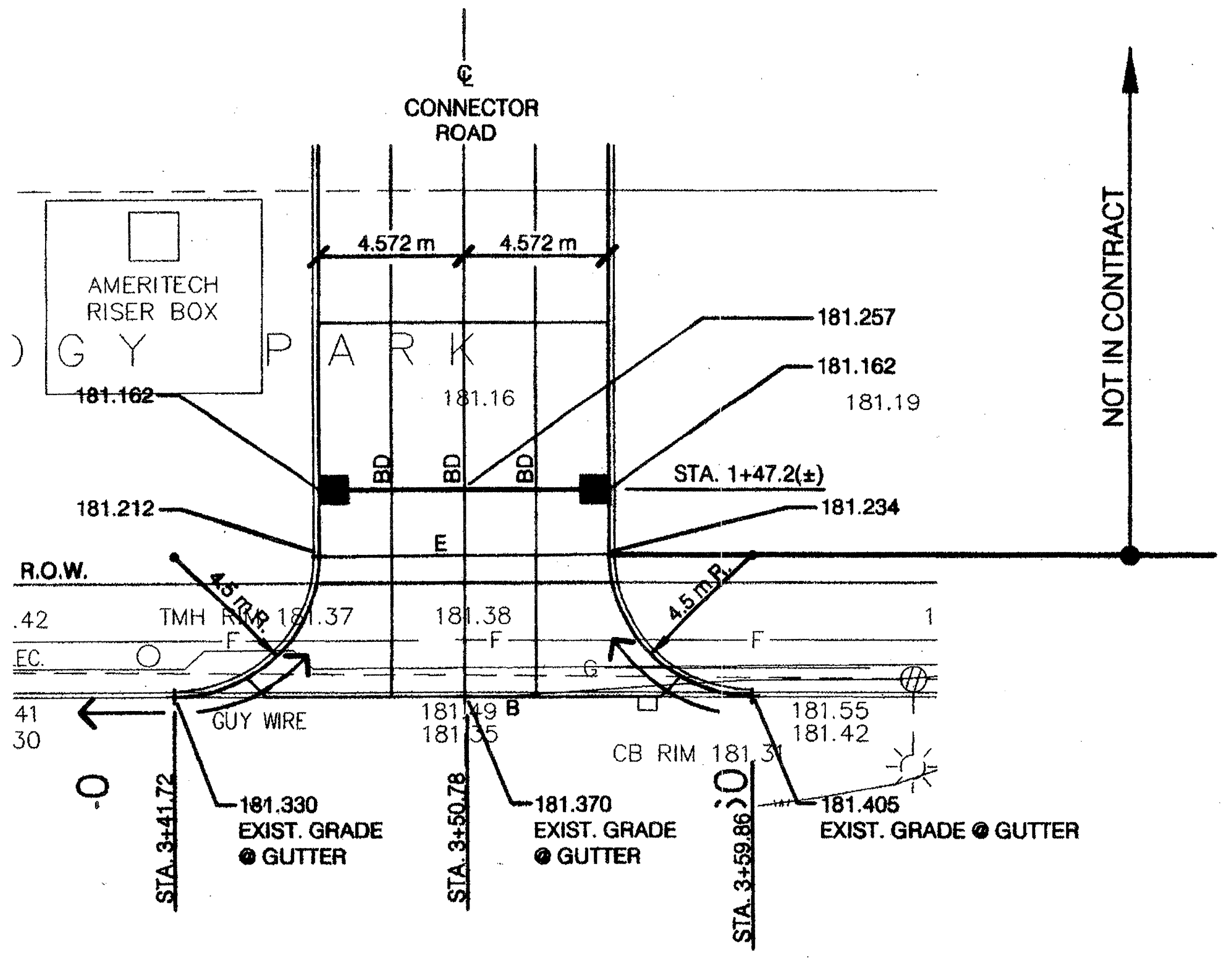
NOT IN CONTRACT (N.I.C.)
(SEE LIMITS BELOW)


℄ CONNECTOR ROAD
NOT IN CONTRACT
4.572
4.572
180.08
179.985
179.985
STA. 0+03
STA. 0+00
179.972
179.85
180.081
180.183
179.493
STA. 0+5.909
179.862
4.5 m R.
4.5 m R.
R.O.W.
STREET LINE
BD
BD
E
B
STA. 3+33.54
STA. 3+24.40
STA. 3+15.38
180.96
180.79
180.46
180.54
180.47

CONNECTOR ROAD @ CLARK AVE.

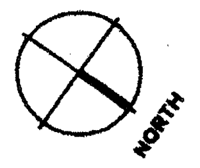
SCALE = 1:200

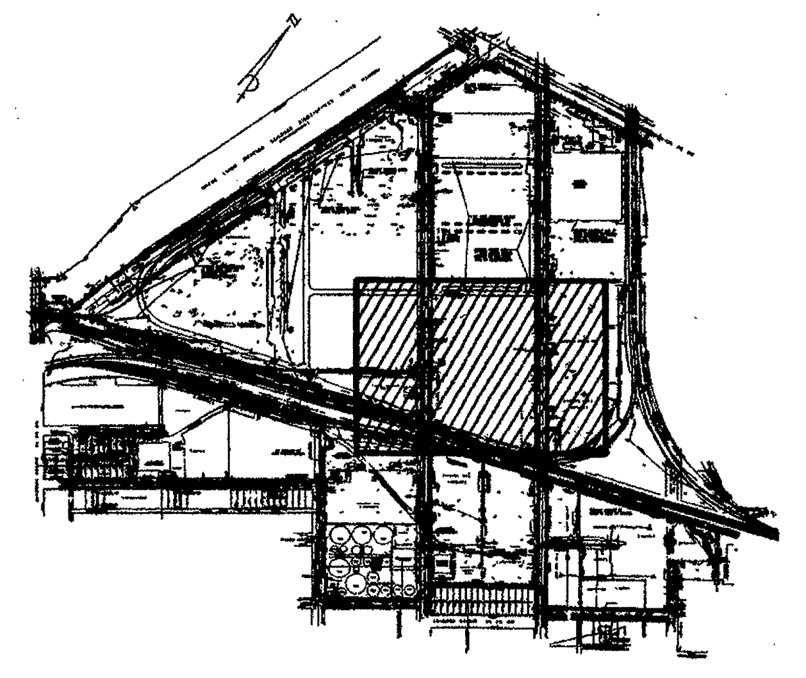



℄ CONNECTOR ROAD
NOT IN CONTRACT
AMERITECH RISER BOX
4.572 m
4.572 m
181.257
181.162
181.19
181.162
181.16
181.212
181.234
STA. 1+47.2(±)
R.O.W.
4.5 m R.
4.5 m R.
TMH
181.37
181.38
GUY WIRE
CB RIM
181.55
181.42
181.330 EXIST. GRADE @ GUTTER
181.370 EXIST. GRADE @ GUTTER
181.405 EXIST. GRADE @ GUTTER
BD
BD
E
STA. 3+41.72
STA. 3+50.78
STA. 3+59.80

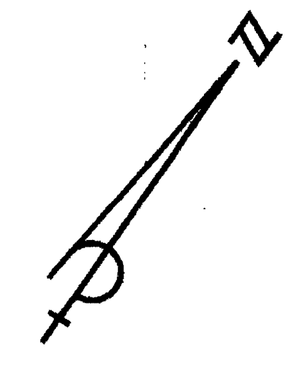
CONNECTOR ROAD @ SCOTTEN AVE.

SCALE = 1:200





KEY PLAN



LAYOUT LEGEND

PROPOSED CONCRETE PAVEMENT	☐
BITUMINOUS PAVEMENT RESURFACING	▨
BITUMINOUS PAVEMENT REPLACEMENT	▨
PROPOSED CATCH BASIN AND SEWER	■—
ADJUST EXISTING CATCH BASIN	Ⓐ
ADJUST EXISTING MANHOLE OR HANDHOLE	Ⓑ
CONSTRUCT CATCH BASIN	Ⓒ
CONSTRUCT MANHOLE	Ⓓ
ABANDON EXISTING CATCH BASIN	Ⓔ
STONING AND GRADING	Ⓢ
CONSTRUCT STANDARD 150 mm CONCRETE SIDEWALK	Ⓩ
LONGITUDINAL BULKLOAD CONSTRUCTION JOINT	B
OPTIONAL BOLD JOINT	BD
TRANSVERSE CONTRACTION JOINT FOR CONCRETE PAVEMENT	C
LONGITUDINAL LANE TIE JOINT	D
25 mm TRANSVERSE EXPANSION JOINT WITH LOAD TRANSFER DEVICE	E

NOTES :

SIDEWALKS AT ALL INTERSECTIONS FROM SPRING POINT TO SPRING POINT MUST BE 150mm CONCRETE.

CONSTRUCT SIDEWALK RAMPS AT INTERSECTIONS WHERE THERE ARE TRAFFIC CONTROLS.

QUANTITIES THIS SHEET

AGGREGATE BASE, 100 mm	142 square meter
BITUMINOUS MIXTURE, 1100L, 20AA	N/A tons (metric)
BITUMINOUS MIXTURE, 1100T, 20AA	N/A tons (metric)
CURB) REINFORCED 240mm	
INTEGRAL CURB & WALK, 610 mm	N/A meters
CURB CONC, DET CD	N/A meters
SIDEWALK, CONCRETE 100mm	957 square meter
DRIVEWAY, REINF. CONC.	N/A cube meter
PAVT MRKG, OVERLAY COLD PLASTIC, 100 mm, YELLOW	N/A meters

JJR
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CONNECTOR ROAD - LAYOUT & MATERIALS PLAN

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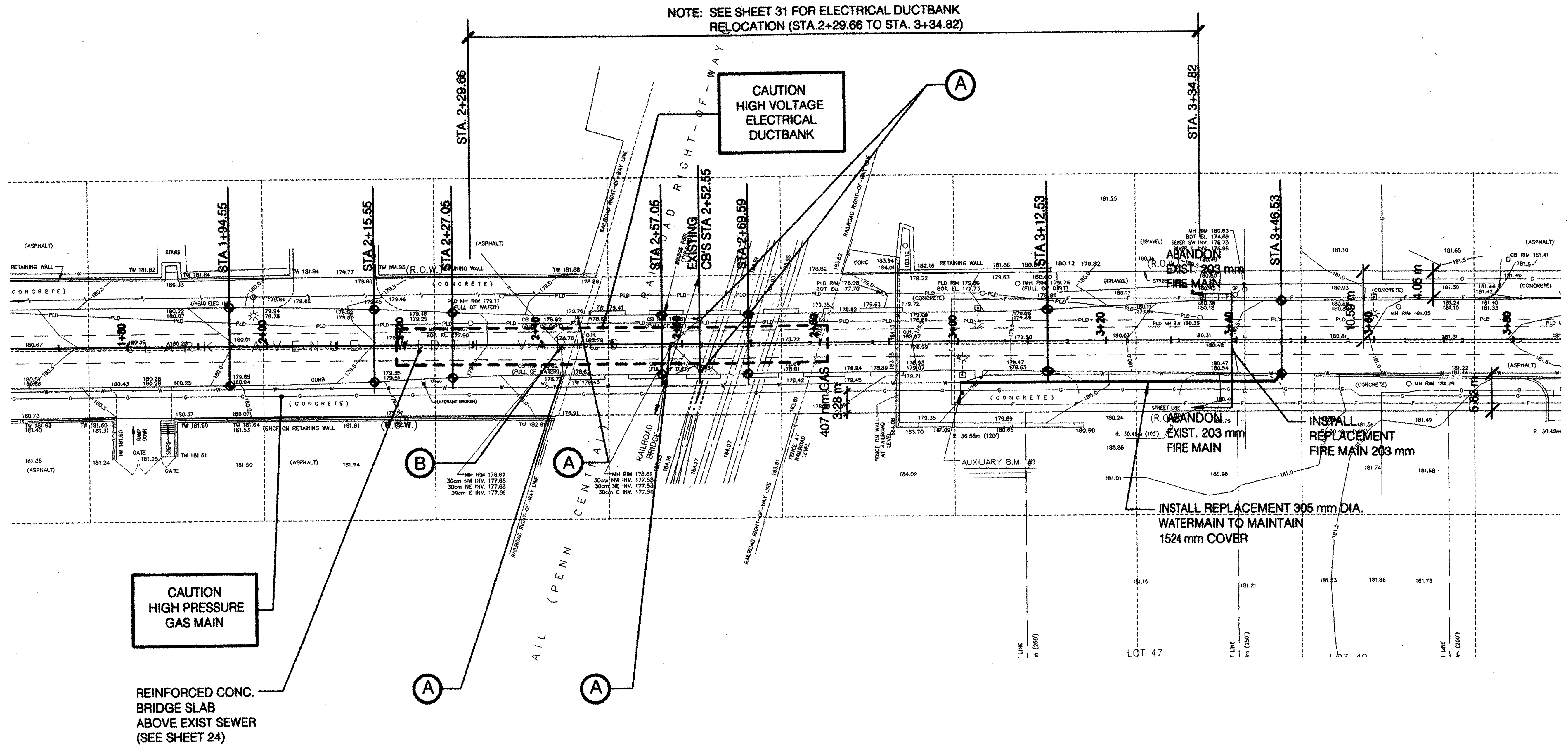
07/28/00	1:500	EDA82522	52624A		20	44

FILE NAME:

FINAL R.O.W.			
AUTH	DATE	NO.	REVISION

NOTE: SEE SHEET 31 FOR ELECTRICAL DUCTBANK RELOCATION (STA.2+29.66 TO STA. 3+34.82)



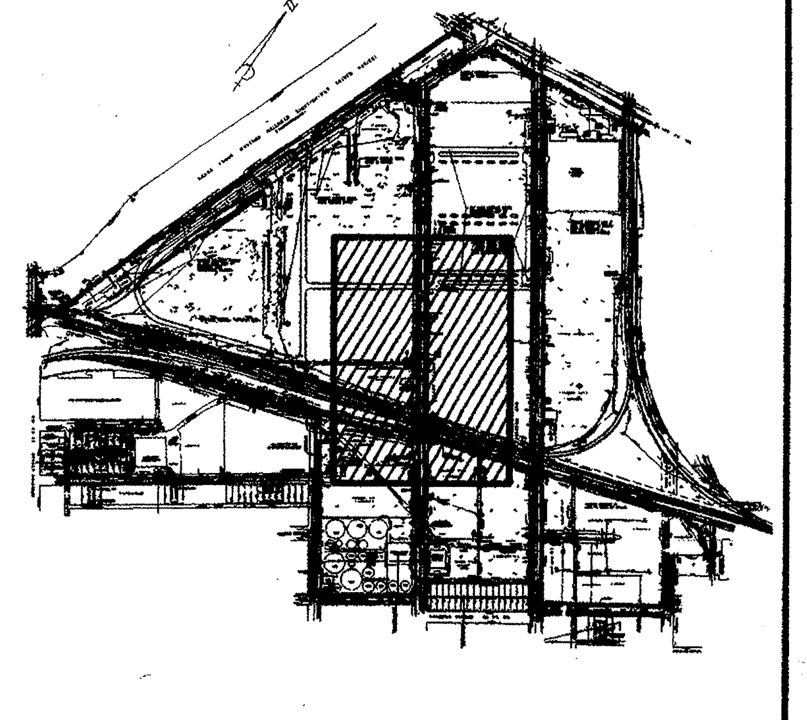
STA 2+29.66
STA 3+34.82
CAUTION
HIGH VOLTAGE
ELECTRICAL
DUCTBANK
Ⓐ
STA 1+94.55
STA 2+15.55
STA 2+27.05
STA 2+57.05
EXISTING
CB'S STA 2+62.55
STA 2+89.59
STA 3+12.53
STA 3+46.53
ABANDON
EXIST. 203 mm
FIRE MAIN
407 mm GAS L.
3.28 m
Ⓑ
Ⓐ
INSTALL
REPLACEMENT
FIRE MAIN 203 mm
INSTALL REPLACEMENT 305 mm DIA.
WATERMAIN TO MAINTAIN
1524 mm COVER
AUXILIARY B.M. #1
(CONCRETE)
(ASPHALT)
RETAINING WALL
R.O.W.
LOT 47
CAUTION
HIGH PRESSURE
GAS MAIN
REINFORCED CONC.
BRIDGE SLAB
ABOVE EXIST SEWER
(SEE SHEET 24)
Ⓐ
Ⓐ

LAYOUT LEGEND

BITUMINOUS PAVEMENT RESURFACING	▥
BITUMINOUS PAVEMENT REPLACEMENT	▨
PROPOSED CATCH BASIN AND SEWER	■—
ADJUST EXISTING CATCH BASIN	Ⓐ
ADJUST EXISTING MANHOLE OR HANDHOLE	Ⓑ
CONSTRUCT CATCH BASIN	Ⓒ
CONSTRUCT MANHOLE	Ⓓ
ABANDON EXISTING CATCH BASIN	Ⓔ
STONING AND GRADING	Ⓢ
CONSTRUCT STANDARD 150 mm CONCRETE SIDEWALK	Ⓩ

QUANTITIES THIS SHEET

SEWER, CLASS CL C 76M IV, 300 mm, TR. DET B	N/A meter
STANDARD MANHOLE	N/A ea
CATCH BASIN "A"	N/A ea
CATCH BASIN "B"	N/A ea
FLAT TYPE GRATE & FRAME	N/A kg
CAST IRON FRAME & COVER	N/A kg
DR. STRUCTURE, CLEANING	4 ea
SEWER CLEANOUT	19 m
WATER MAIN, DI, 305 mm, TR DET G	46 m
WATER MAIN, DI, 203 mm, TR DET G	16 m



KEY PLAN

EXISTING BY: DATE:
PROPOSED BY: DATE:
LAST CORRECTION BY: DATE:

FILE NAME: P:\23611\00\CAD\CLARK2.DWG

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

JJR
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734.662.4457
734.662.7520

MDOT
Michigan Department of Transportation

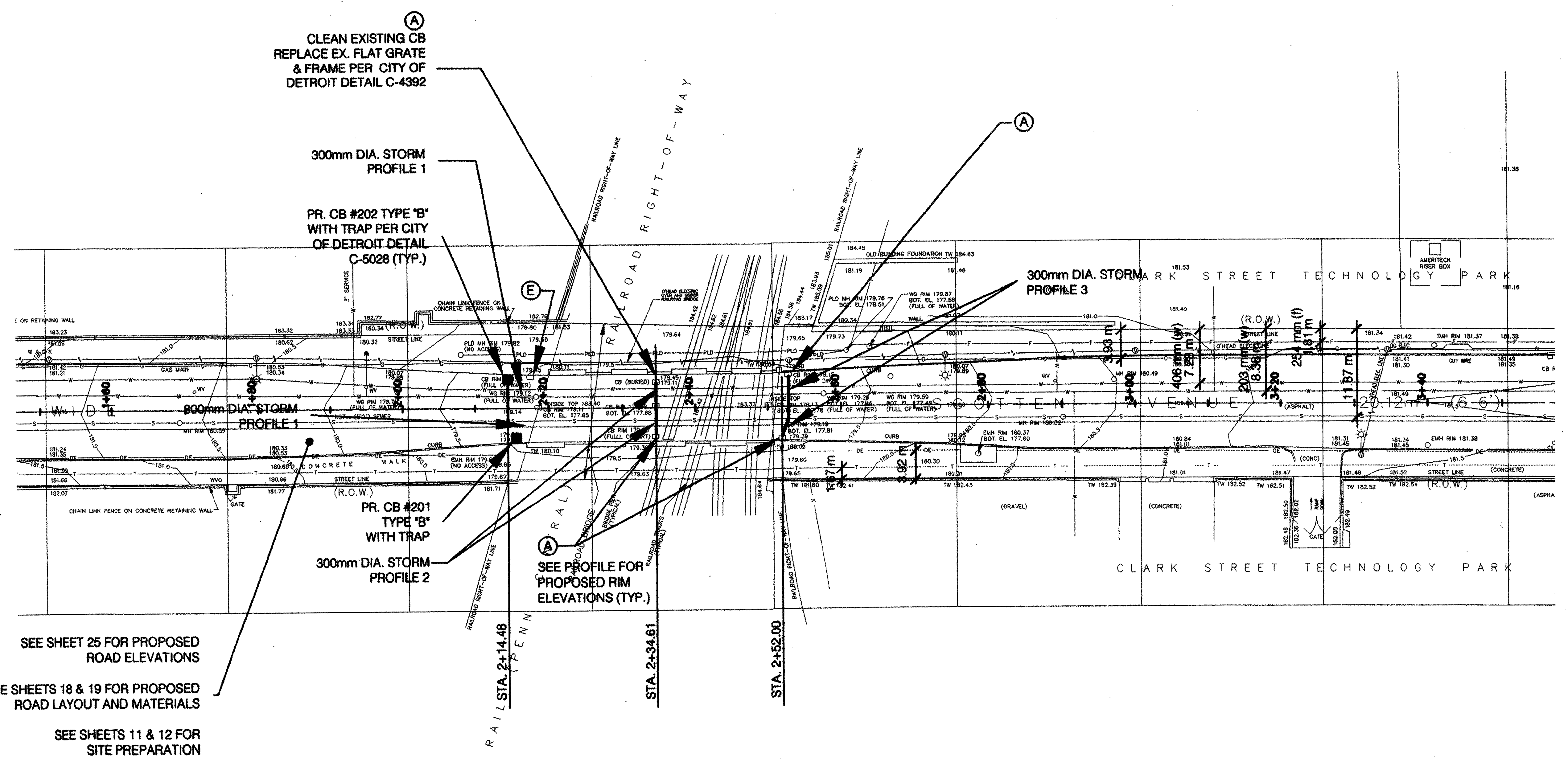
CLARK AVE. - UTILITY PLAN

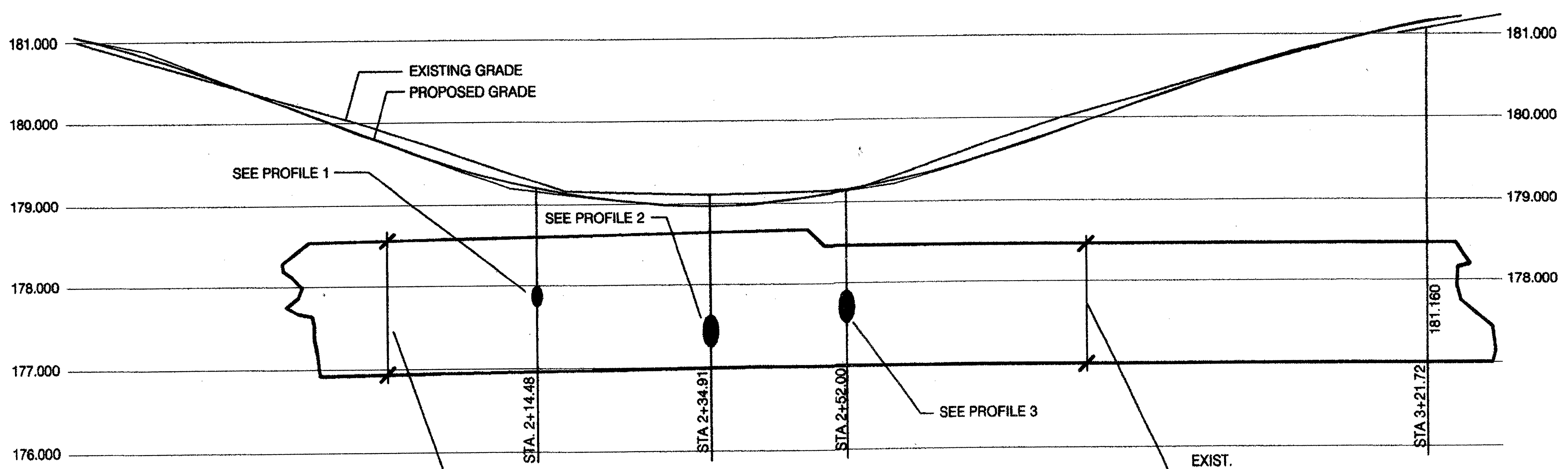
DATE	SCALE	CONT. SEC.	JOB NO.	DESIGN UNIT	SHEET NO.	
07/28/00	1:500	EDA82522	52624A		21	44

DATE:
DATE:
DATE:

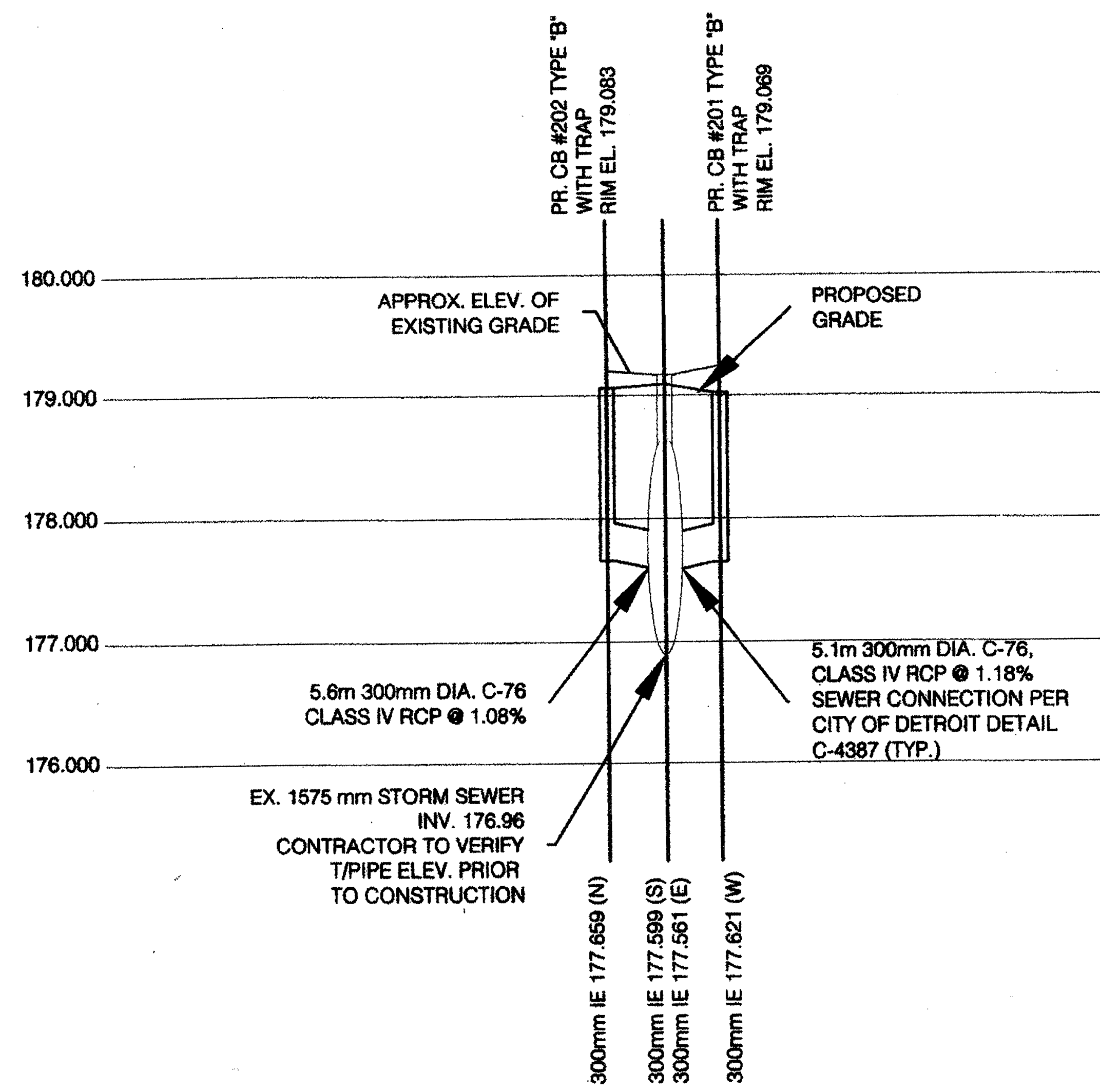
EXISTING BY:
PROPOSED BY:
LAST CORRECTION BY:

FILE NAME: P:\23611\00\CAD\SCOTTEN2.DWG


Ⓐ
CLEAN EXISTING CB
REPLACE EX. FLAT GRATE
& FRAME PER CITY OF
DETROIT DETAIL C-4392
300mm DIA. STORM
PROFILE 1
PR. CB #202 TYPE "B"
WITH TRAP PER CITY
OF DETROIT DETAIL
C-5028 (TYP.)
Ⓔ
Ⓐ
300mm DIA. STORM
PROFILE 3
300mm DIA. STORM
PROFILE 1
PR. CB #201
TYPE "B"
WITH TRAP
300mm DIA. STORM
PROFILE 2
Ⓐ
SEE PROFILE FOR
PROPOSED RIM
ELEVATIONS (TYP.)
RAILROAD RIGHT-OF-WAY
CLARK STREET TECHNOLOGY PARK
CLARK STREET TECHNOLOGY PARK
SCOTTEN AVENUE
(R.O.W.)
STA. 2+14.48
STA. 2+34.61
STA. 2+52.00
SEE SHEET 25 FOR PROPOSED
ROAD ELEVATIONS
SEE SHEETS 18 & 19 FOR PROPOSED
ROAD LAYOUT AND MATERIALS
SEE SHEETS 11 & 12 FOR
SITE PREPARATION

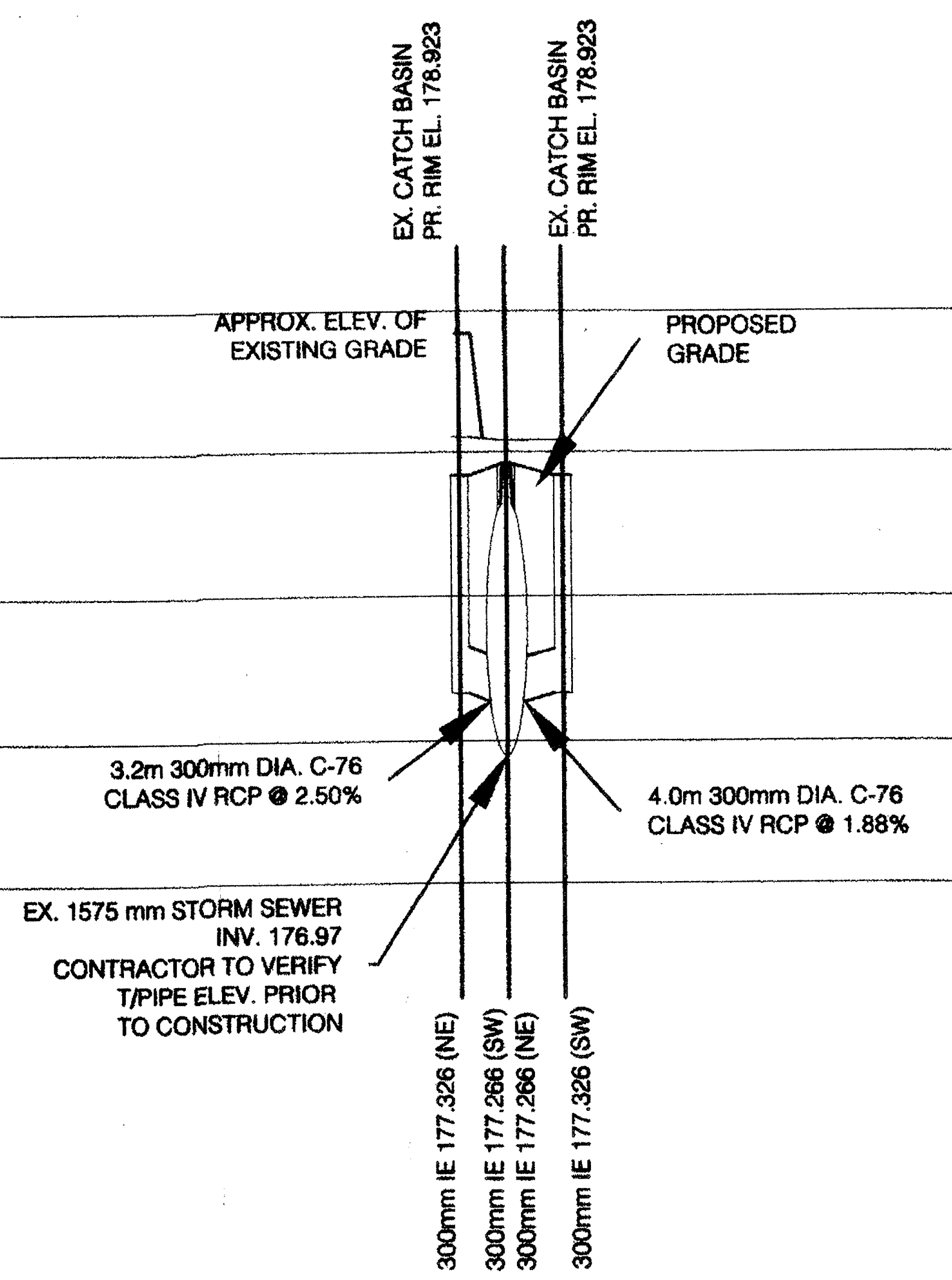

181.000
180.000
179.000
178.000
177.000
176.000
EXISTING GRADE
PROPOSED GRADE
SEE PROFILE 1
SEE PROFILE 2
SEE PROFILE 3
STA. 2+14.48
STA. 2+34.91
STA. 2+52.00
STA. 3+21.72
181.160
EXIST. 1575 mm
SEWER
EXIST.
1448 mm
SEWER

PROFILE - SCOTTEN AVE.
(EXISTING) CENTERLINE
HOR. SCALE: 1 = 500
VERT. SCALE: 1 = 50


PR. CB #202 TYPE "B"
WITH TRAP
RIM EL. 179.083
PR. CB #201 TYPE "B"
WITH TRAP
RIM EL. 179.069
180.000
179.000
178.000
177.000
176.000
APPROX. ELEV. OF
EXISTING GRADE
PROPOSED
GRADE
5.6m 300mm DIA. C-76
CLASS IV RCP @ 1.08%
5.1m 300mm DIA. C-76,
CLASS IV RCP @ 1.18%
SEWER CONNECTION PER
CITY OF DETROIT DETAIL
C-4387 (TYP.)
EX. 1575 mm STORM SEWER
INV. 176.96
CONTRACTOR TO VERIFY
T/PIPE ELEV. PRIOR
TO CONSTRUCTION
300mm IE 177.659 (N)
300mm IE 177.599 (S)
300mm IE 177.561 (E)
300mm IE 177.621 (W)

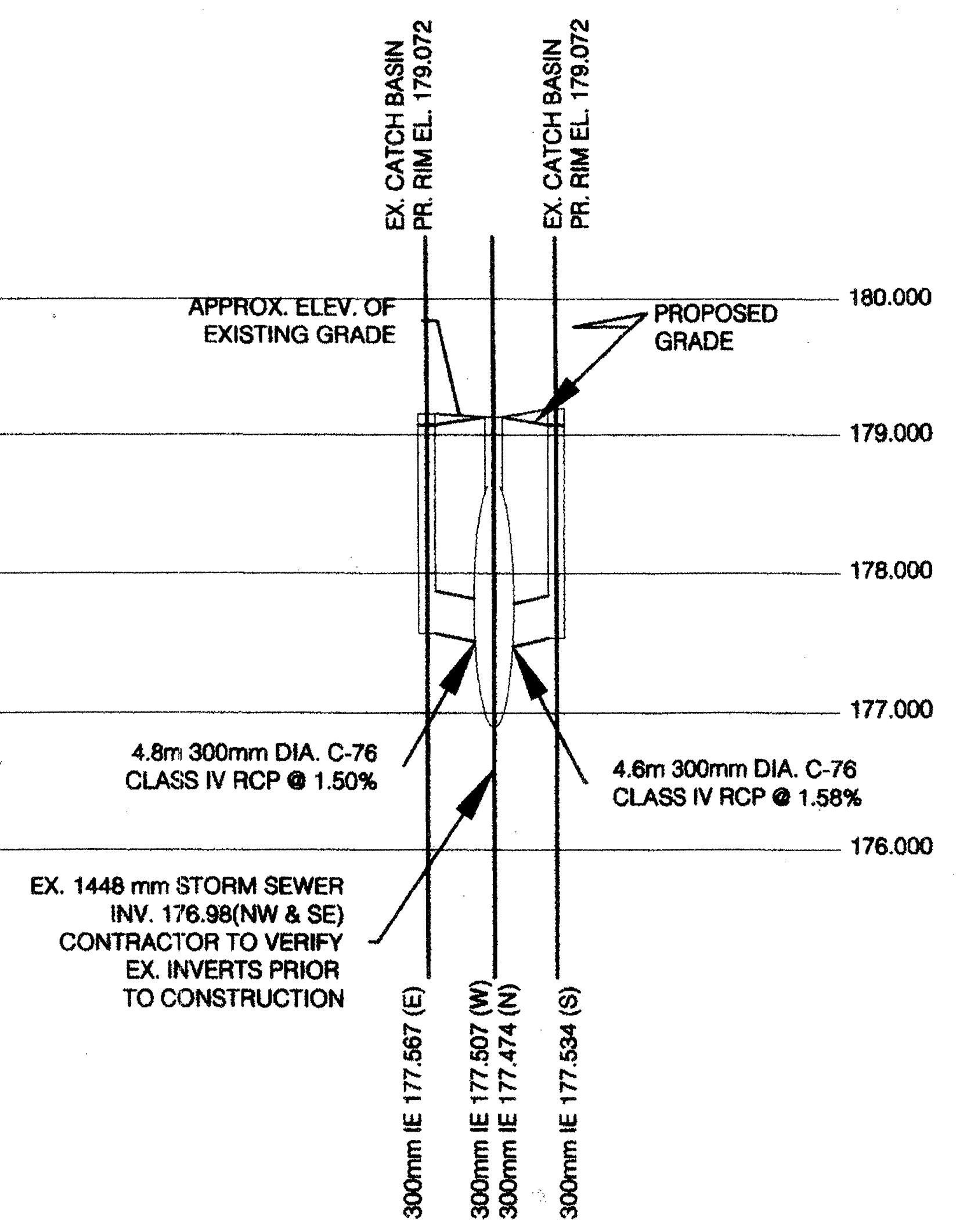
STORM SEWER PROFILE 1

@ STA. 2+14.48


EX. CATCH BASIN
PR. RIM EL. 178.923
EX. CATCH BASIN
PR. RIM EL. 178.923
APPROX. ELEV. OF
EXISTING GRADE
PROPOSED
GRADE
3.2m 300mm DIA. C-76
CLASS IV RCP @ 2.50%
4.0m 300mm DIA. C-76
CLASS IV RCP @ 1.88%
EX. 1575 mm STORM SEWER
INV. 176.97
CONTRACTOR TO VERIFY
T/PIPE ELEV. PRIOR
TO CONSTRUCTION
300mm IE 177.326 (NE)
300mm IE 177.266 (SW)
300mm IE 177.266 (NE)
300mm IE 177.326 (SW)

STORM SEWER PROFILE 2

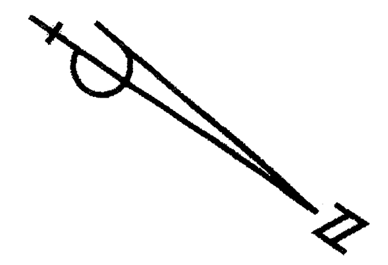
@ STA. 2+34.61


EX. CATCH BASIN
PR. RIM EL. 179.072
EX. CATCH BASIN
PR. RIM EL. 179.072
180.000
179.000
178.000
177.000
176.000
APPROX. ELEV. OF
EXISTING GRADE
PROPOSED
GRADE
4.8m 300mm DIA. C-76
CLASS IV RCP @ 1.50%
4.8m 300mm DIA. C-76
CLASS IV RCP @ 1.58%
EX. 1448 mm STORM SEWER
INV. 176.98(NW & SE)
CONTRACTOR TO VERIFY
EX. INVERTS PRIOR
TO CONSTRUCTION
300mm IE 177.567 (E)
300mm IE 177.507 (W)
300mm IE 177.474 (N)
300mm IE 177.534 (S)

STORM SEWER PROFILE 3

@ STA. 2+52.00

FINAL R.O.W.			
AUTH	DATE	NO.	REVISION

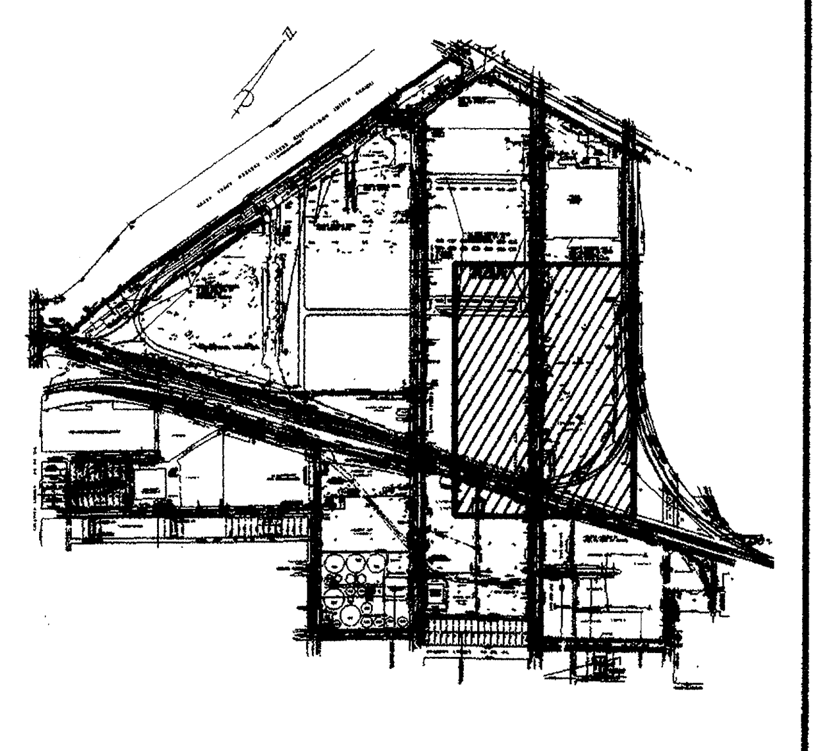


LAYOUT LEGEND

BITUMINOUS PAVEMENT RESURFACING	▥
BITUMINOUS PAVEMENT REPLACEMENT	▨
PROPOSED CATCH BASIN AND SEWER	■—
ADJUST EXISTING CATCH BASIN	Ⓐ
ADJUST EXISTING MANHOLE OR HANDHOLE	Ⓑ
CONSTRUCT CATCH BASIN	Ⓒ
CONSTRUCT MANHOLE	Ⓓ
ABANDON EXISTING CATCH BASIN	Ⓔ
STONING AND GRADING	Ⓢ
CONSTRUCT STANDARD 150 mm CONCRETE SIDEWALK	Ⓩ

QUANTITIES THIS SHEET

SEWER, CLASS CL C 76M IV, 300 mm, TR. DET B	27.3 meter
STANDARD MANHOLE	N/A ea
CATCH BASIN "A"	N/A ea
CATCH BASIN "B"	2 ea
FLAT TYPE GRATE & FRAME	264 kg
CAST IRON FRAME & COVER	N/A kg
SEWER TAP	6 ea
DR. STRUCTURE, CLEANING	4 ea



KEY PLAN

JJR
JJR Incorporated
110 Miller Avenue
Ann Arbor, Michigan 48104
✆734.662.4457
🖷734.662.7520

SCOTTEN AVE. - UTILITY PLAN & PROFILE

DATE	SCALE	CONT. SEC.	JOB NO.	DESIGN UNIT	SHEET NO.	
07/28/00	1:500	EDA82522	52624A		22	44

EXISTING BY:
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FINAL R.O.W.			
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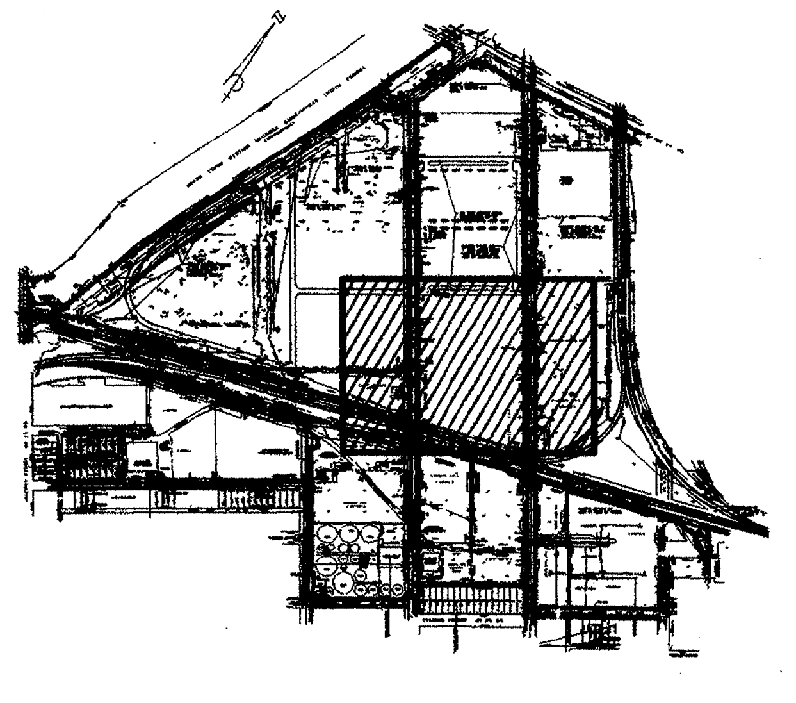
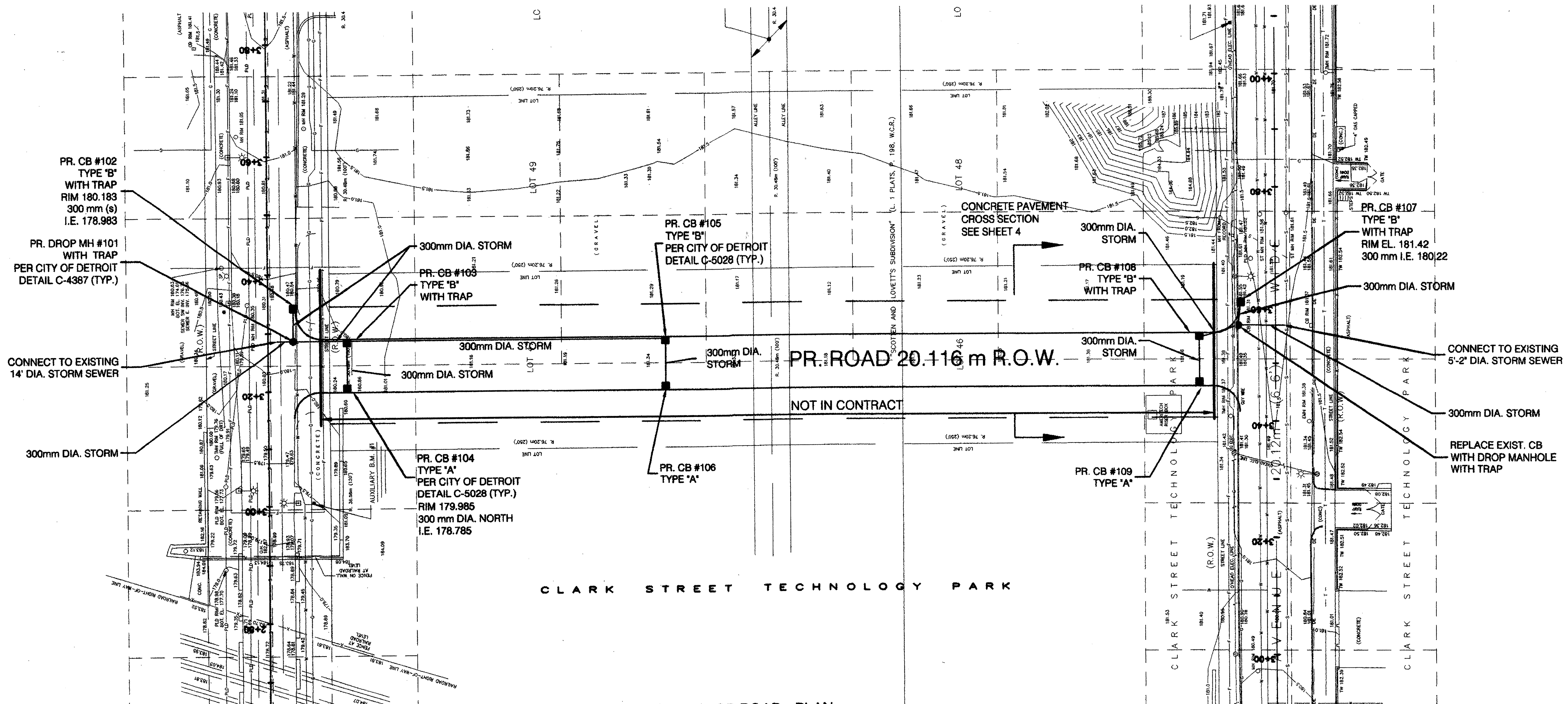
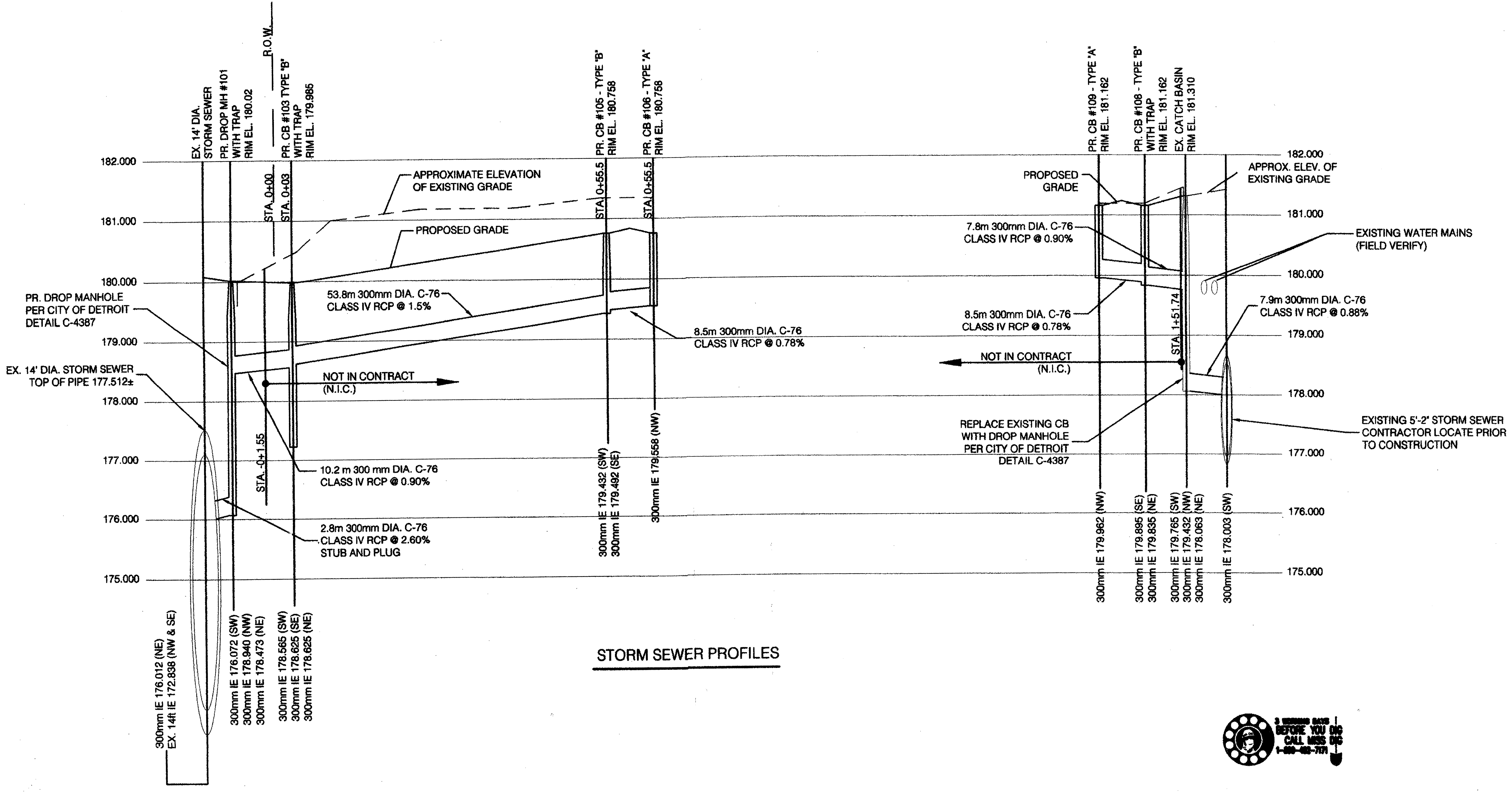


KEY PLAN


PR. CB #102
TYPE "B"
WITH TRAP
RIM 180.183
300 mm (s)
I.E. 178.983
PR. DROP MH #101
WITH TRAP
PER CITY OF DETROIT
DETAIL C-4387 (TYP.)
CONNECT TO EXISTING
14' DIA. STORM SEWER
300mm DIA. STORM
300mm DIA. STORM
PR. CB #103
TYPE "B"
WITH TRAP
300mm DIA. STORM
300mm DIA. STORM
PR. CB #104
TYPE "A"
PER CITY OF DETROIT
DETAIL C-5028 (TYP.)
RIM 179.985
300 mm DIA. NORTH
I.E. 178.785
PR. CB #105
TYPE "B"
PER CITY OF DETROIT
DETAIL C-5028 (TYP.)
300mm DIA.
STORM
PR. CB #106
TYPE "A"
PR. ROAD 20.116 m R.O.W.
NOT IN CONTRACT
LOT 49
LOT 48
CONCRETE PAVEMENT
CROSS SECTION
SEE SHEET 4
300mm DIA.
STORM
PR. CB #108
TYPE "B"
WITH TRAP
300mm DIA.
STORM
PR. CB #109
TYPE "A"
PR. CB #107
TYPE "B"
WITH TRAP
RIM EL. 181.42
300 mm I.E. 180.22
300mm DIA. STORM
CONNECT TO EXISTING
5'-2" DIA. STORM SEWER
300mm DIA. STORM
REPLACE EXIST. CB
WITH DROP MANHOLE
WITH TRAP
CLARK STREET TECHNOLOGY PARK
CLARK STREET TECHNOLOGY PARK
CLARK STREET TECHNOLOGY PARK
(R.O.W.)
(CONCRETE)
AUXILIARY B.M.
(GRAVEL)
LOT LINE

CONNECTOR ROAD - PLAN


R.O.W.
EX. 14' DIA.
STORM SEWER
PR. DROP MH #101
WITH TRAP
RIM EL. 180.02
STA. 0+00
STA. 0+03
PR. CB #103 TYPE "B"
WITH TRAP
RIM EL. 179.986
STA. 0+55.5
PR. CB #105 - TYPE "B"
RIM EL. 180.758
STA. 0+55.5
PR. CB #106 - TYPE "A"
RIM EL. 180.758
182.000
181.000
180.000
179.000
178.000
177.000
176.000
175.000
APPROXIMATE ELEVATION
OF EXISTING GRADE
PROPOSED GRADE
PR. DROP MANHOLE
PER CITY OF DETROIT
DETAIL C-4387
53.8m 300mm DIA. C-76
CLASS IV RCP @ 1.5%
8.5m 300mm DIA. C-76
CLASS IV RCP @ 0.78%
EX. 14' DIA. STORM SEWER
TOP OF PIPE 177.512±
NOT IN CONTRACT
(N.I.C.)
STA. 0+1.55
10.2 m 300 mm DIA. C-76
CLASS IV RCP @ 0.90%
2.8m 300mm DIA. C-76
CLASS IV RCP @ 2.60%
STUB AND PLUG
300mm IE 179.432 (SW)
300mm IE 179.492 (SE)
300mm IE 179.558 (NW)
300mm IE 176.012 (NE)
EX. 14ft IE 172.838 (NW & SE)
300mm IE 176.072 (SW)
300mm IE 178.940 (NW)
300mm IE 178.473 (NE)
300mm IE 178.565 (SW)
300mm IE 178.625 (SE)
300mm IE 178.625 (NE)
PR. CB #109 - TYPE "A"
RIM EL. 181.162
PR. CB #108 - TYPE "B"
WITH TRAP
RIM EL. 181.162
EX. CATCH BASIN
RIM EL. 181.310
PROPOSED
GRADE
APPROX. ELEV. OF
EXISTING GRADE
7.8m 300mm DIA. C-76
CLASS IV RCP @ 0.90%
EXISTING WATER MAINS
(FIELD VERIFY)
8.5m 300mm DIA. C-76
CLASS IV RCP @ 0.78%
7.9m 300mm DIA. C-76
CLASS IV RCP @ 0.88%
STA. 1+51.74
NOT IN CONTRACT
(N.I.C.)
REPLACE EXISTING CB
WITH DROP MANHOLE
PER CITY OF DETROIT
DETAIL C-4387
EXISTING 5'-2" STORM SEWER
CONTRACTOR LOCATE PRIOR
TO CONSTRUCTION
300mm IE 179.962 (NW)
300mm IE 179.895 (SE)
300mm IE 179.835 (NE)
300mm IE 179.765 (SW)
300mm IE 179.432 (NW)
300mm IE 178.063 (NE)
300mm IE 178.003 (SW)

STORM SEWER PROFILES

QUANTITIES THIS SHEET

SEWER, CLASS CL C 76M IV, 300 mm, TR. DET B	31 meter
STANDARD MANHOLE	2 ea
CATCH BASIN "A"	2 ea
CATCH BASIN "B"	N/A ea
FLAT TYPE GRATE & FRAME	1856 kg
CAST IRON FRAME & COVER	380 kg
SEWER TAP, 300 mm	2 ea

3 WORKING DAYS BEFORE YOU DIG
CALL MISS DIG
1-800-482-7171

JJR
JJR Incorporated
110 Miller Avenue
Ann Arbor, Michigan 48104
734.662.4457
734.662.7520

CONNECTOR ROAD - UTILITY PLAN

DATE	SCALE	CONT. SEC.	JOB NO.	DESIGN UNIT	SHEET NO.	
07/28/00	1:500	EDA82522	52624A		23	44

FILE NAME:

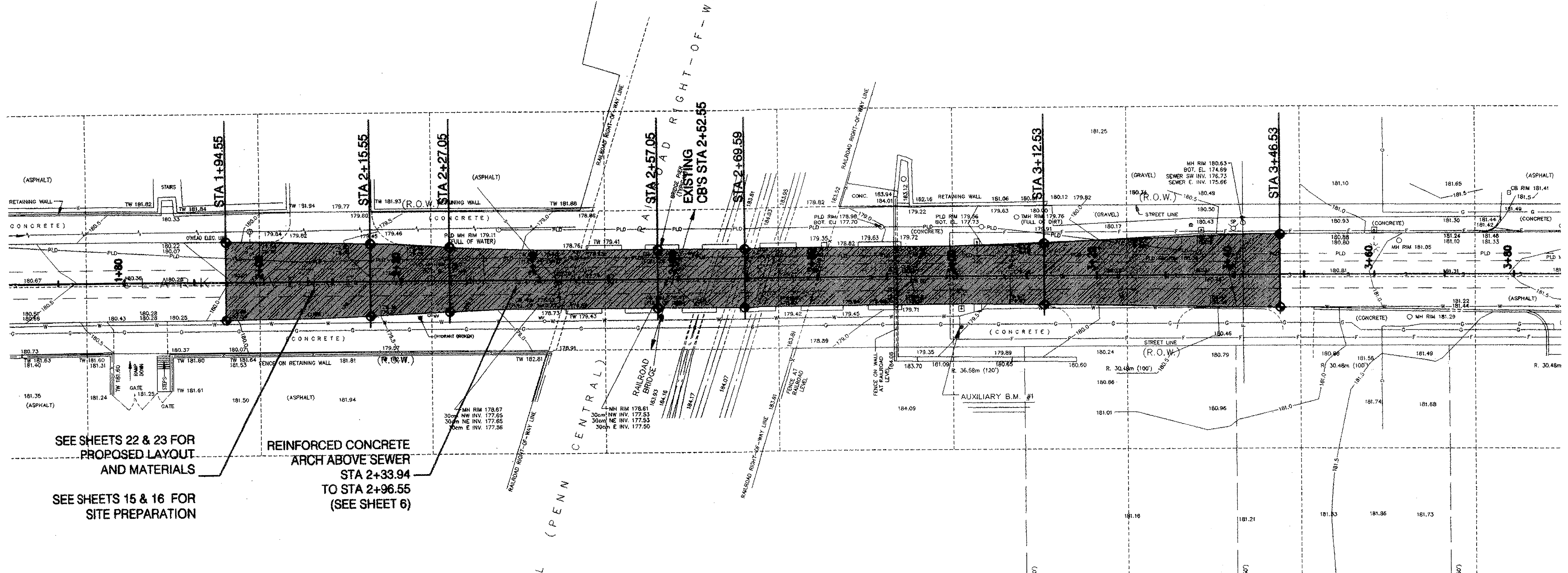
EXISTING BY:
PROPOSED BY:
LAST CORRECTION BY:

DATE:
DATE:
DATE:

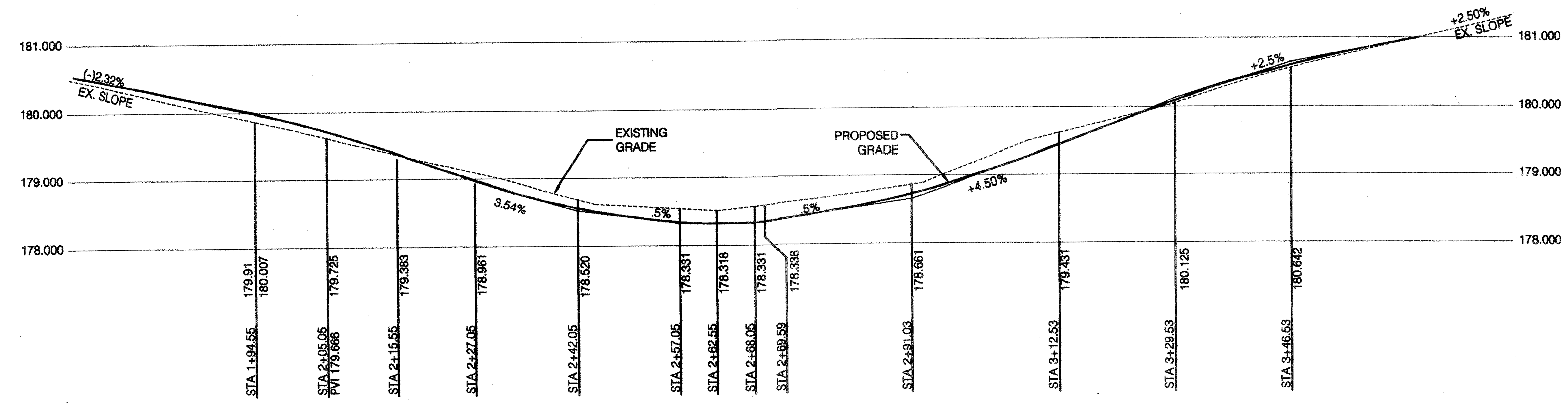
SECTION

FILE NAME: P:\23611\00\CAD\CLARK2.DWG

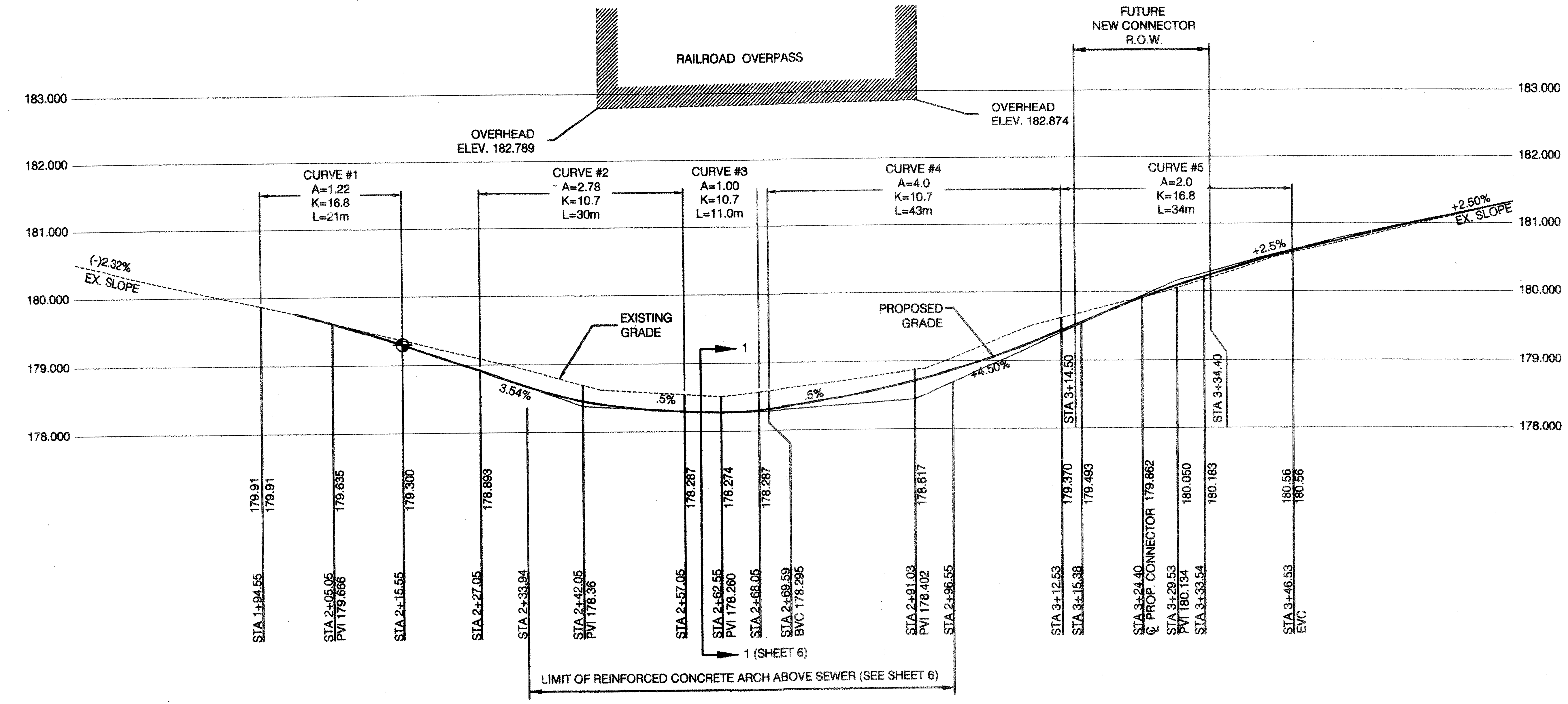
		FINAL R.O.W.	
AUTH	DATE	NO.	REVISION


STA 1+94.55
STA 2+15.55
STA 2+27.05
STA 2+57.05
EXISTING CB'S STA 2+52.55
STA 2+69.59
STA 3+12.53
STA 3+46.53
RIGHT-OF-WAY
(R.O.W.)
(ASPHALT)
(CONCRETE)
(GRAVEL)
RETAINING WALL
RAILROAD BRIDGE
AUXILIARY B.M. #1
LOT 47
SEE SHEETS 22 & 23 FOR PROPOSED LAYOUT AND MATERIALS
SEE SHEETS 15 & 16 FOR SITE PREPARATION
REINFORCED CONCRETE ARCH ABOVE SEWER STA 2+33.94 TO STA 2+96.55 (SEE SHEET 6)

PLAN - CLARK AVE.


181.000
180.000
179.000
178.000
(-)2.32%
EX. SLOPE
EXISTING GRADE
PROPOSED GRADE
3.54%
.5%
.5%
+4.50%
+2.5%
+2.50%
EX. SLOPE
179.91
180.007
179.725
179.383
178.961
178.520
178.331
178.318
178.331
178.338
178.661
179.431
180.125
180.642
STA 1+94.55
STA 2+05.05 PVI 179.666
STA 2+15.55
STA 2+27.05
STA 2+42.05
STA 2+57.05
STA 2+62.55
STA 2+68.05
STA 2+69.59
STA 2+91.03
STA 3+12.53
STA 3+29.53
STA 3+46.53

PROFILE - CLARK AVE.
@ CENTER LINE OF ROAD
HOR SCALE: 1 = 500
VERT SCALE: 1 = 50


RAILROAD OVERPASS
OVERHEAD ELEV. 182.789
OVERHEAD ELEV. 182.874
FUTURE NEW CONNECTOR R.O.W.
183.000
182.000
181.000
180.000
179.000
178.000
CURVE #1 A=1.22 K=16.8 L=21m
CURVE #2 A=2.78 K=10.7 L=30m
CURVE #3 A=1.00 K=10.7 L=11.0m
CURVE #4 A=4.0 K=10.7 L=43m
CURVE #5 A=2.0 K=16.8 L=34m
(-)2.32%
EX. SLOPE
EXISTING GRADE
PROPOSED GRADE
3.54%
.5%
.5%
+4.50%
+2.5%
+2.50%
EX. SLOPE
1
179.91
179.91
179.635
179.300
178.893
178.287
178.274
178.287
178.617
179.370
179.493
PROP. CONNECTOR 179.662
180.050
180.183
180.56
180.56
STA 3+14.50
STA 3+34.40
STA 1+94.55
STA 2+05.05 PVI 179.666
STA 2+15.55
STA 2+27.05
STA 2+33.94
STA 2+42.05 PVI 178.36
STA 2+57.05
STA 2+62.55 PVI 178.260
STA 2+68.05
STA 2+69.59 BVC 178.296
STA 2+91.03 PVI 178.402
STA 2+96.55
STA 3+12.53
STA 3+15.38
STA 3+24.40 ℄ PROP. CONNECTOR
STA 3+29.53 PVI 180.134
STA 3+33.54
STA 3+46.53 EVC
1 (SHEET 6)
LIMIT OF REINFORCED CONCRETE ARCH ABOVE SEWER (SEE SHEET 6)

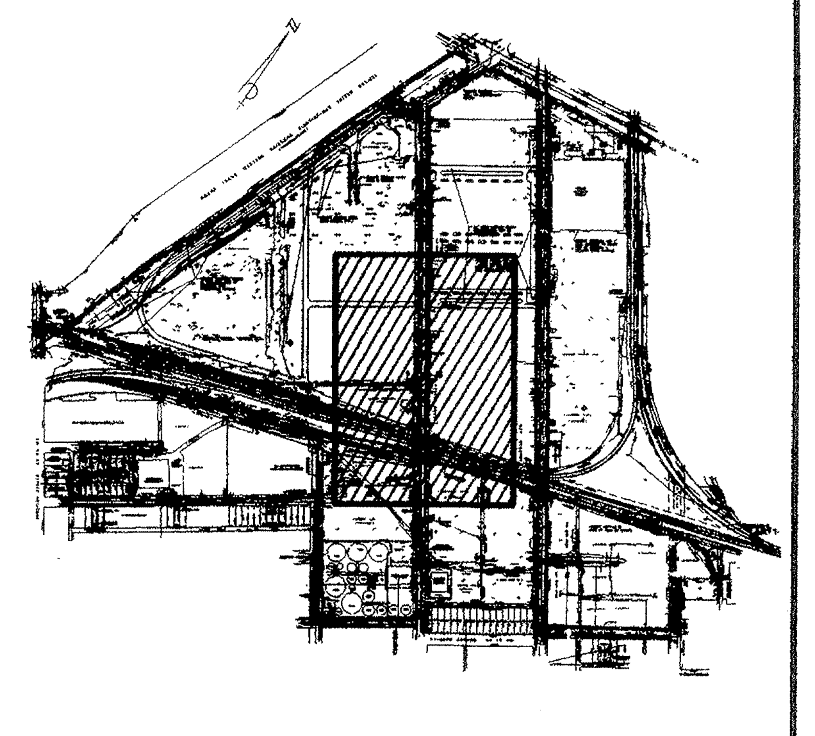
PROFILE - CLARK AVE.
@ EDGE OF PAVEMENT (TYPICAL N.S. & F.S.)
HOR SCALE: 1 = 500
VERT SCALE: 1 = 50

LAYOUT LEGEND

BITUMINOUS PAVEMENT RESURFACING	▥
BITUMINOUS PAVEMENT REPLACEMENT	▨
PROPOSED CATCH BASIN AND SEWER	■—
ADJUST EXISTING CATCH BASIN	Ⓐ
ADJUST EXISTING MANHOLE OR HANDHOLE	Ⓑ
CONSTRUCT CATCH BASIN	Ⓒ
CONSTRUCT MANHOLE	Ⓓ
ABANDON EXISTING CATCH BASIN	Ⓔ
STONING AND GRADING	Ⓢ
CONSTRUCT STANDARD 150 mm CONCRETE SIDEWALK	Ⓩ

QUANTITIES THIS SHEET

EXCAVATION, EARTH	600 cubic meters



KEY PLAN

JJR
JJR Incorporated
110 Miller Avenue
Ann Arbor, Michigan 48104
734.662.4457
734.662.7520

MDOT
Michigan Department of Transportation

CLARK AVE. - PLAN & PROFILE

DATE	SCALE	CONT. SEC.	JOB NO.	DESIGN UNIT	SHEET NO.	
07/28/00	1:500	EDA82522	52624A		24	44

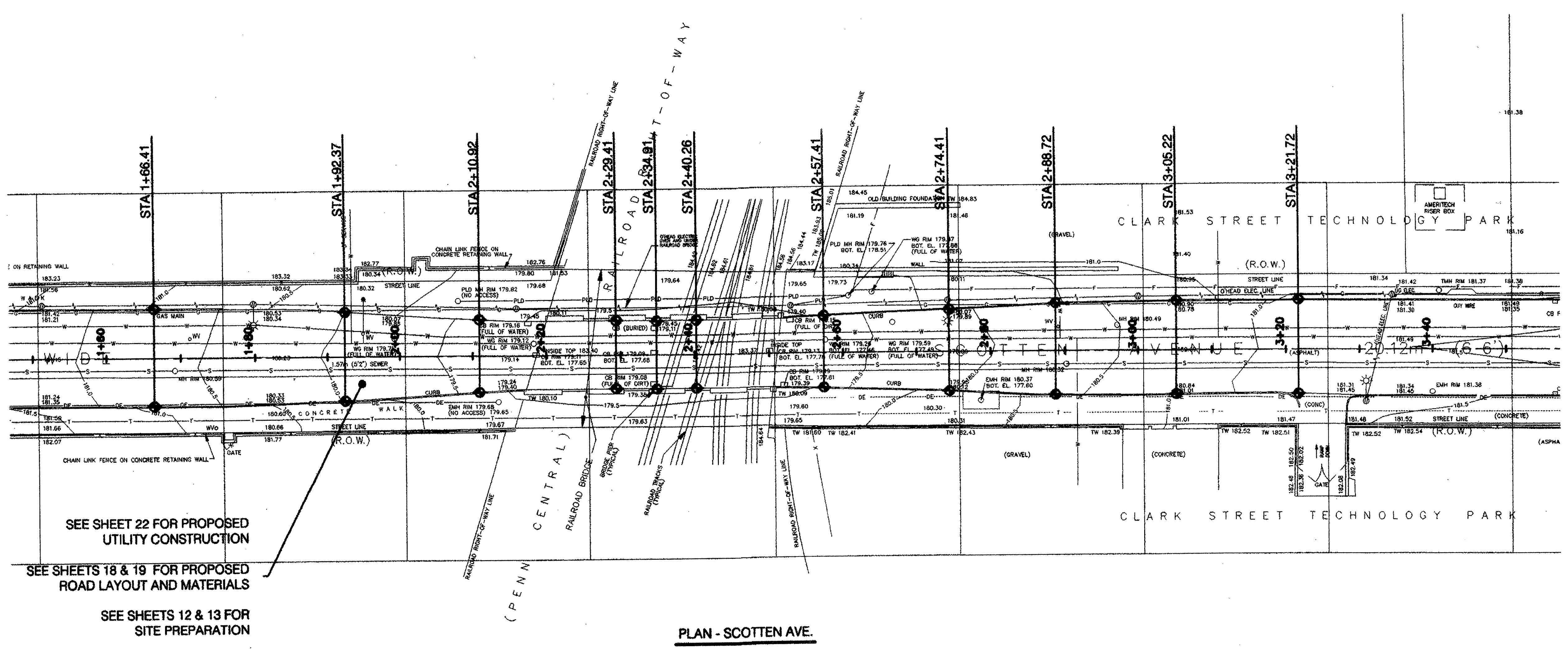
SECTION EDA82522 NO. 52624A NO. 25

EXISTING BY:
PROPOSED BY:
LAST CORRECTION BY:

DATE:
DATE:
DATE:

FILE NAME: P:\23611\00\CAD\SCOTTEN2.DWG

FINAL R.O.W.			
AUTH	DATE	NO.	REVISION

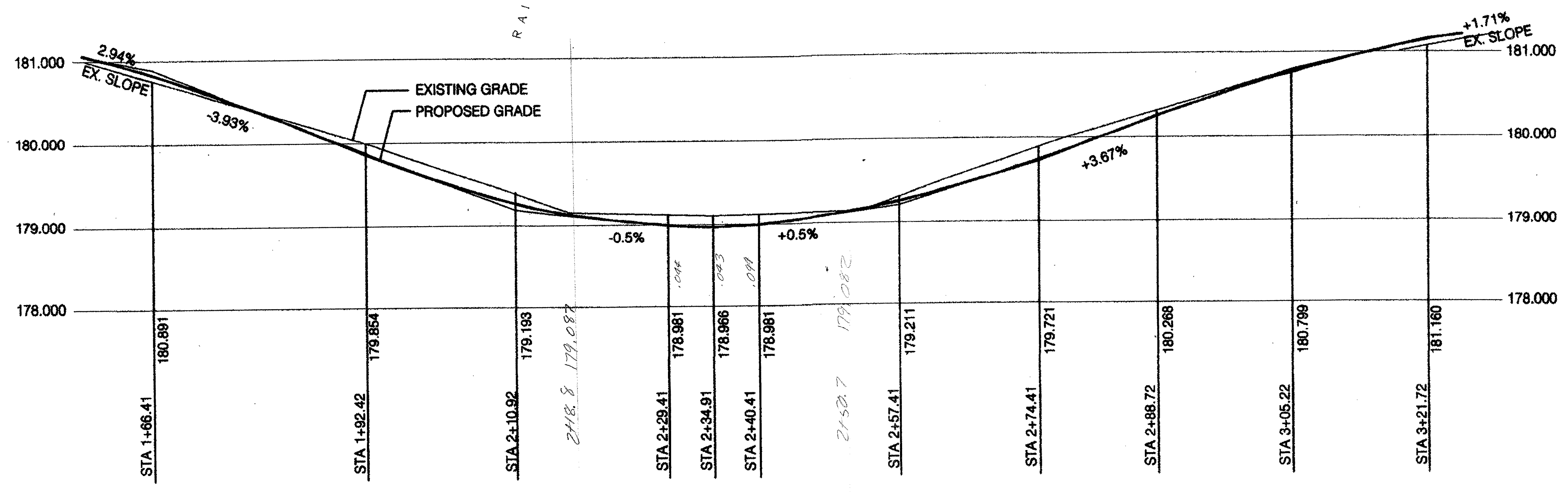

STA 1+66.41
STA 1+92.37
STA 2+10.92
STA 2+29.41
STA 2+34.91
STA 2+40.26
STA 2+57.41
STA 2+74.41
STA 2+88.72
STA 3+05.22
STA 3+21.72
CLARK STREET TECHNOLOGY PARK
SCOTTEN AVENUE
(R.O.W.)
RAILROAD RIGHT-OF-WAY
RAIL (PENN CENTRAL)
RAILROAD BRIDGE
CHAIN LINK FENCE ON CONCRETE RETAINING WALL
STREET LINE
(GRAVEL)
(CONCRETE)

SEE SHEET 22 FOR PROPOSED UTILITY CONSTRUCTION

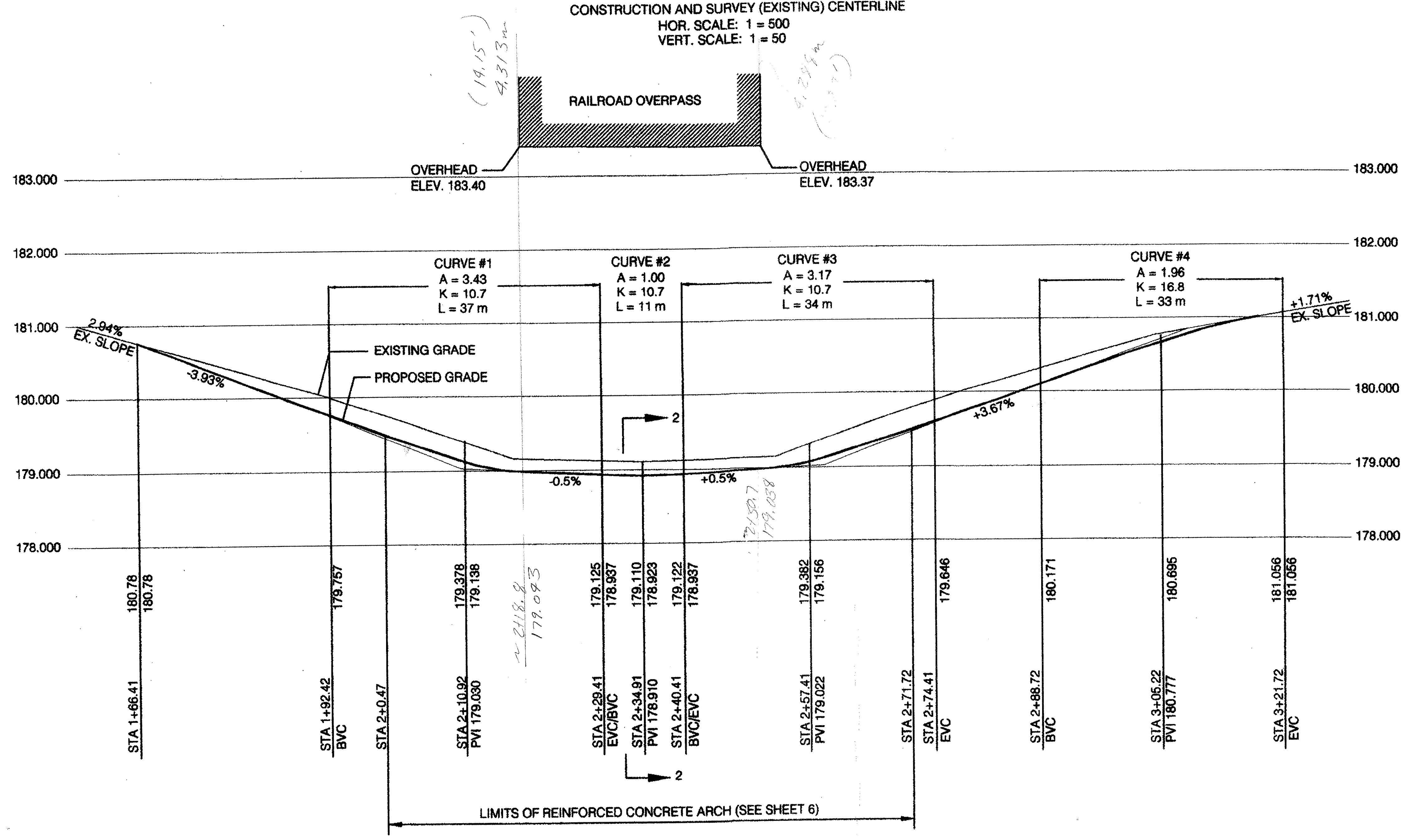
SEE SHEETS 18 & 19 FOR PROPOSED ROAD LAYOUT AND MATERIALS

SEE SHEETS 12 & 13 FOR SITE PREPARATION

PLAN - SCOTTEN AVE.

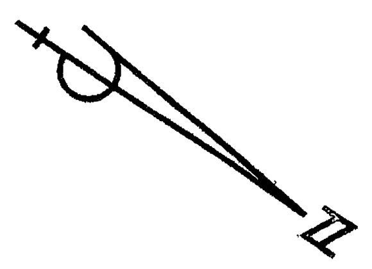

181.000
180.000
179.000
178.000
2.94%
EX. SLOPE
-3.93%
EXISTING GRADE
PROPOSED GRADE
-0.5%
+0.5%
+3.67%
+1.71%
EX. SLOPE
180.891
179.854
179.193
178.981
178.966
178.981
179.211
179.721
180.288
180.799
181.160
STA 1+66.41
STA 1+92.42
STA 2+10.92
STA 2+29.41
STA 2+34.91
STA 2+40.41
STA 2+57.41
STA 2+74.41
STA 2+88.72
STA 3+05.22
STA 3+21.72
2+18.8 179.097
2+58.7 179.082

PROFILE - SCOTTEN AVE.
CONSTRUCTION AND SURVEY (EXISTING) CENTERLINE
HOR. SCALE: 1 = 500
VERT. SCALE: 1 = 50


(14.15')
4.313 m
RAILROAD OVERPASS
OVERHEAD ELEV. 183.40
OVERHEAD ELEV. 183.37
183.000
182.000
181.000
180.000
179.000
178.000
CURVE #1
A = 3.43
K = 10.7
L = 37 m
CURVE #2
A = 1.00
K = 10.7
L = 11 m
CURVE #3
A = 3.17
K = 10.7
L = 34 m
CURVE #4
A = 1.96
K = 16.8
L = 33 m
2.94%
EX. SLOPE
-3.93%
EXISTING GRADE
PROPOSED GRADE
-0.5%
+0.5%
+3.67%
+1.71%
EX. SLOPE
2
180.78
180.78
179.757
179.378
179.138
179.125
178.937
179.110
178.923
179.122
178.937
179.382
179.156
179.646
180.171
180.695
181.056
181.056
STA 1+66.41
STA 1+92.42 BVC
STA 2+0.47
STA 2+10.92 PVI 179.030
2+18.8 179.093
STA 2+29.41 EVC/BVC
STA 2+34.91 PVI 178.910
STA 2+40.41 BVC/EVC
2+58.7 179.084
STA 2+57.41 PVI 179.022
STA 2+71.72 EVC
STA 2+74.41 EVC
STA 2+88.72 BVC
STA 3+05.22 PVI 180.777
STA 3+21.72 EVC

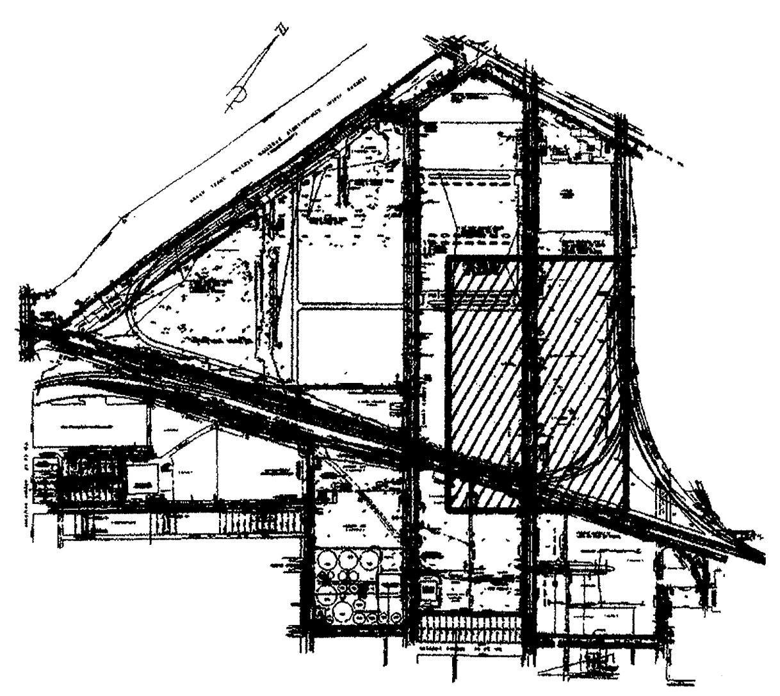
LIMITS OF REINFORCED CONCRETE ARCH (SEE SHEET 6)

PROFILE - SCOTTEN AVE.
@ EDGE OF PAVEMENT (TYPICAL N.S. & F.S.)
HOR. SCALE: 1 = 500
VERT. SCALE: 1 = 50



QUANTITIES THIS SHEET

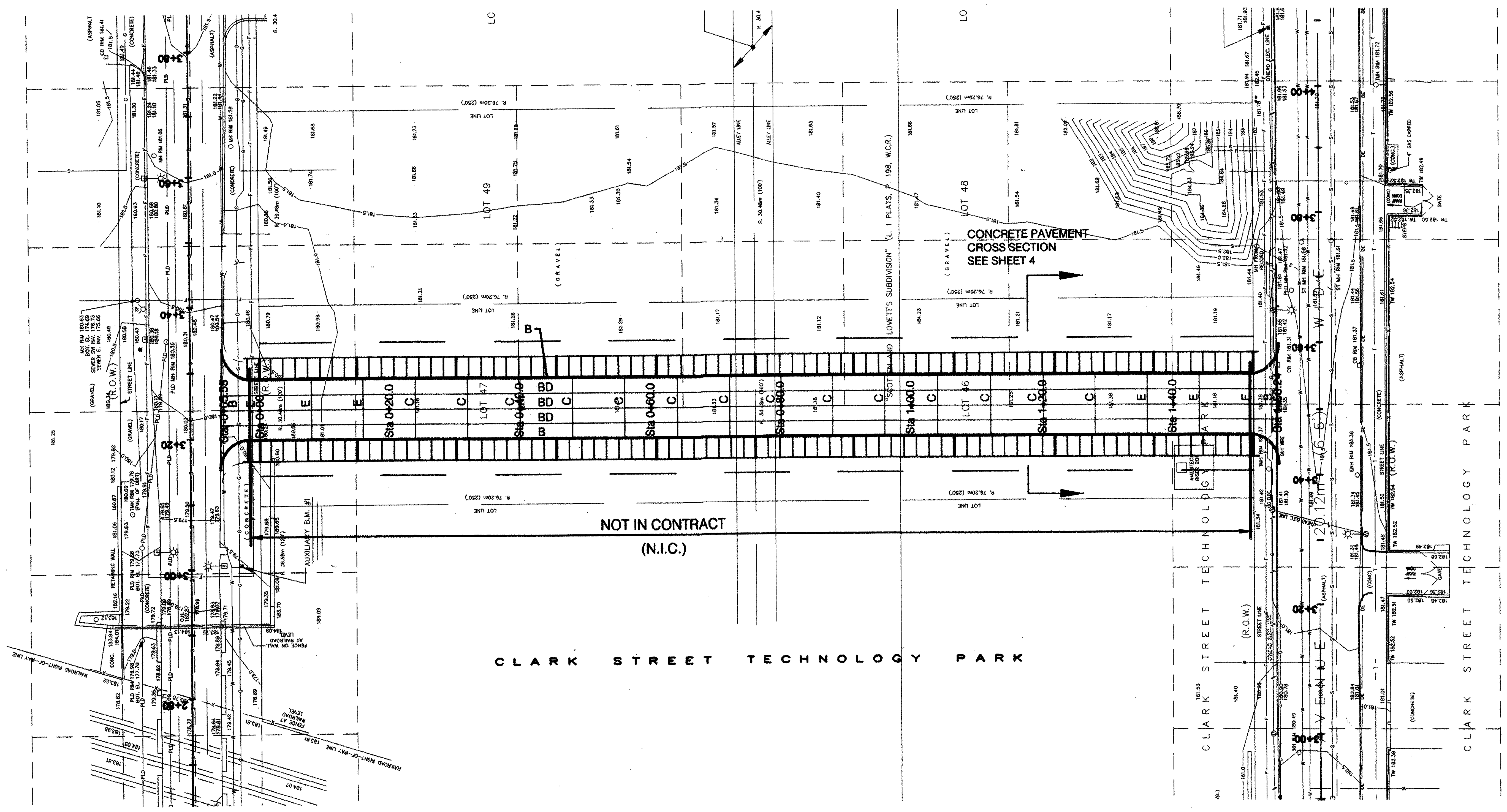
EXCAVATION, EARTH	600 cubic meters



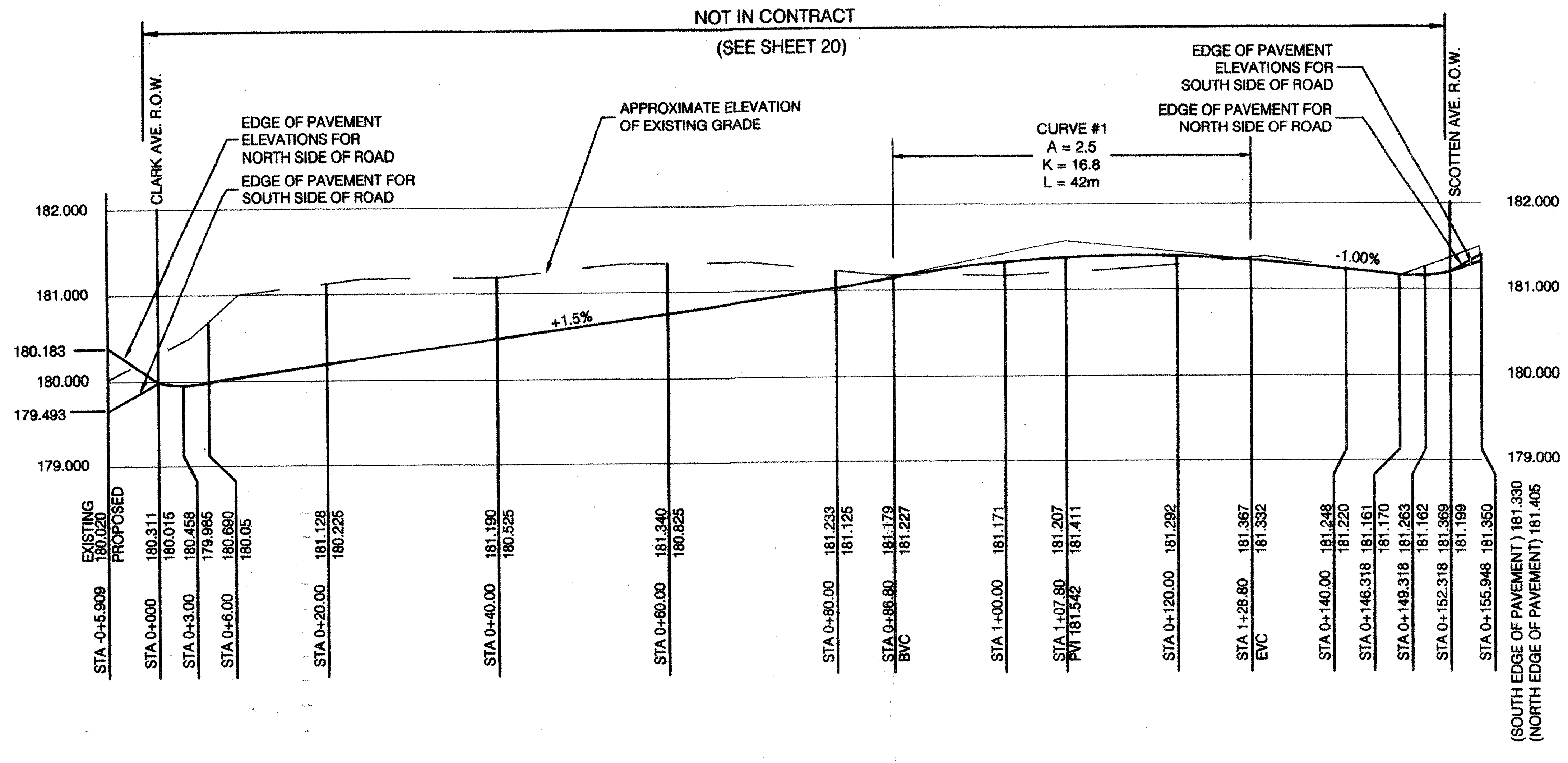
JJR
JJR Incorporated
110 Miller Avenue
Ann Arbor, Michigan 48104
734.662.4457
734.662.7520

SCOTTEN AVE. - PLAN & PROFILE

DATE	SCALE	CONT. SEC.	JOB NO.	DESIGN UNIT	SHEET NO.	
07/28/00	1:500	EDA82522	52624A		25	44

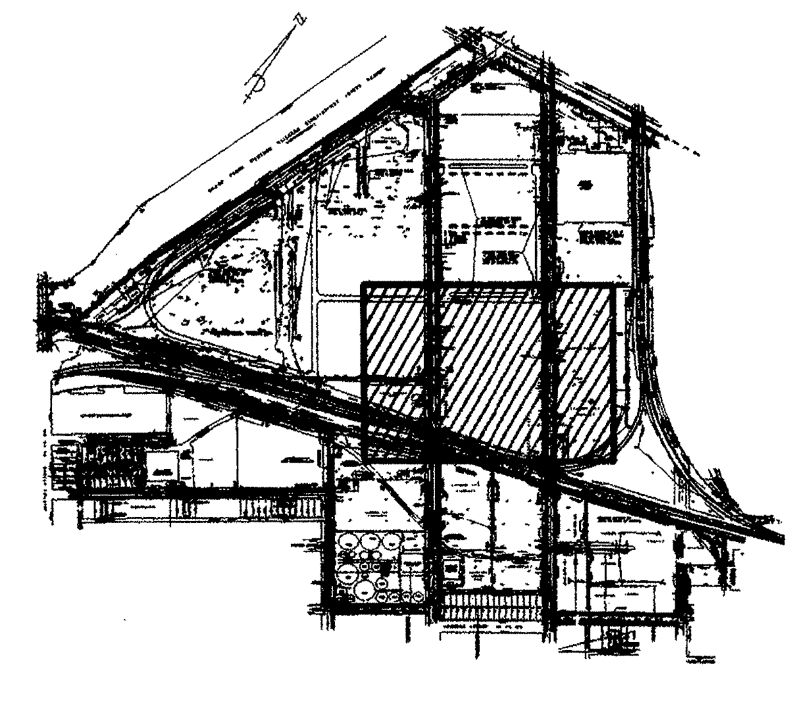

CONCRETE PAVEMENT
CROSS SECTION
SEE SHEET 4
NOT IN CONTRACT
(N.I.C.)
CLARK STREET TECHNOLOGY PARK
LOT 49
LOT 48
LOT 47
LOT 46
B
BD
C
D
E
(R.O.W.)

CONNECTOR ROAD - PLAN



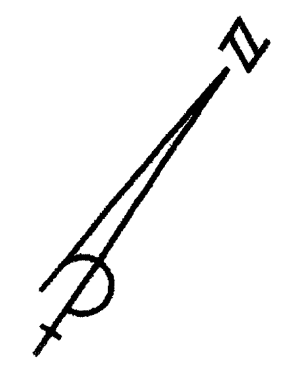
CONNECTOR ROAD - PROFILE

@ EDGE OF PAVEMENT (TYPICAL)



KEY PLAN

FINAL R.O.W.			
AUTH	DATE	NO.	REVISION



LEGEND

LONGITUDINAL BULKLOAD CONSTRUCTION JOINT	B
OPTIONAL BOLD JOINT	BD
TRANSVERSE CONTRACTION JOINT FOR CONCRETE PAVEMENT	C
LONGITUDINAL LANE TIE JOINT	D
25 mm TRANSVERSE EXPANSION JOINT WITH LOAD TRANSFER DEVICE	E

QUANTITIES THIS SHEET

EXCAVATION, EARTH	5 cubic meters
EMBANKMENT, CIP	5 cubic meters

JJR
JJR Incorporated
110 Miller Avenue
Ann Arbor, Michigan 48104
✆734.662.4457
734.662.7520

CONNECTOR ROAD - PLAN & PROFILE

DATE	SCALE	CONT. SEC.	JOB NO.	DESIGN UNIT	SHEET NO.	
07/28/00	1:500	EDA82522	52624A		26	44

EXISTING BY: DATE:
PROPOSED BY: DATE:
LAST CORRECTION BY: DATE:

FILE NAME:

AUTH	DATE	NO.	FINAL R.O.W. REVISION

DATE:
DATE:
DATE:

EXISTING BY:
PROPOSED BY:
LAST CORRECTION BY:

FILE NAME: P:\2361\00\CAD\DETAIL2.DWG

AS PER PLANS

ITEMS	SHEET NO.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
	TOTALS	UNITS							CLARK / SCOTTEN AVE DETOUR	CLARK AVE SITE PREP	CLARK AVE SITE PREP	CLARK AVE SITE PREP	SCOTTEN AVE SITE PREP	SCOTTEN AVE SITE PREP	SCOTTEN AVE SITE PREP	CLARK AVE LAYOUT	CLARK AVE LAYOUT	CLARK AVE LAYOUT	SCOTTEN AVE LAYOUT	SCOTTEN AVE LAYOUT	SCOTTEN AVE LAYOUT	CONNECTOR RD LAYOUT	CLARK AVE UTILITY PLAN	SCOTTEN AVE UTILITY PLAN	CONNECTOR RD UTILITY PLAN	CLARK AVE PLAN & PROFILE	SCOTTEN AVE PLAN & PROFILE	CONNECTOR RD PLAN & PROFILE				GENERAL PLAN	GENERAL PLAN													
Tree, Rem, 200 to 450 mm	17	ea								8	9																																		
Drainage Structure, Abandon	3	ea												3																															
Curb, Rem	1817	m								260	411	162	222	475	287																														
Fence, Rem	375	m											175	200																															
Masonry and Conc. Structure, Rem	93	m3									3		42	48																															
Pavement, Rem	3700	m2								127	1608	131		1314	520																														
Sidewalk, Rem	9368	m2								1167	2768	772	659	2781	1221																														
Embankment, CIP	5	m3																										5																	
Excavation, Earth	1205	m3																								600	600	5																	
Aggregate Base, 100 mm	3664	m2															1408			1166	543	1742																							
Sewer, Class CL C 76M IV, 300 mm, Tr Det B	58	m																						27	31																				
Sewer Tap, 300 mm	8	ea																						6	2																				
Sewer Cleanout, Non-participating	19	m																					19																						
Cleaning Dr Structure, Non-participating	8	ea																					4	4																					
Dr Structure Cover, Adj, Case 1	49	ea														16	25	1		6	1																								
Dr Structure Cover, Adj, Case 2	9	ea															7			2																									
Standard Manhole	2	ea																							2																				
Catch Basin "A"	2	ea																							2																				
Catch Basin "B"	2	ea																						2																					
Catch Basin "BT"	4	ea																							4																				
Reconstructing Dr Structure, Case 1	3	ea														1	1			1																									
Reconstructing Dr Structure, Case 2	1	ea																	1																										
Structure Cover	2120	kg																						264	1856																				
Cold Milling Bit Surface	7576	m2								4184	2531	736			125																														
Hand Patching	70	t																	12	38	20																								
Bit Mixture No. 1100L, 20AA	720	t														392	250	66			12																								
Bit Mixture No. 1100T, 20AA	688	t														375	238	63			12																								
Conditioning Existing Pavement	30	t														16	10	3			1																								
Cement	8	t															3	2		3																									
Conc Pavt, Reinf, 240 mm	2716	m2															1221			1011	484																								
Conc Pavt, Misc, Nonreinf, 200 mm	270	m2															45	35		100	90																								
Pavt Repr, Rem	752	m2								418	260	74																																	
Saw Cut, Intermediate	500	m								275	175	50																																	
Pavt Repr, Nonreinf Conc, 260 mm	752	m2								418	260	74																																	
Steel Structure, Cleaning, Type 4	1	LS																																											
Steel Structure, Coating, Type 4	1	LS																																											
Curb, Conc, Det E2	90	m														90																													
Concrete Curb (Raised)	152	m																		72	80																								
Integral Curb and Walk, 610 mm	1956	m														214	221	204	220	713	384																								
Handrail	160	m																		80	80																								
Sidewalk Conc, 100 mm	7576	m2														511	1936	731	526	1950	965	957																							
Sidewalk Ramp - Modified	99	m2															12	12	6	36	12	21																							
Pavt Mrkg, Overlay Cold Plastic, 100 mm, Yellow	263	m														78	90	15		28	12	40																							
Pavt Mrkg, Overlay Cold Plastic, 600 mm, Stop Bar	10	m														10																													
Pavt Mrkg, Overlay Cold Plastic, 150 mm, Crosswalk	30	m														30																													
Warning Sign	5	ea														1	2			2																									
Water Main, DI, 203 mm, Tr Det G	161	m												110	35								16																						
Water Main, DI, 305 mm, Tr Det G	46	m																					46																						
Water Main, DI, 406 mm, Tr Det G	145	m												110	35																														
Clark Avenue Sewer Encasement	1	LS																																											
Scotten Avenue Sewer Encasement	1	LS																																											
Wing Wall Restoration at Clark Ave. Overpass	1	LS																																											
Scotten Ave. Wall Removal	1	LS																																											
Railroad Traffic Operator	1	LS																																											
Conduit, Encased, 2, 75 mm	20	m																														20													
Encased Conduit, 9 125 mm	103	m																															103												
Modify Manhole	2	ea																															2												
St. Ltg. Cable, 2KV. 2, 1/C #2 & 1, #2 Neutral	110	m																															110												
Transmission Cable 24KV. 1-3/C 350mcm P.I.L.C.P.J.	440	m																															440												
Lighted Arrow, Type C - Furn.	8	ea							8																																				
Lighted Arrow, Type C - Oper.	8	ea							8																																				
Pavement for Butt Joints, Rem.	100	m2								100																																			
Water Shutoff, ADJ.	13	ea														4	2	1		3	3																								
Subgrade Undercutting, Type II	70	m3															40			30																									
Granular Material Class II	246	m3														15	83	15	16	90	27																								
Rem Hydrant-Method I	1	ea									1																																		
Rem Hydrant-Method II	1	ea												1																															
Lane Tie, Epoxy Anchored	750	ea															324	120		230	76																								

JJR
JJR Incorporated
110 Miller Avenue
Ann Arbor, Michigan 48104
734.662.4457
734.662.7520

QUANTITY SHEET (Sheets 1 - 44)

DATE	SCALE	CONT. SEC.	JOB NO.	DESIGN UNIT	SHEET NO.	
07/28/00	N/A	EDA82522	52624A		27	44

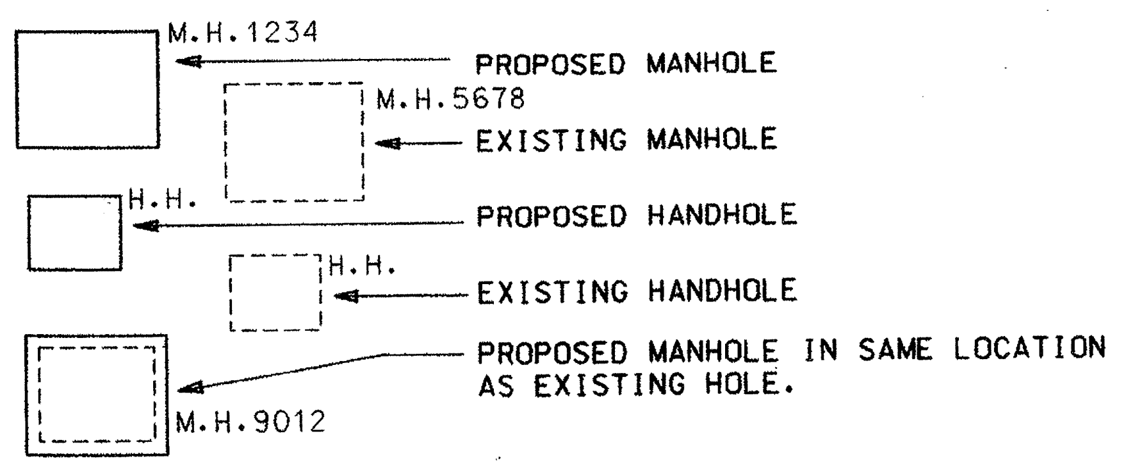
LEGEND SHEET

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 SHOW)
- 6-130mm E.C. BUILD ENCASED CONDUIT (E.C.) (NO. AND SIZE WILL BE SHOWN)
- 2-75mm D.B. INSTALL DIRECT BURIAL CONDUIT (D.B.) (NO. AND SIZE WILL BE SHOWN)
- 2-100mm J.B. / 2-100mm 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 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 009-006 ST. LTG. UNIT ON NEW FDN. INSTALL 250W. SODIUM VAPOR TYPE II (480V.) LUMINAIRE & 1830mm CLAMP-ON BRACKET ARM (915mm RISE)
- SALVAGED UNDERGROUND-FED ST. LTG. UNIT ON NEW FOUNDATION.

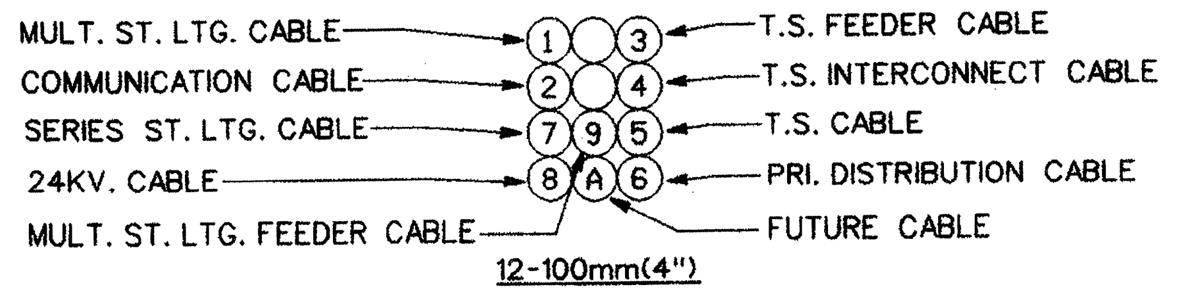
DIAGRAMS

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



- 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 INDICATES NEW ST. LTG. STANDARD NUMBER
- POR. 24-26 INDICATES OLD ST. LTG. STANDARD NUMBER
- ① SECTION OF PROP. CONDUIT WITH PROP. CABLE
- ⊗ SECTION OF EXIST. CONDUIT WITH EXIST. CABLE
- 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")



12-100mm(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

- INSTALL OVERHEAD ALLEY LTG. UNIT. WITH 1.83m BRACKET ARM.
- INSTALL OVERHEAD RESIDENTIAL LTG. (4.88m ARM WITH TYPE I 4-WAY LUMINAIRE SHOWN)
- INSTALL OVERHEAD RESIDENTIAL LTG. UNIT (3.048m. ARM WITH TYPE II 2-WAY LUMINAIRE SHOWN)
- EXISTING WOOD POLE (AMERITECH POLE SHOWN)
- REMOVE WOOD POLE (P.L.D. POLE SHOWN)
- REPLACE WOOD POLE (HEIGHT & CLASS AS INDICATED)
- INSTALL WOOD POLE (HEIGHT & CLASS AS INDICATED) (USE SALVAGED POLE WHERE INDICATED)
- EXISTING OVERHEAD ST. LTG. UNIT
- REMOVE OVERHEAD ST. LTG. UNIT (D.E. CO. POLE SHOWN)
- 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
- 10mm INSTALL GUY AND ANCHOR (10mm GUY UNLESS OTHERWISE NOTED)
- REMOVE GUY AND ANCHOR ROD
- 10mm P INSTALL POLE GUY (10mm GUY UNLESS OTHERWISE NOTED)
- 6mm A INSTALL ARM GUY (6mm 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
- Ⓒ INSTALL SUSPENSION INSULATOR
- EXISTING / PROPOSED C P.L.D. DISTRIBUTION WIRE
- EXISTING / PROPOSED CS P.L.D. SECONDARY WIRE
- EXISTING / PROPOSED A P.L.D. SERIES ST. LTG. WIRE
- EXISTING / 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 EXISTING SEWER LINE, MANHOLE AND CATCH BASIN
- E EXISTING DETROIT EDISON UNDERGROUND LINE AND MANHOLE
- T EXISTING AMERITECH TELEPHONE UNDERGROUND LINE AND MANHOLE
- G EXISTING GAS LINE AND MANHOLE
- W EXISTING WATER LINE AND HANDHOLE
- P X EXISTING DETROIT PUBLIC LIGHTING UNDERGROUND LINE AND HANDHOLE.
- STM EXISTING DETROIT EDISON UNDERGROUND STEAM LINE
- 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

TRAFFIC SIGNAL

- 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

PLAN INDEX	
DRWG.NO.	SUB-TITLE
37	LEGEND
38	GENERAL INFORMATION
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41-48	DETAILS

CONTRACTOR TO FURNISH AND INSTALL ALL MATERIALS

002

REVISIONS	Date	Description	Chkd. by

IMPROVEMENT OF TRAFFIC SIGNALS
ST. LTG. AT CLARK TECH PARK 2
LEGEND

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 1324-01
Job File No. CEA 132400

Metric Scale
Checked by
Approved by

PUBLIC LIGHTING DEPARTMENT
CITY OF DETROIT

File No. --------
Sheet No. 28 of 44
Date 4-26-00

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.

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.

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.

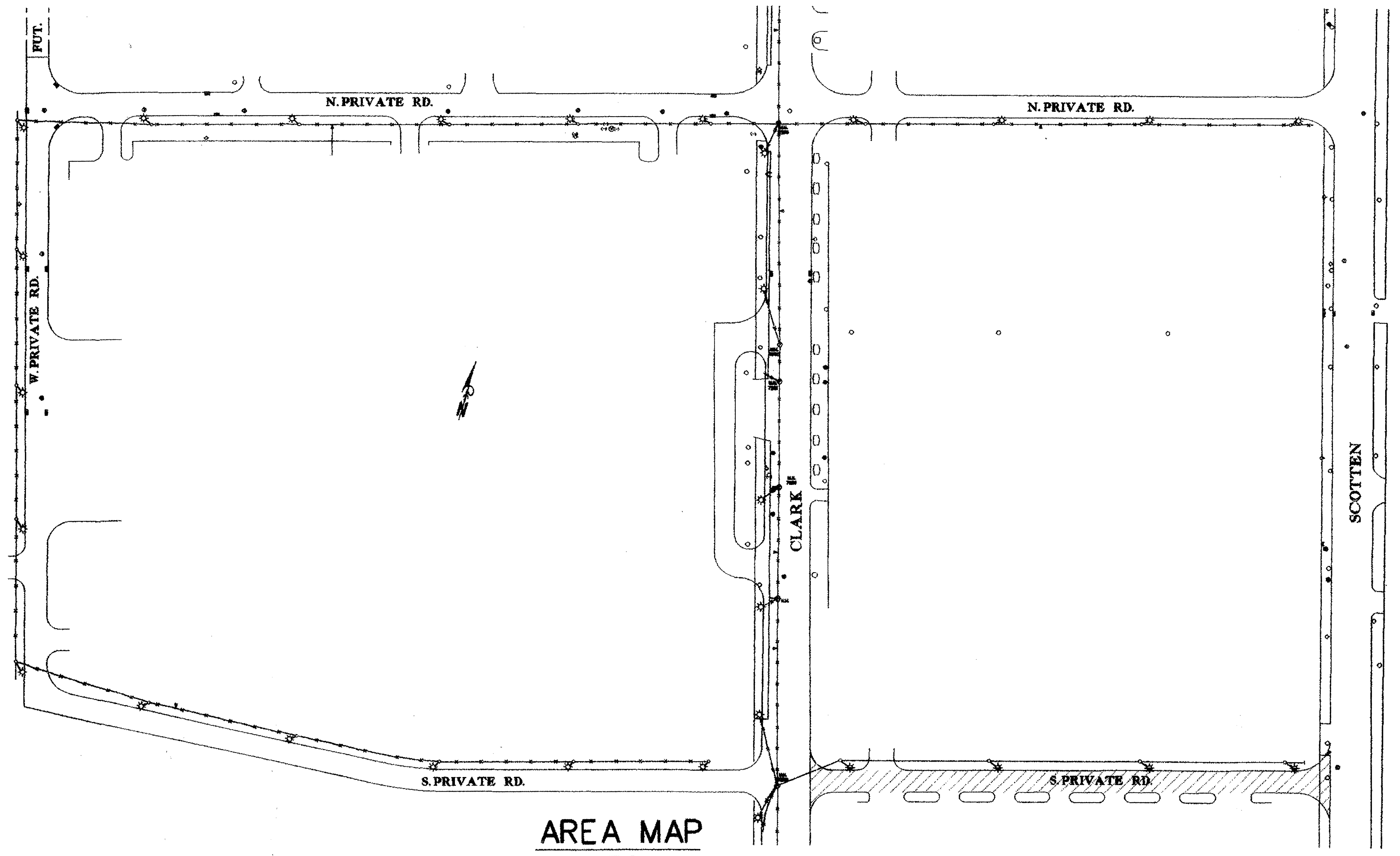
52. CONDUIT TRENCHES SHALL BE EXCAVATED FROM MANHOLE TO MANHOLE TO ASSURE A CLEAR PASSAGE WITH PROPER GRADING PRIOR TO BUILDING ENCASED CONDUIT RUN.

ITEM	
LIST OF MATERIAL	QUANTITIES
CONDUIT REPAIR-UNDER SIDEWALK OR DIRT	1 EA.
CONDUIT REPAIR-UNDER PAVEMENT	1 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.

003

REVISIONS	Date	Description	Chkd. by

IMPROVEMENT OF TRAFFIC SIGNALS
ST. LTG. AT CLARK TECH PARK 2
GENERAL INFORMATION

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 1324-02
Job File No. CEA 132400
Metric Scale
Checked by
Approved by

PUBLIC LIGHTING DEPARTMENT
CITY OF DETROIT

File No. --------
Sheet No. 29 of 44
Date 4-26-00

TOP
9-100mm
N. PRIVATE RD.
A1-11
B1-12
A1-10
B1-11
A1-9
B1-10
A1-7
B1-8
A1-8
B1-9
TOP
2-75mm TYP.
M.H. 7263
A1
B1
M.H. 7262
A1
M.H. 7261
B-1
B1
M.H. 7260
A-1
A1
H.H.
B1
M.H. 7259
A1
CLARK
SCOTTEN
W. PRIVATE RD.
B1-7
A1-6
B1-6
A1-5
B1-5
A1-4
B1-4
A1-3
B1-3
FUTURE S. PRIVATE RD.
SEE NOTE 1 THIS SHEET
11m
46m
45m
12m
A1-1
B1-1
A1-2
B1-2
1-75mm D.B. TO LTG. UNIT (TYP.)
2-75mm E.C.
2-75mm D.B.
S. PRIVATE RD.
PLUG 2-75mm 1m E. OF LTG. UNIT
N
FEET
0
20
40
60
80
100
0
10
20
30
METERS
SCALE: 500

ALL ST. LTG. UNITS SHALL BE 1.3m BACK OF CURB.

ENGINEER, P.L.D., & OWNER SHALL STAKE OUT ALL ST. LTG. UNIT LOCATIONS PRIOR TO FOUNDATION EXCAVATION.

NOTES:

1. BREAK NEW CONDUITS INTO EXIST. MANHOLE OR HANDHOLE AS SHOWN. CO-ORDINATE WITH M. LASKOWSKI (313-267-7306) CAUTION - LIVE CABLES!

THIS SHEET IS NOT PART OF THIS CONTRACT

LIST OF MATERIAL

NO.	ITEMS	QUANTITIES		CODE NO.
①	Hh, Round	4	ea	8190347
②	St Ltg Unit, Code 009-00	4	ea	8197050
③	St Ltg Unit, Code 009-00 FDN.	4	ea	8197050
④	Bracket Arm, 1830 mm, with 915 mm Rise, Clamp on	4	ea	8200448
⑤	Luminaire, 250W Sodium Varpor	4	ea	810600
	Conduit, Encased, 2, 75 mm	20	m	8190034
	Conduit, DB, 1, 75 mm	4	m	8190064
	Conduit, DB, 2, 75 mm	145	m	8190066
	St Ltg Cable, 2Kv, 1, 1/c *2 & 1, *2 Neutral	53	m	8190451
	St Ltg Cable, 2Kv, 2, 1/c *2 & 1, *2 Neutral	122	m	8190452
	St Ltg Cable, 2Kv, 1, 1/c *2	36	m	-------

PLAN
SCALE: 500

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

ST. LTG. AT CLARK TECH PARK 2

GENERAL PLAN

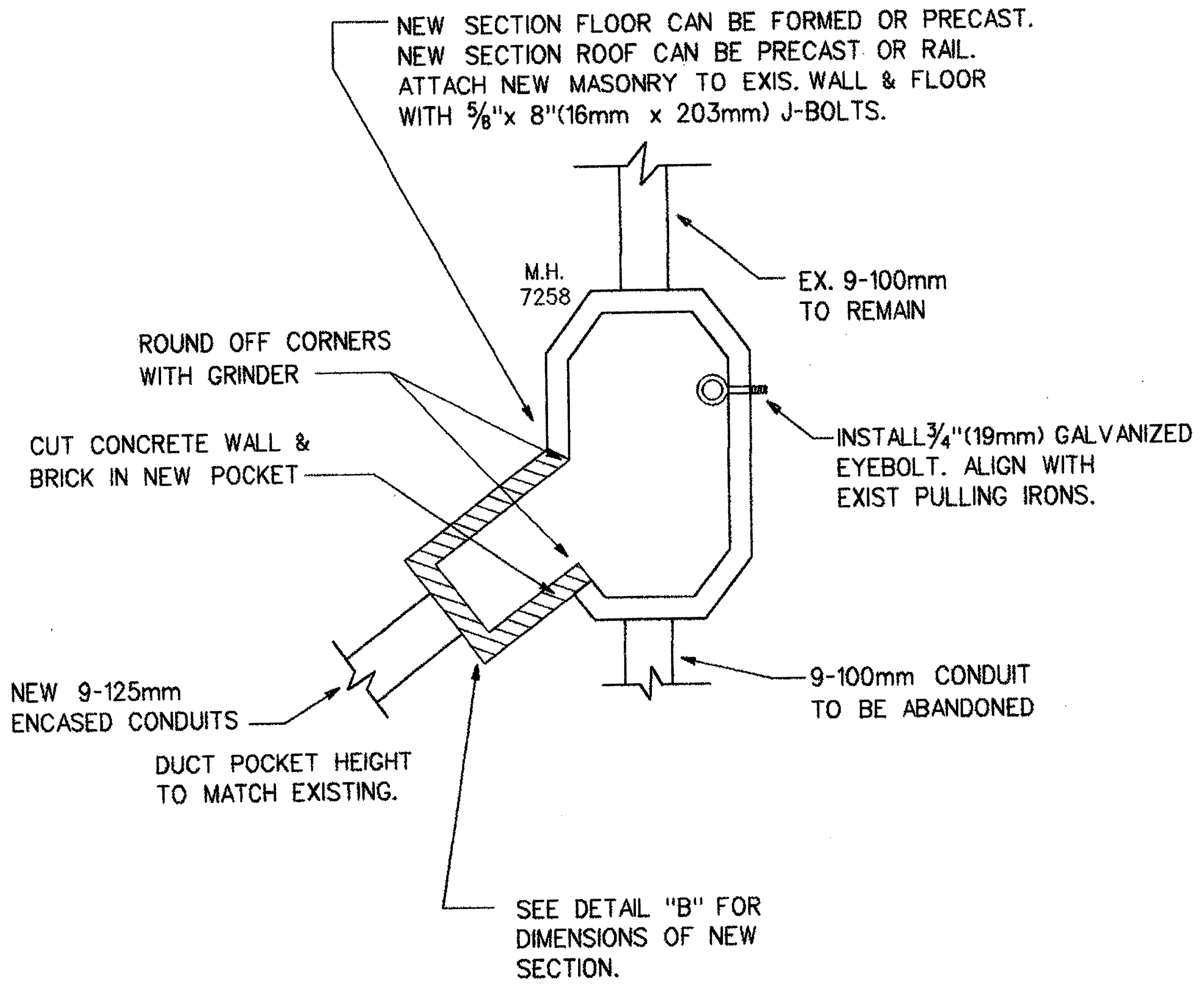
Designed by C.E.A.
Drawn by ---
Checked by ---

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

Disk File Name 1324-03
Job File No. CEA 132400
Metric Scale 500
Checked by
Approved by

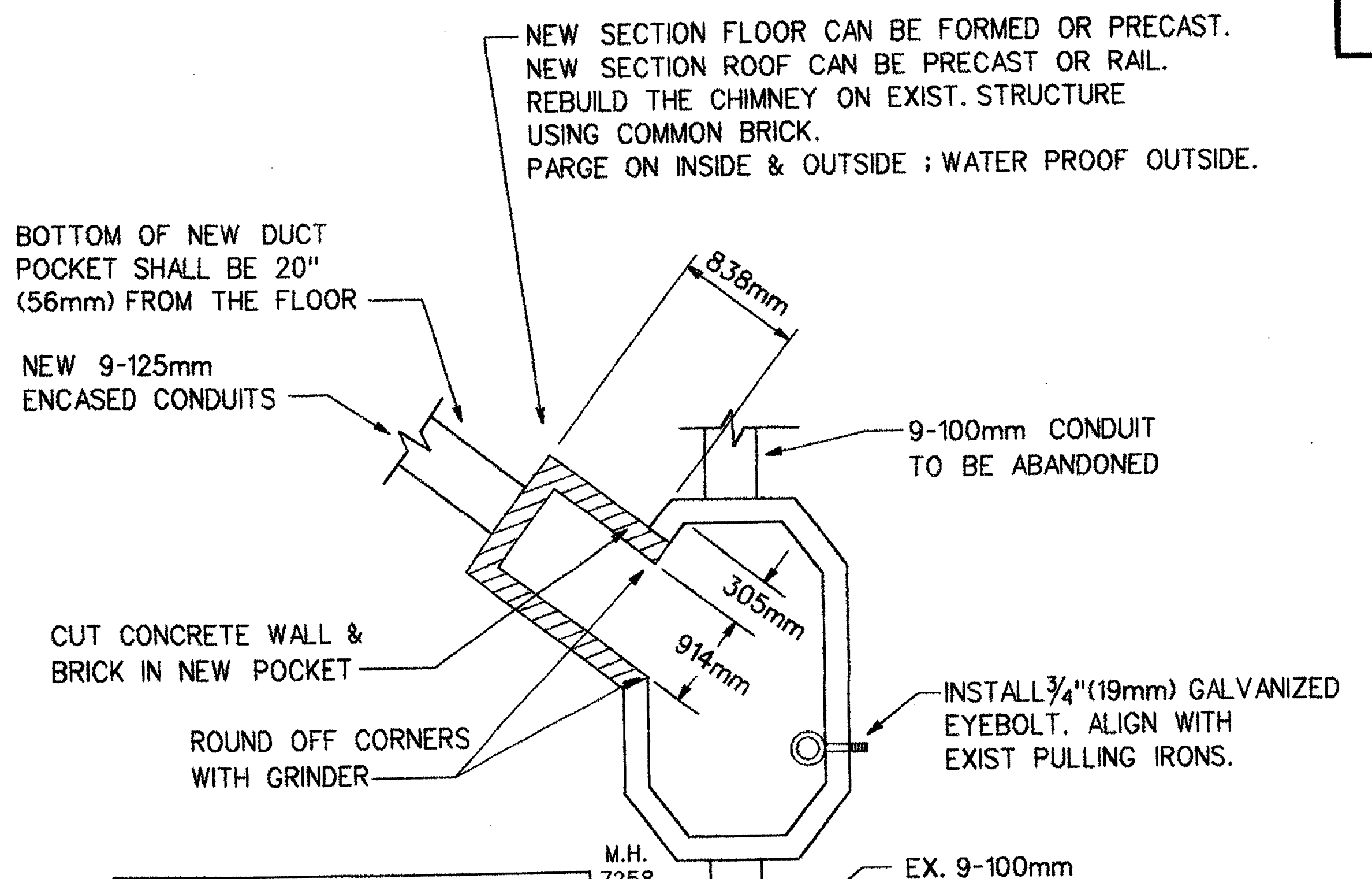
PUBLIC LIGHTING
DEPARTMENT
CITY OF DETROIT

File No. 51-0648
Sheet No. 30 OF 44
Date 4-26-00


NEW SECTION FLOOR CAN BE FORMED OR PRECAST.
NEW SECTION ROOF CAN BE PRECAST OR RAIL.
ATTACH NEW MASONRY TO EXIS. WALL & FLOOR WITH 5/8"x 8"(16mm x 203mm) J-BOLTS.
M.H. 7258
EX. 9-100mm TO REMAIN
ROUND OFF CORNERS WITH GRINDER
INSTALL 3/4"(19mm) GALVANIZED EYEBOLT. ALIGN WITH EXIST PULLING IRONS.
CUT CONCRETE WALL & BRICK IN NEW POCKET
NEW 9-125mm ENCASED CONDUITS
9-100mm CONDUIT TO BE ABANDONED
DUCT POCKET HEIGHT TO MATCH EXISTING.
SEE DETAIL "B" FOR DIMENSIONS OF NEW SECTION.

DETAIL "A"

N.T.S.


NEW SECTION FLOOR CAN BE FORMED OR PRECAST.
NEW SECTION ROOF CAN BE PRECAST OR RAIL.
REBUILD THE CHIMNEY ON EXIST. STRUCTURE USING COMMON BRICK.
PARGE ON INSIDE & OUTSIDE ; WATER PROOF OUTSIDE.
BOTTOM OF NEW DUCT POCKET SHALL BE 20" (56mm) FROM THE FLOOR
838mm
NEW 9-125mm ENCASED CONDUITS
9-100mm CONDUIT TO BE ABANDONED
305mm
914mm
CUT CONCRETE WALL & BRICK IN NEW POCKET
INSTALL 3/4"(19mm) GALVANIZED EYEBOLT. ALIGN WITH EXIST PULLING IRONS.
ROUND OFF CORNERS WITH GRINDER
M.H. 7258
EX. 9-100mm TO REMAIN

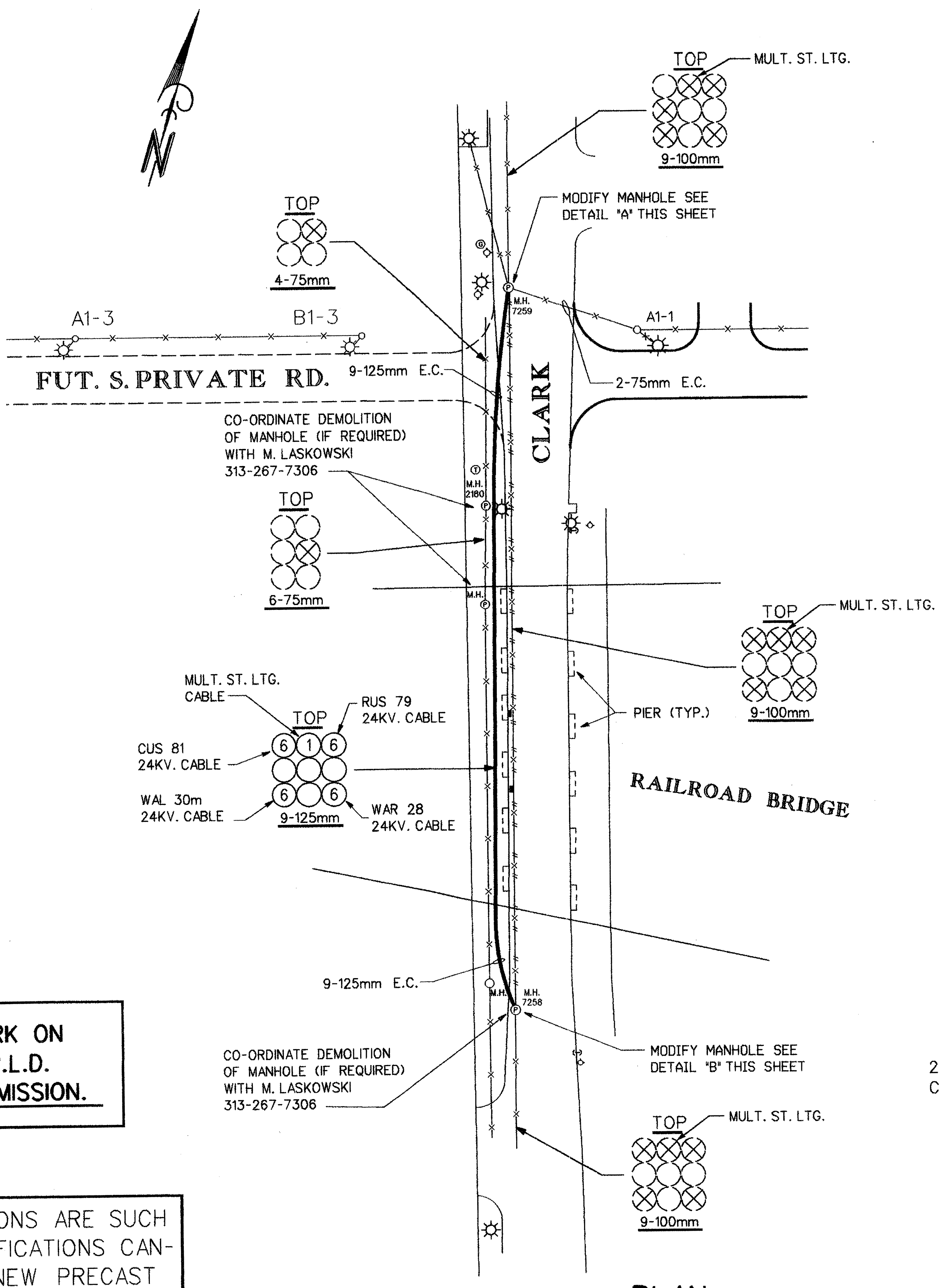
NOTE:
ATTACH NEW MASONRY TO EXIST. WALL & FLOOR WITH 5/8"x 8"(16mm x 203mm) J-BOLTS.
NEW BRICKS SHALL BE KEYED INTO EXIST.

DETAIL "B"

N.T.S.

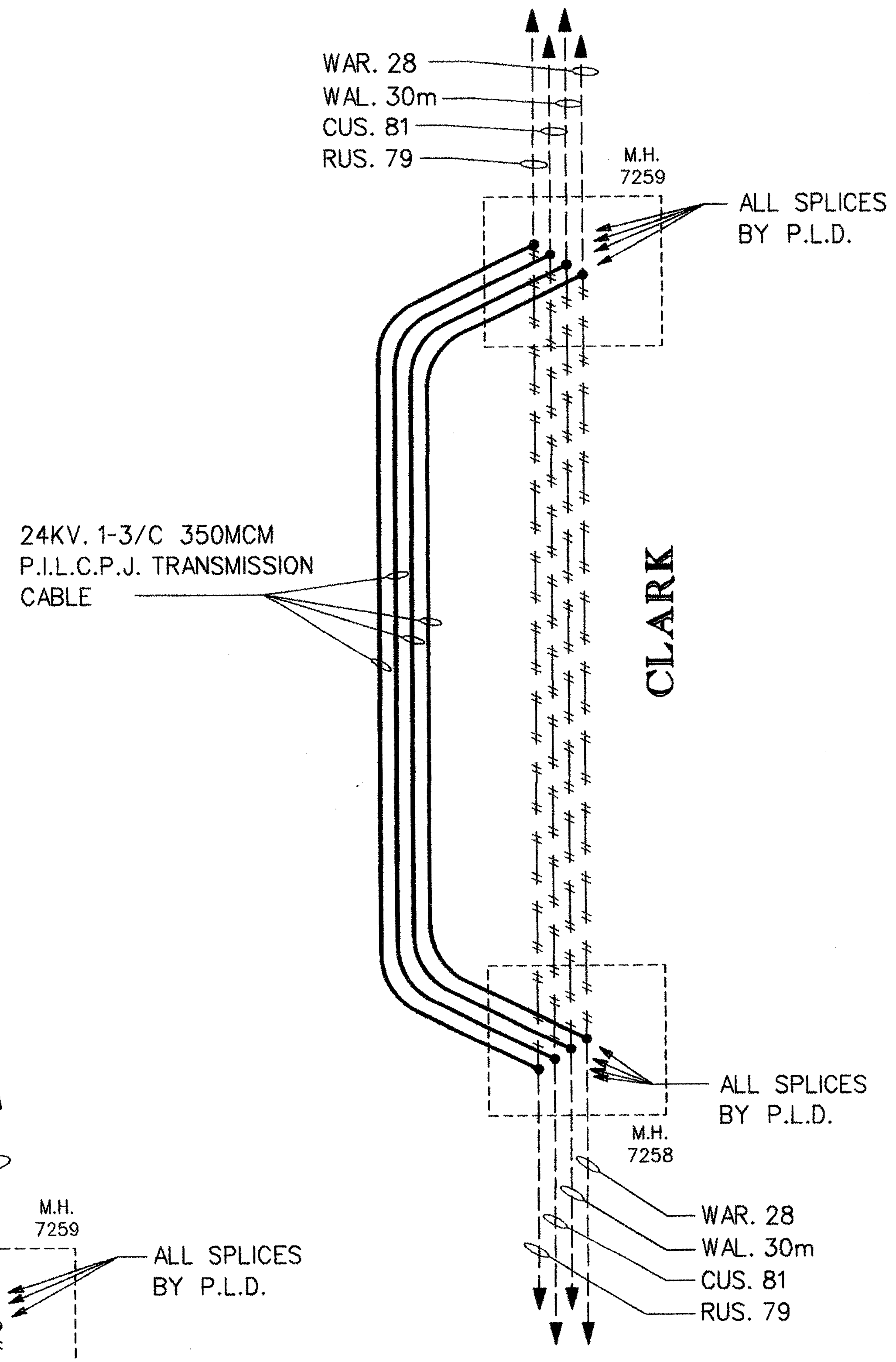
DO NOT START WORK ON THIS SHEET UNTIL P.L.D. GIVES WRITTEN PERMISSION.

IF FIELD CONDITIONS ARE SUCH THAT PLD SPECIFICATIONS CANNOT BE MET, A NEW PRECAST MANHOLE WILL BE REQUIRED AT THIS LOCATION.


N
TOP
MULT. ST. LTG.
9-100mm
TOP
4-75mm
MODIFY MANHOLE SEE DETAIL "A" THIS SHEET
A1-3
B1-3
A1-1
M.H. 7259
FUT. S. PRIVATE RD.
9-125mm E.C.
2-75mm E.C.
CLARK
CO-ORDINATE DEMOLITION OF MANHOLE (IF REQUIRED) WITH M. LASKOWSKI 313-267-7306
M.H. 2180
TOP
6-75mm
M.H.
TOP
MULT. ST. LTG.
9-100mm
MULT. ST. LTG. CABLE
TOP
RUS 79 24KV. CABLE
CUS 81 24KV. CABLE
6 1 6
6
6 6
WAL 30m 24KV. CABLE
9-125mm
WAR 28 24KV. CABLE
PIER (TYP.)
RAILROAD BRIDGE
9-125mm E.C.
M.H. 7258
MODIFY MANHOLE SEE DETAIL "B" THIS SHEET
CO-ORDINATE DEMOLITION OF MANHOLE (IF REQUIRED) WITH M. LASKOWSKI 313-267-7306
TOP
MULT. ST. LTG.
9-100mm

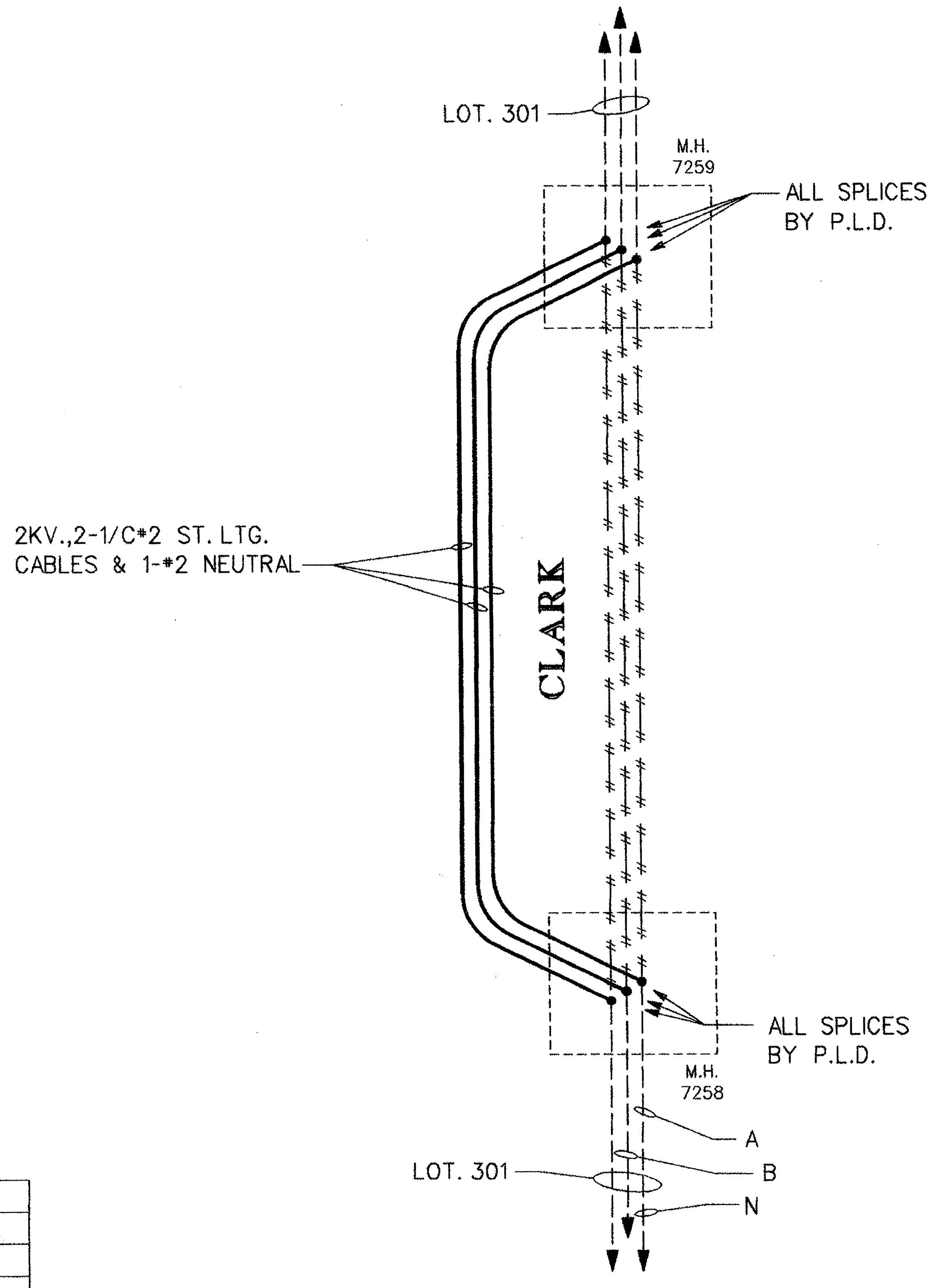
PLAN

SCALE: 500


WAR. 28
WAL. 30m
CUS. 81
RUS. 79
M.H. 7259
ALL SPLICES BY P.L.D.
24KV. 1-3/C 350MCM P.I.L.C.P.J. TRANSMISSION CABLE
CLARK
ALL SPLICES BY P.L.D.
M.H. 7258
WAR. 28
WAL. 30m
CUS. 81
RUS. 79

24KV. DIAGRAM

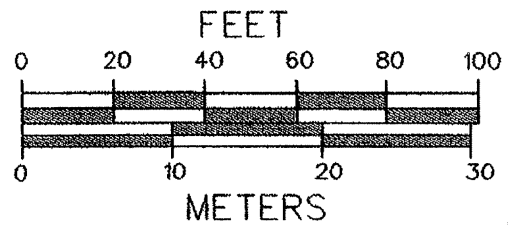
N.T.S.


LOT. 301
M.H. 7259
ALL SPLICES BY P.L.D.
2KV.,2-1/C*2 ST. LTG. CABLES & 1-*2 NEUTRAL
CLARK
ALL SPLICES BY P.L.D.
M.H. 7258
LOT. 301
A
B
N

MULT. ST. LTG. DIAGRAM

480/960V.

LIST OF MATERIAL			
ITEMS	QUANTITIES		CODE NO.
Encased Conduit, 9, 125 mm	103	m	------
Modify Manhole	2	ea	------
2kv. 2-1/c*2 ST. LTG. CABLES & 1-*2 NEUTRAL	110	m	------
24kv. 1-3/c 350mcm P.I.L.C.P.J. TRANSMISSION CABLE	440	m	------


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

SCALE: 500

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

ST. LTG. AT CLARK TECH PARK 2

GENERAL PLAN

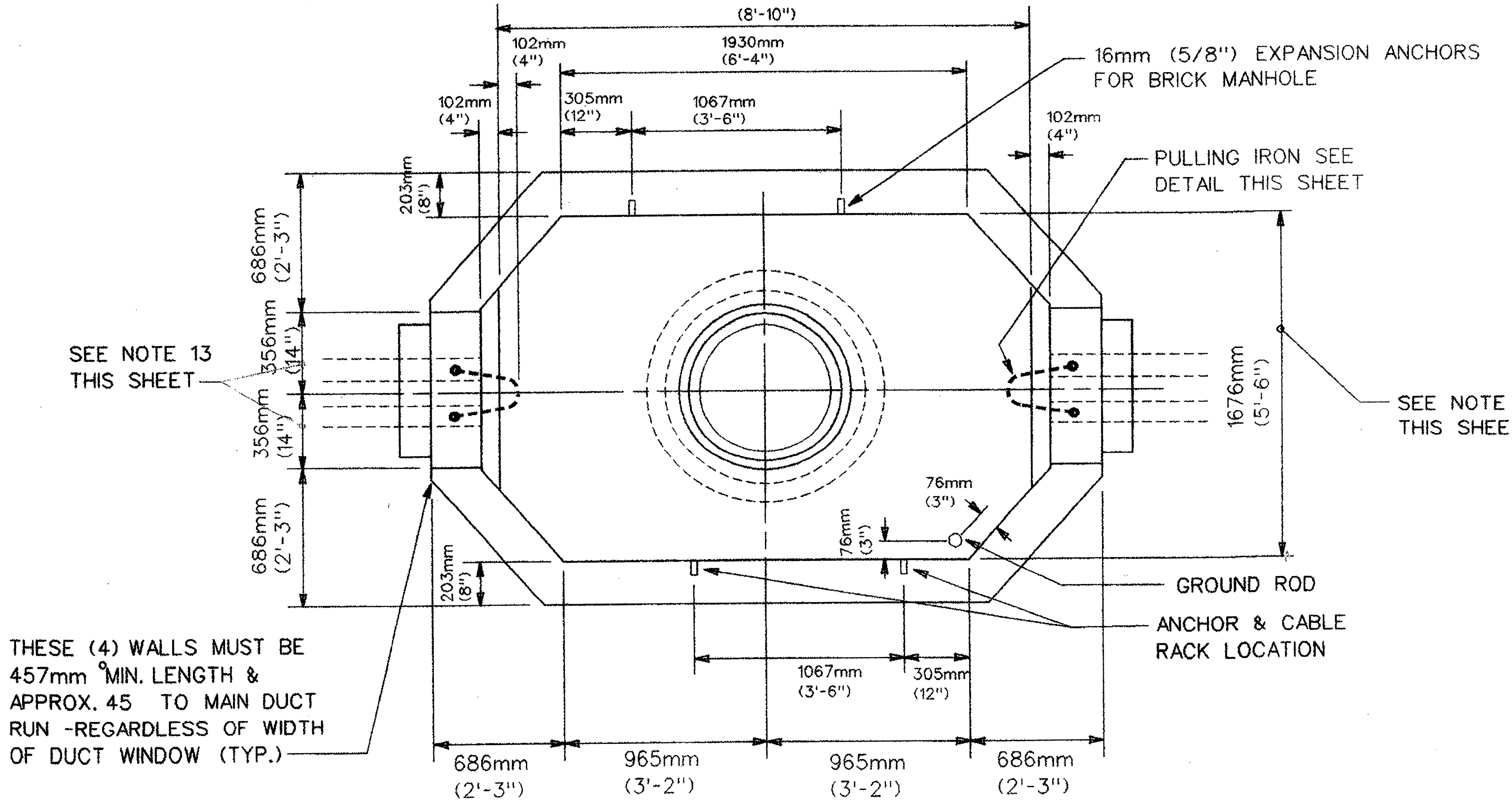
Designed by C.E.A.
Drawn by ---
Checked by ---

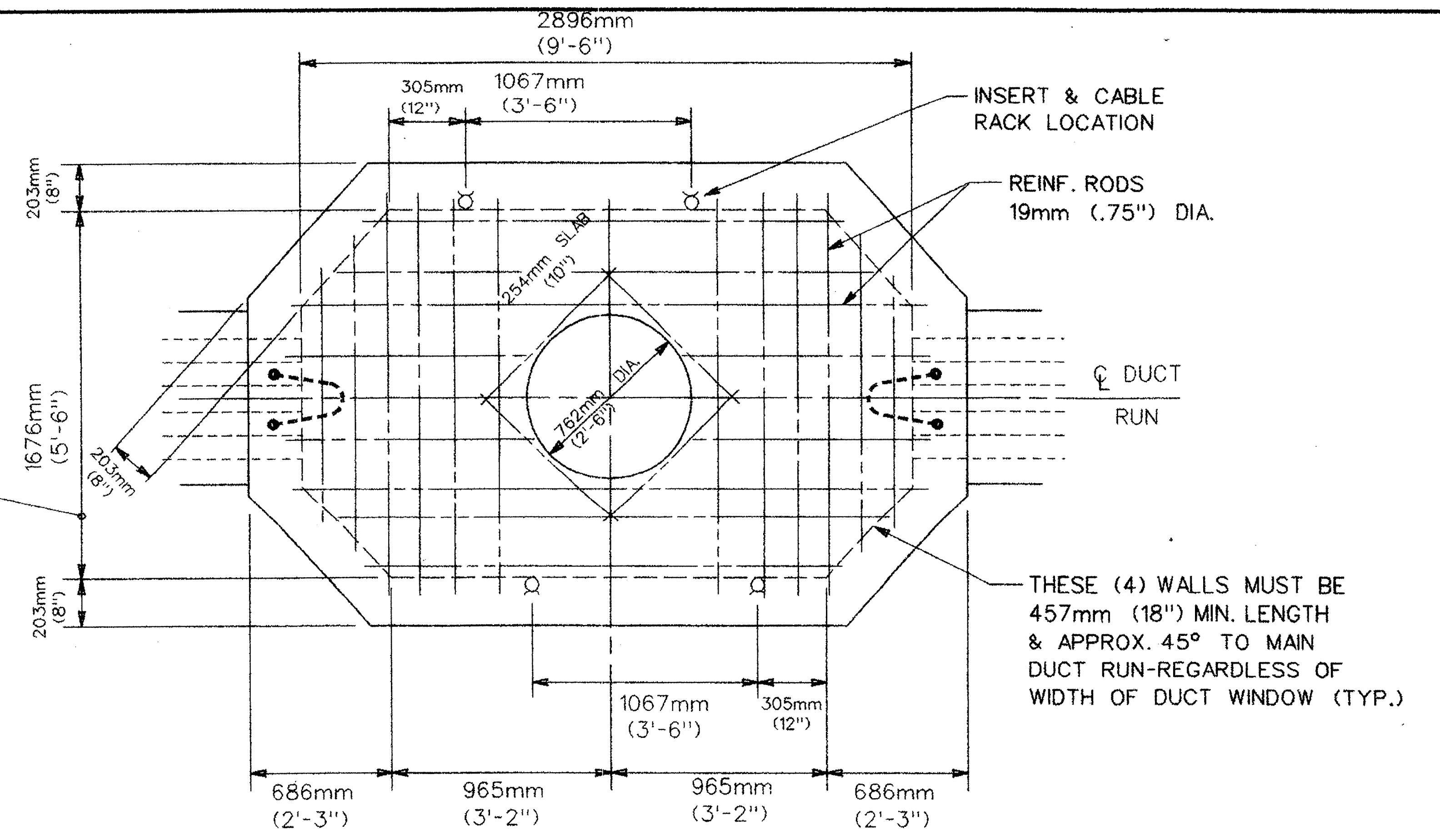
Consulting Engineering Associates, Inc.
16580 WYOMING AVE. DETROIT MICHIGAN 48221
TELEPHONE: (313) 341-5797 FAX: 341-0205

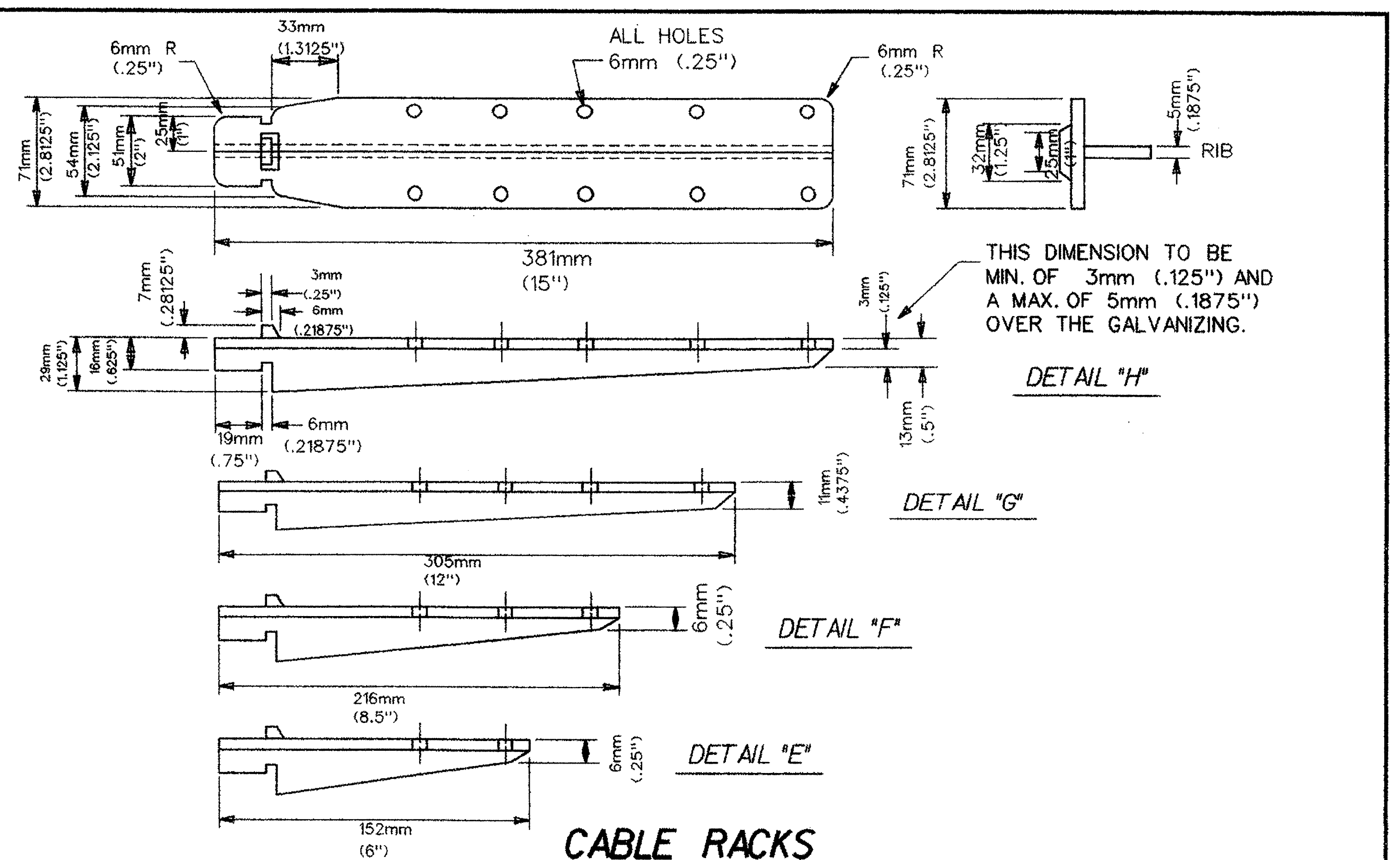
Disk File Name 1324-1
Job File No. CEA 132400
Metric Scale 500
Checked by
Approved by

PUBLIC LIGHTING DEPARTMENT
CITY OF DETROIT

File No. 51-0648
Sheet No. 31 OF 44
Date 4-26-00


2692mm (8'-10")
102mm (4")
1930mm (6'-4")
16mm (5/8") EXPANSION ANCHORS FOR BRICK MANHOLE
305mm (12")
1067mm (3'-6")
102mm (4")
PULLING IRON SEE DETAIL THIS SHEET
203mm (8")
686mm (2'-3")
356mm (14")
SEE NOTE 13 THIS SHEET
1676mm (5'-6")
SEE NOTE 13 THIS SHEET
76mm (3")
GROUND ROD
ANCHOR & CABLE RACK LOCATION
THESE (4) WALLS MUST BE 457mm MIN. LENGTH & APPROX. 45° TO MAIN DUCT RUN -REGARDLESS OF WIDTH OF DUCT WINDOW (TYP.)
1067mm (3'-6")
305mm (12")
686mm (2'-3")
965mm (3'-2")
965mm (3'-2")
686mm (2'-3")

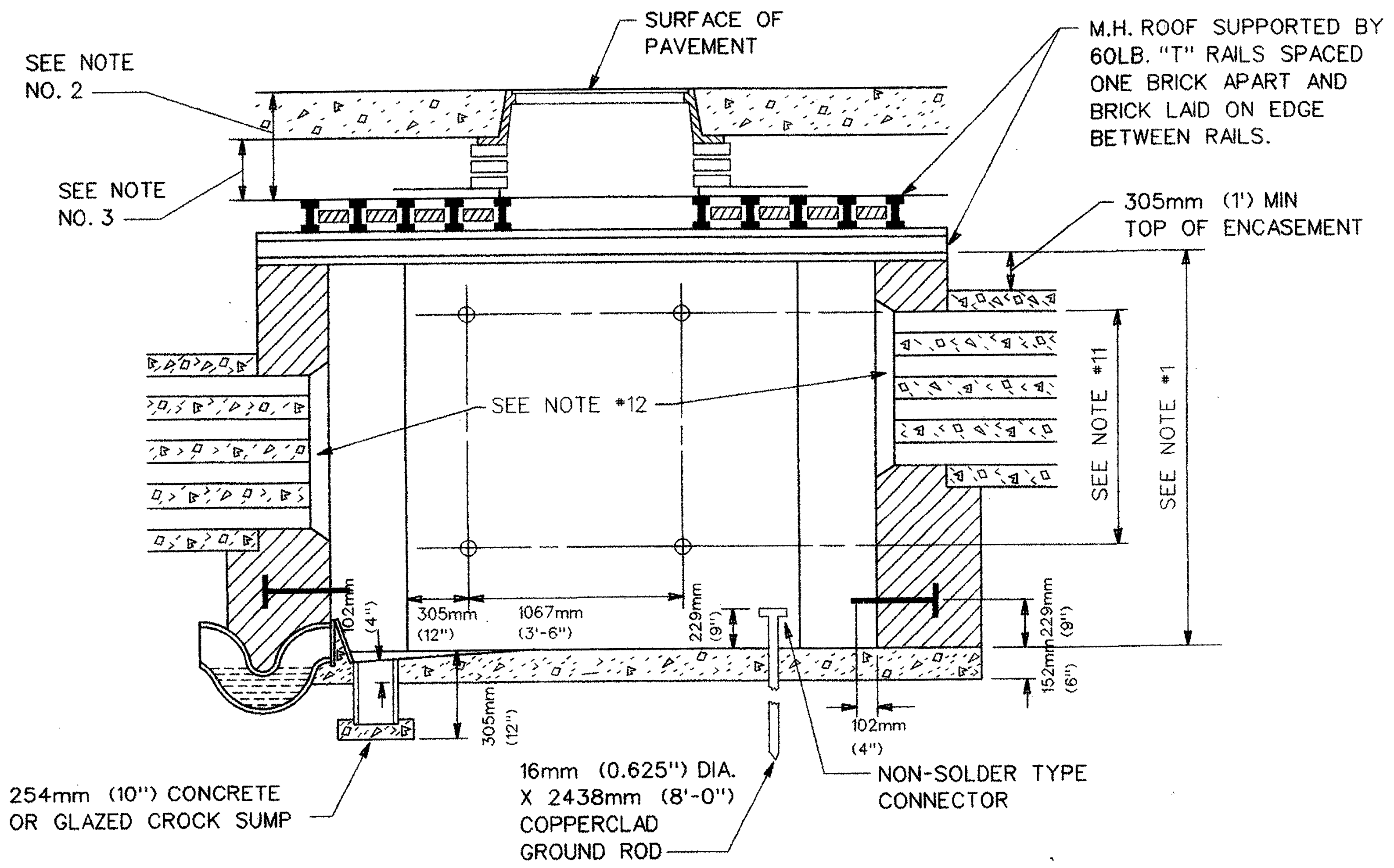

2896mm (9'-6")
305mm (12")
1067mm (3'-6")
INSERT & CABLE RACK LOCATION
REINF. RODS 19mm (.75") DIA.
203mm (8")
1676mm (5'-6")
254mm SLAB (10")
762mm DIA. (2'-6")
℄ DUCT RUN
THESE (4) WALLS MUST BE 457mm (18") MIN. LENGTH & APPROX. 45° TO MAIN DUCT RUN-REGARDLESS OF WIDTH OF DUCT WINDOW (TYP.)
1067mm (3'-6")
305mm (12")
686mm (2'-3")
965mm (3'-2")
965mm (3'-2")
686mm (2'-3")


6mm R (.25")
33mm (1.3125")
ALL HOLES 6mm (.25")
6mm R (.25")
RIB
381mm (15")
THIS DIMENSION TO BE MIN. OF 3mm (.125") AND A MAX. OF 5mm (.1875") OVER THE GALVANIZING.
DETAIL "H"
19mm (.75")
6mm (.21875")
DETAIL "G"
305mm (12")
DETAIL "F"
216mm (8.5")
DETAIL "E"
152mm (6")

CABLE RACKS

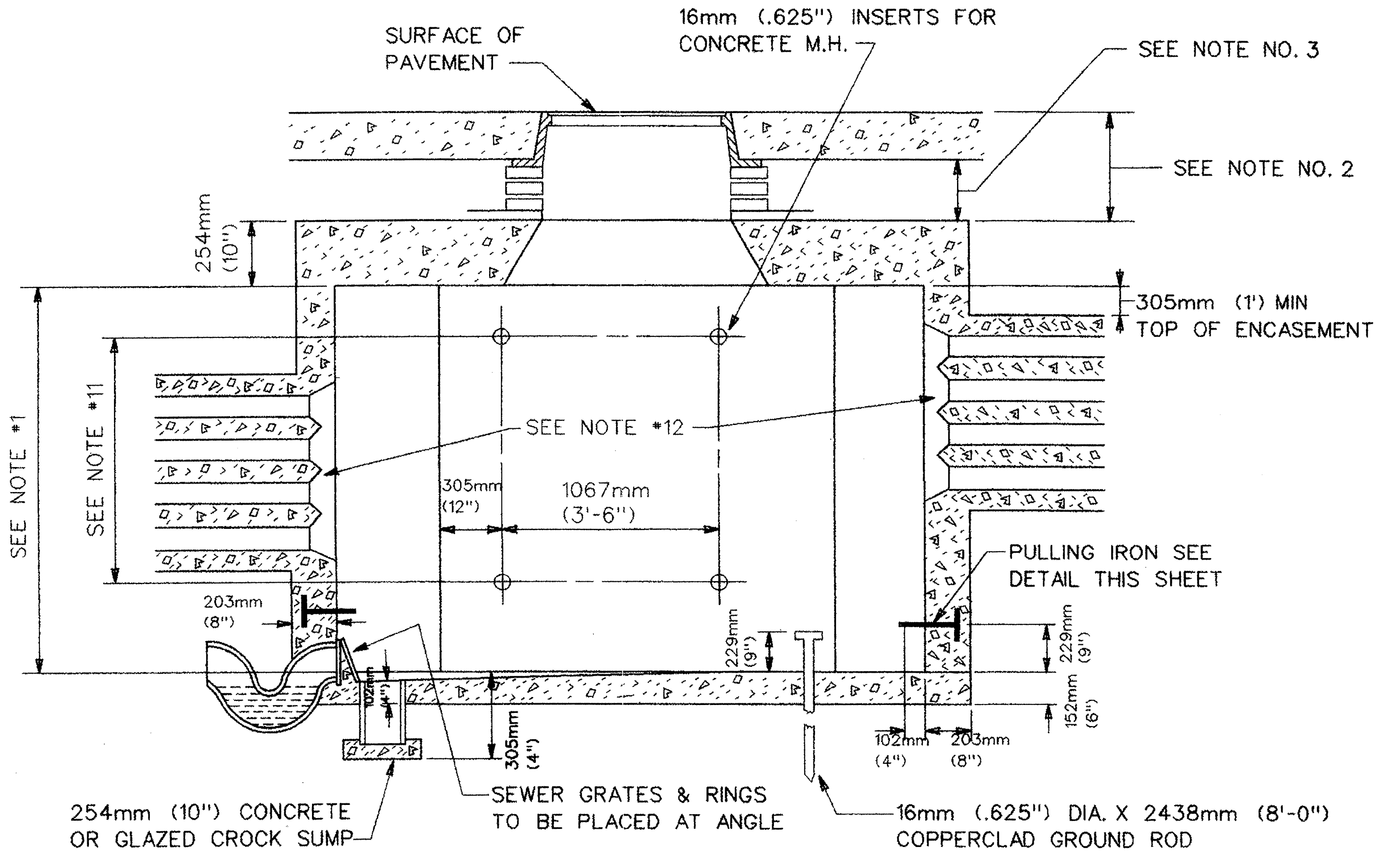
MALLEABLE CAST IRON

N.T.S.


SEE NOTE NO. 2
SURFACE OF PAVEMENT
M.H. ROOF SUPPORTED BY 60LB. "T" RAILS SPACED ONE BRICK APART AND BRICK LAID ON EDGE BETWEEN RAILS.
SEE NOTE NO. 3
305mm (1') MIN TOP OF ENCASEMENT
SEE NOTE *12
SEE NOTE *11
SEE NOTE *1
305mm (12")
1067mm (3'-6")
229mm (9")
152mm (6")
102mm (4")
254mm (10") CONCRETE OR GLAZED CROCK SUMP
16mm (0.625") DIA. X 2438mm (8'-0") COPPERCLAD GROUND ROD
NON-SOLDER TYPE CONNECTOR

BRICK- TWO WAY MANHOLE

N.T.S.

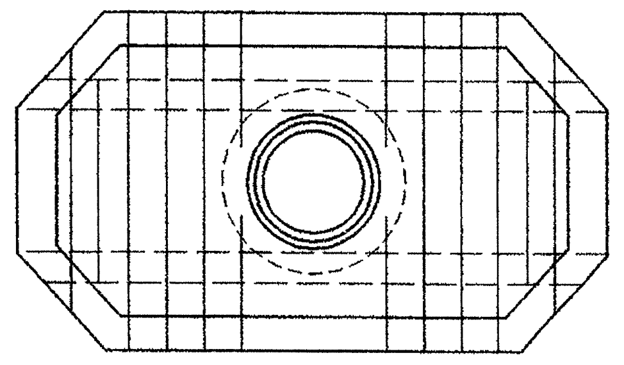

SURFACE OF PAVEMENT
16mm (.625") INSERTS FOR CONCRETE M.H.
SEE NOTE NO. 3
SEE NOTE NO. 2
254mm (10")
305mm (1') MIN TOP OF ENCASEMENT
SEE NOTE *1
SEE NOTE *11
SEE NOTE *12
305mm (12")
1067mm (3'-6")
PULLING IRON SEE DETAIL THIS SHEET
203mm (8")
229mm (9")
305mm (12")
102mm (4")
203mm (8")
152mm (6")
254mm (10") CONCRETE OR GLAZED CROCK SUMP
SEWER GRATES & RINGS TO BE PLACED AT ANGLE
16mm (.625") DIA. X 2438mm (8'-0") COPPERCLAD GROUND ROD

CONCRETE-TWO WAY MANHOLE

N.T.S.

19mm (.75") DIA. REINFORCING STEEL RODS REQ'D. FOR 2-WAY M.H.

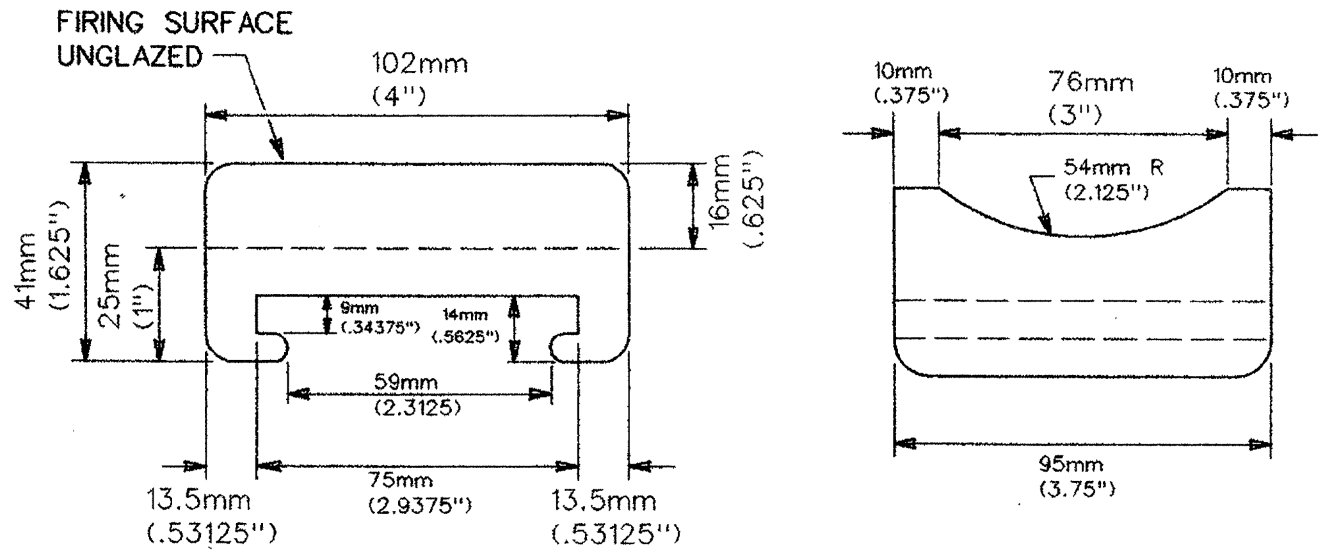
10 PIECES 1067mm (3'-6") LONG
2 PIECES 1524mm (5'-0") LONG
8 PIECES 1981mm (6'-6") LONG
2 PIECES 2438mm (8'-0") LONG
4 PIECES 3048mm (10'-0") LONG



27kg (60 LB.) "T" RAILS

2 PIECES 1372mm (4'-6") LONG
2 PIECES 1829mm (6'-0") LONG
6 PIECES 2083mm (6'-10") LONG
2 PIECES 2819mm (9'-3") LONG
2 PIECES 3251mm (10'-8") LONG

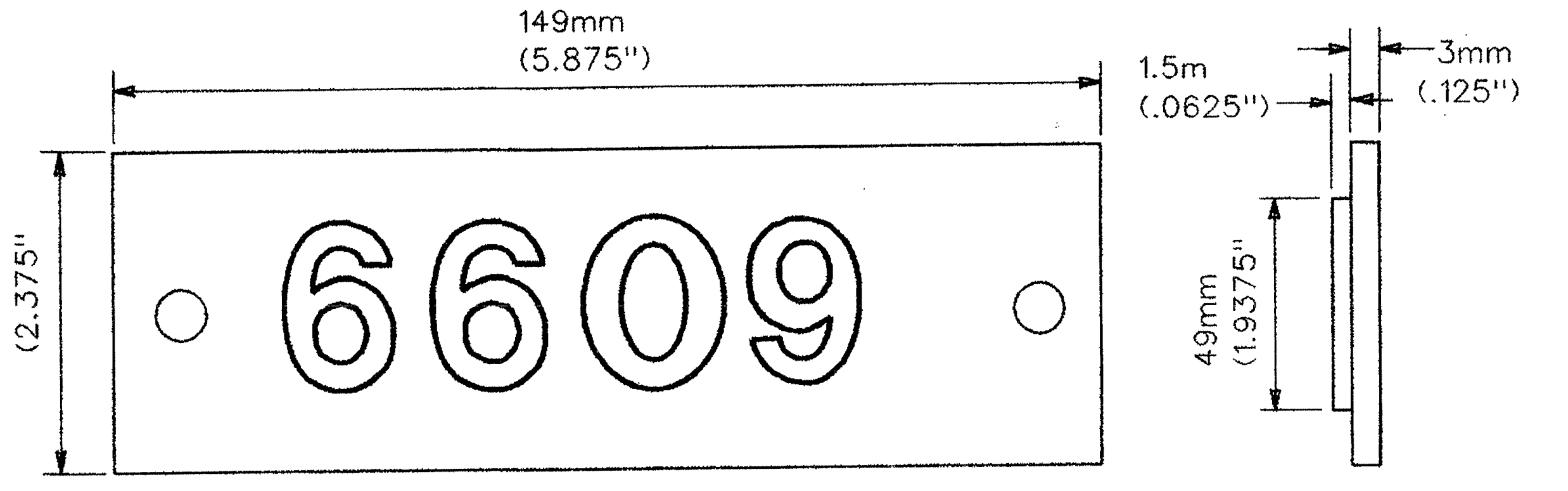
TOTAL WEIGHT 927Kg (2040 LB.)


FIRING SURFACE UNGLAZED
102mm (4")
41mm (1.625")
25mm (1")
16mm (.625")
59mm (2.3125")
75mm (2.9375")
13.5mm (.53125")
13.5mm (.53125")
10mm (.375")
76mm (3")
10mm (.375")
54mm R (2.125")
95mm (3.75")

CABLE ARM INSULATORS

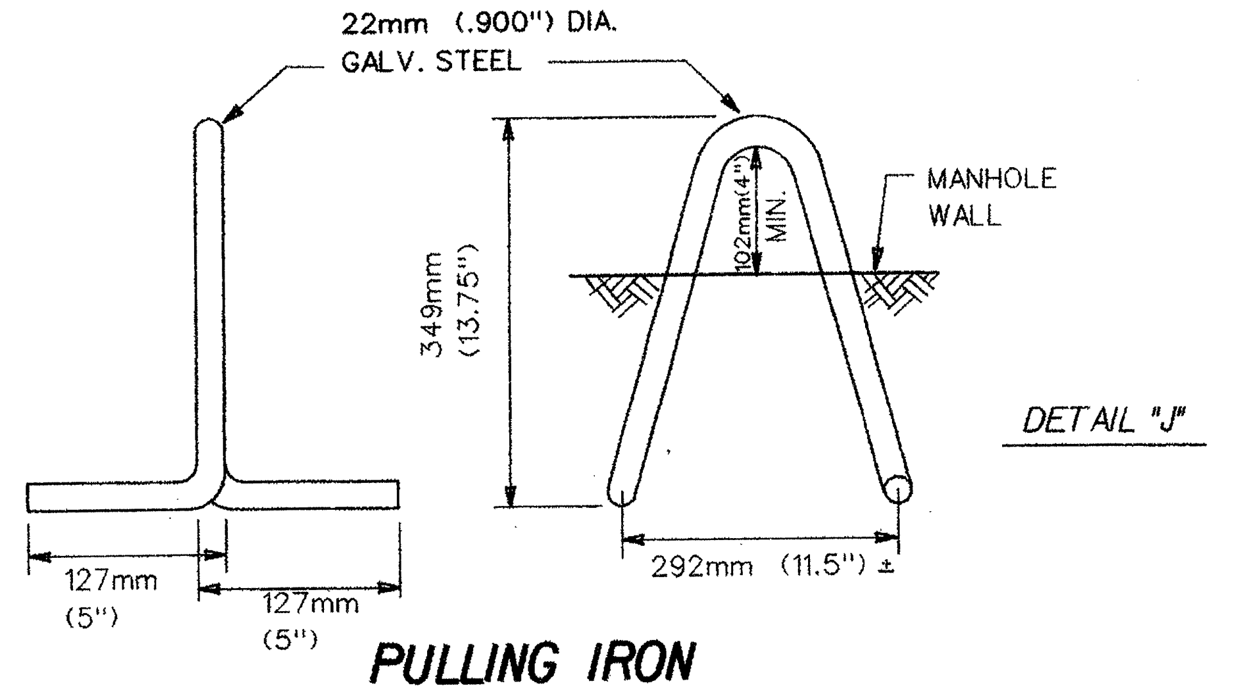
WHITE GLAZED PORCELAIN DRY PROCESS

N.T.S.


149mm (5.875")
1.5m (.0625")
3mm (.125")
61mm (2.375")
6609
49mm (1.9375")

MANHOLE NUMBER DETAIL (LEAD)

N.T.S.

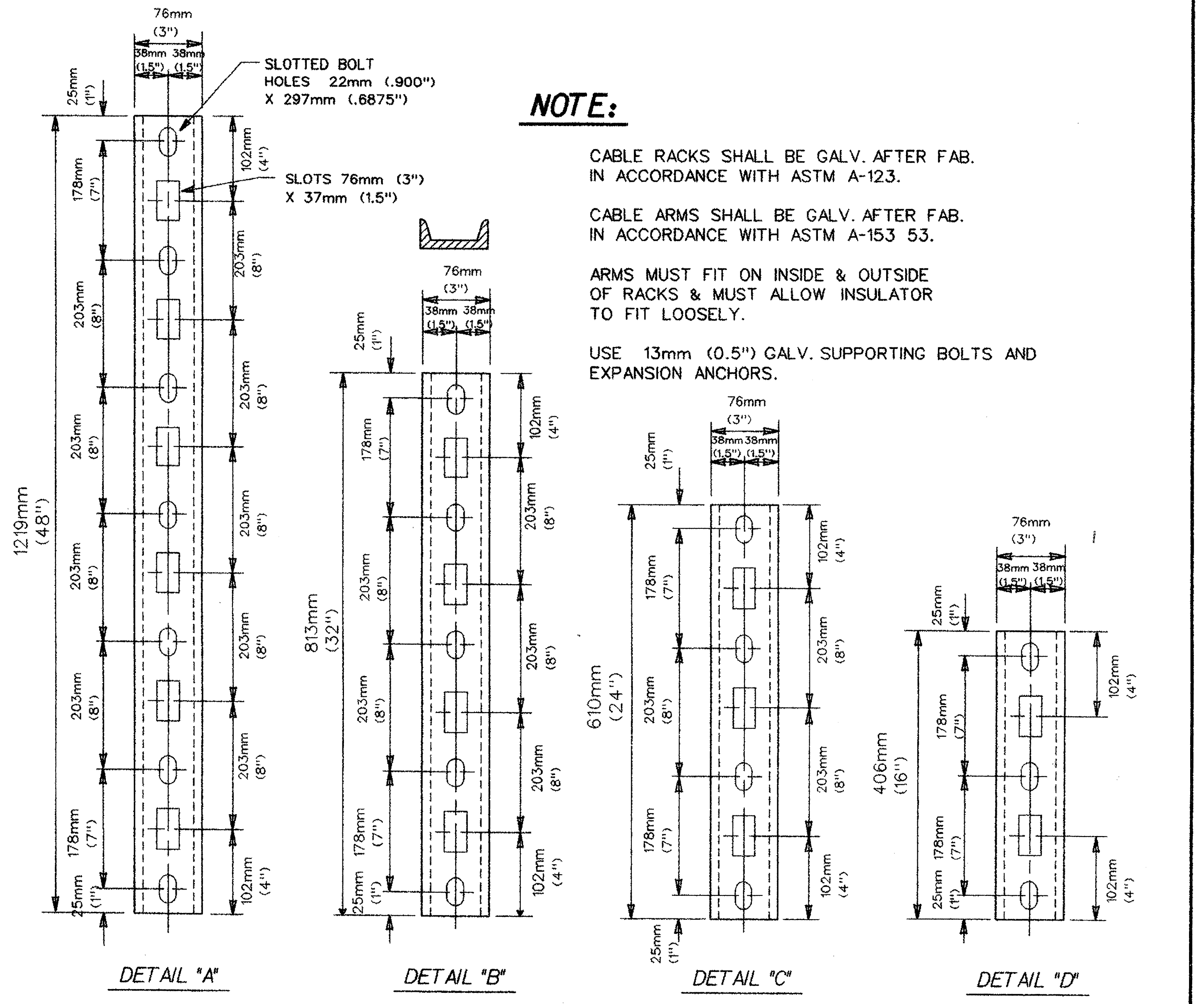

22mm (.900") DIA. GALV. STEEL
MANHOLE WALL
102mm (4") MIN.
349mm (13.75")
DETAIL "J"
127mm (5")
127mm (5")
292mm (11.5") ±

PULLING IRON

N.T.S.

NOTE:

1. THIS DIMENSION NORMALLY 1981mm. (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 660mm (26") BELOW CURB GRADE TO PROVIDE FOR FUTURE PAVEMENT.
3. IN EXISTING PAVEMENT, PROVIDE AT LEAST 203mm (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. 457mm (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) 1219mm (48") LONG RACKS ON WALLS.
8. 203mm (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. 13mm (.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 1220mm (48") CABLE RACKS, 2819mm (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.


76mm (3")
38mm 38mm (1.5") (1.5")
SLOTTED BOLT HOLES 22mm (.900") X 297mm (.6875")
SLOTS 76mm (3") X 37mm (1.5")
1219mm (48")
813mm (32")
610mm (24")
406mm (16")
25mm (1")
178mm (7")
203mm (8")
102mm (4")
DETAIL "A"
DETAIL "B"
DETAIL "C"
DETAIL "D"

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 13mm (0.5") GALV. SUPPORTING BOLTS AND EXPANSION ANCHORS.

CABLE RACKS

76mm (3") STD. 4.1* CHANNEL

N.T.S.

104

R E V I S I O N S	Date	Description	Chkd. by

ST. LTG. AT CLARK TECH PARK 2

TWO-WAY MANHOLE

Designed by CEA

Drawn by

Checked by ---------

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

Disk File Name: 104PLDM

File No. CEA 132400A

Scale No Scale

Checked by

Approved by

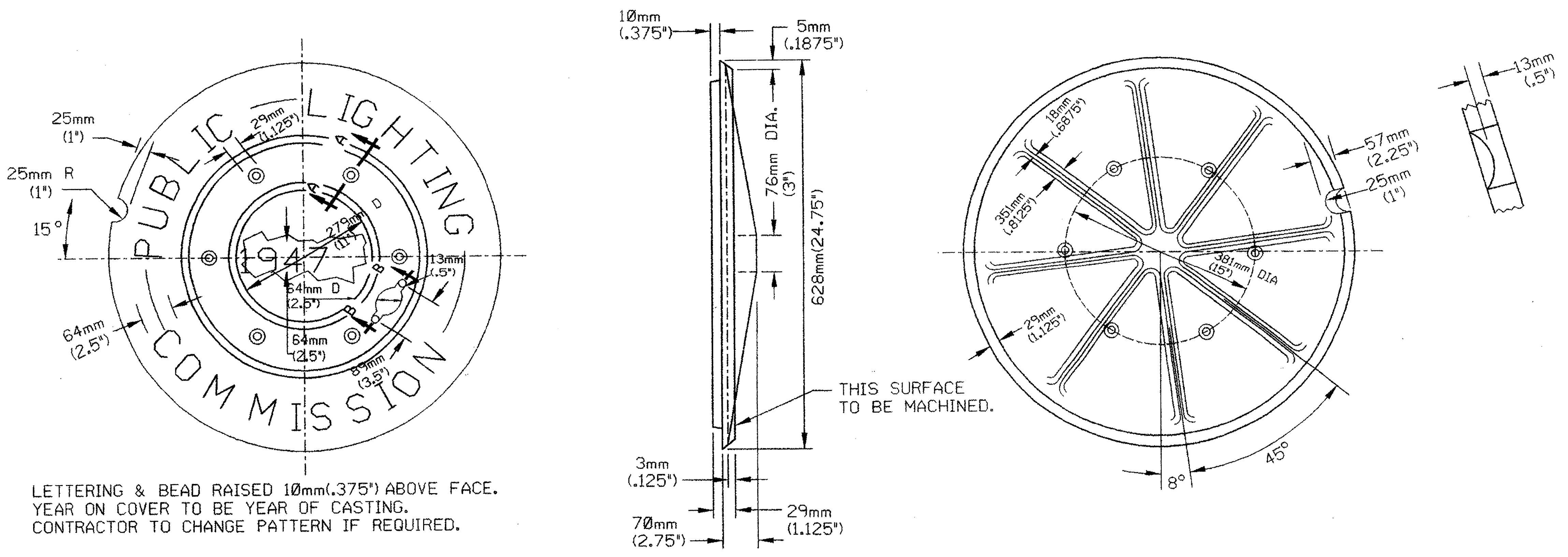
PUBLIC LIGHTING DEPARTMENT
CITY OF DETROIT

File No. ---------

Sheet No. 32 of 44

Date 4-26-00

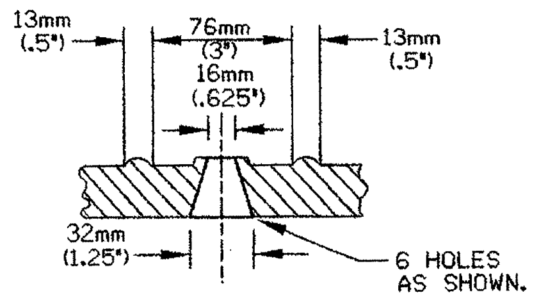
DISK FILE: 104PLDM.MTR



25mm
(1")
25mm R
(1")
15°
64mm
(2.5")
PUBLIC LIGHTING COMMISSION
1947
29mm
(1.125")
13mm
(.5")
54mm D
(2.5")
64mm
(2.5")
89mm
(3.5")
10mm
(.375")
5mm
(.1875")
76mm DIA.
(3")
628mm(24.75")
THIS SURFACE
TO BE MACHINED.
3mm
(.125")
70mm
(2.75")
29mm
(1.125")
57mm
(2.25")
25mm
(1")
13mm
(.5")
481mm DIA
(19")
29mm
(1.125")
8°
45°

LETTERING & BEAD RAISED 10mm(.375") ABOVE FACE.
YEAR ON COVER TO BE YEAR OF CASTING.
CONTRACTOR TO CHANGE PATTERN IF REQUIRED.

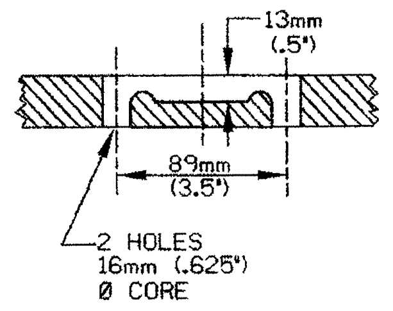
A.S.T.M. CLASS 30 GREY IRON
P.L.C. PATT. NO. 418 APROX.
WT. 111kg(245lb)



13mm
(.5")
76mm
(3")
16mm
(.625")
13mm
(.5")
32mm
(1.25")
6 HOLES
AS SHOWN.

SECTION A-A

N.T.S.



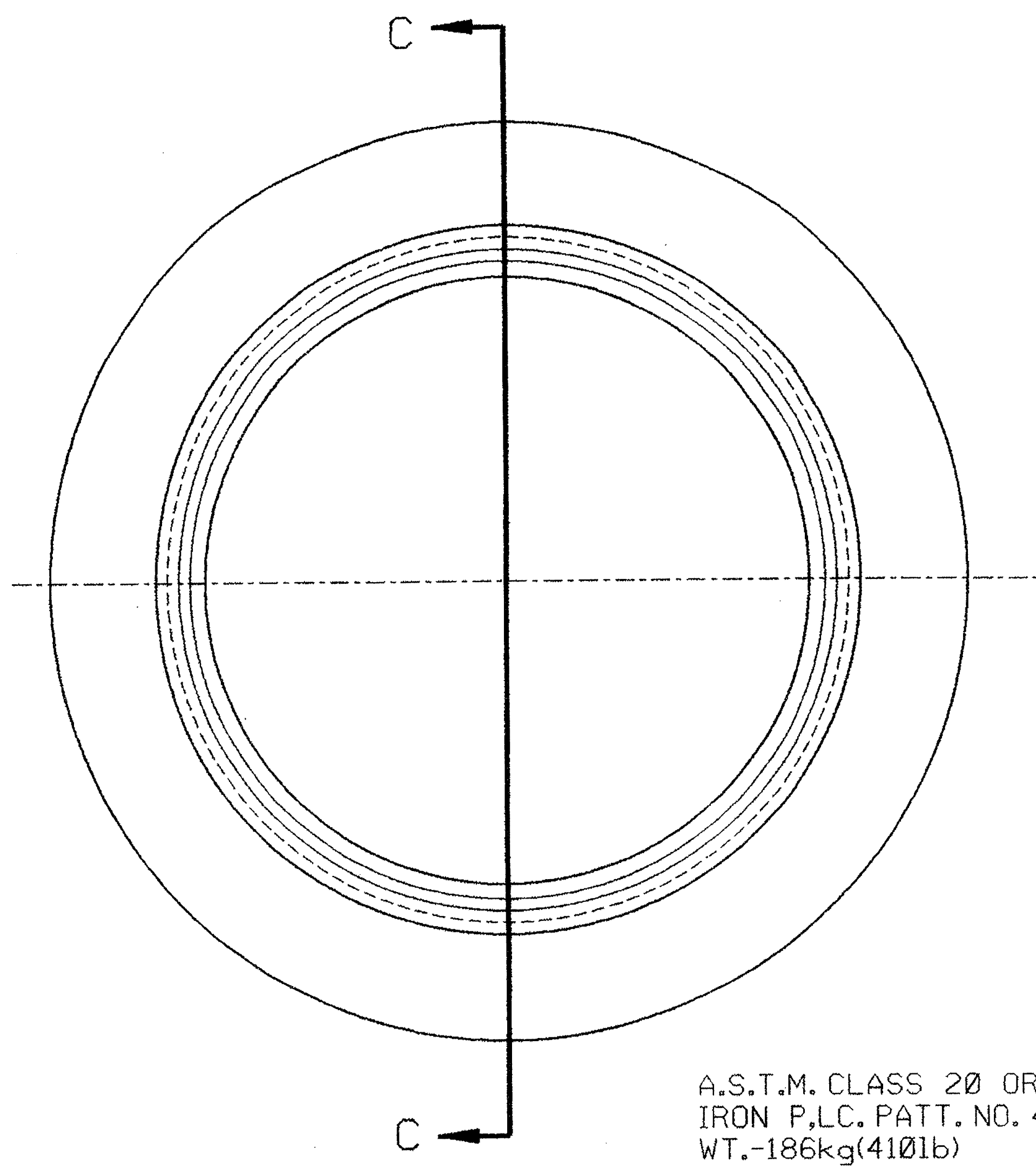
13mm
(.5")
89mm
(3.5")
2 HOLES
16mm (.625")
0 CORE

SECTION B-B

N.T.S.

MANHOLE COVER

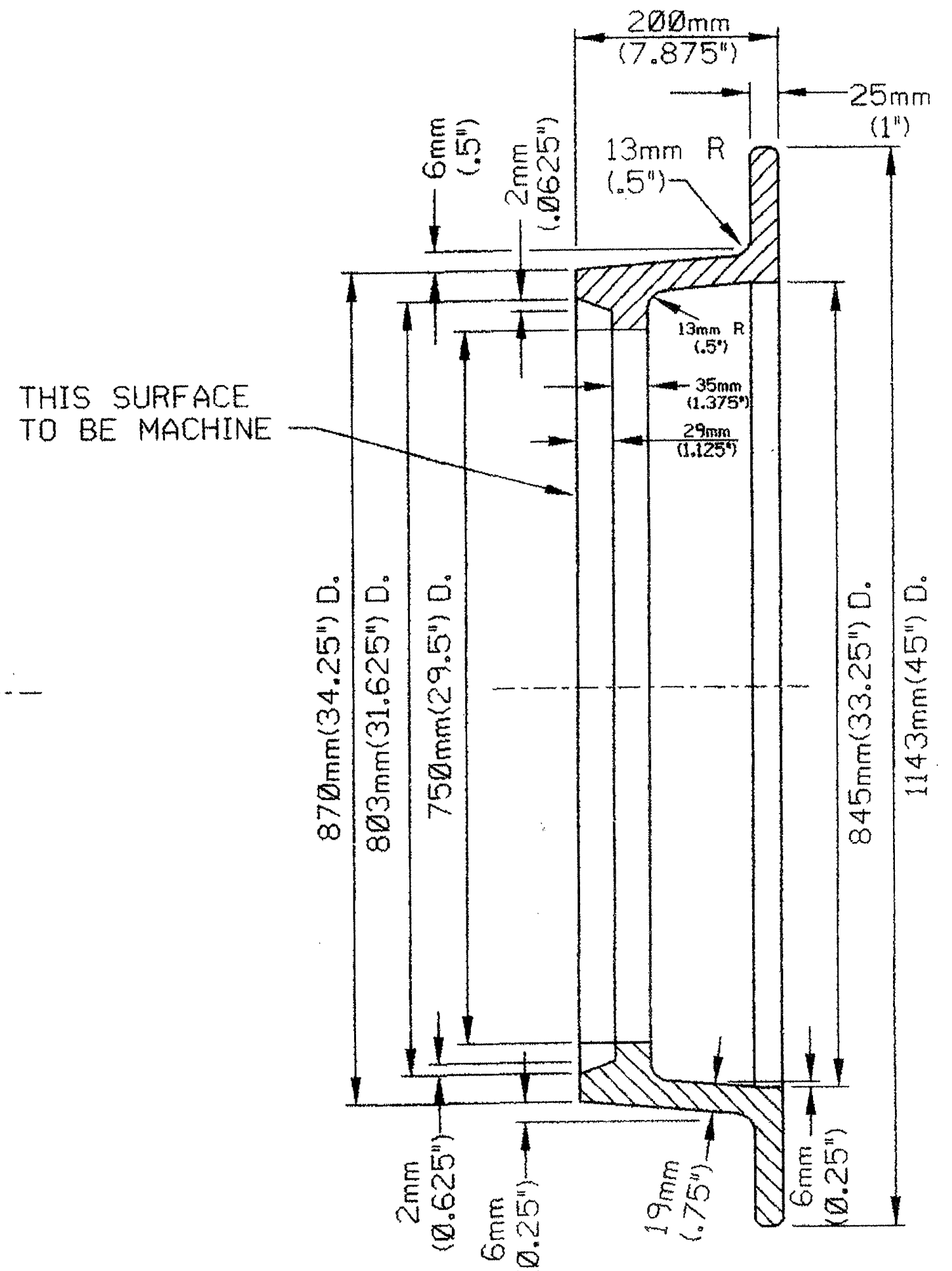
N.T.S.



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

MANHOLE FRAME

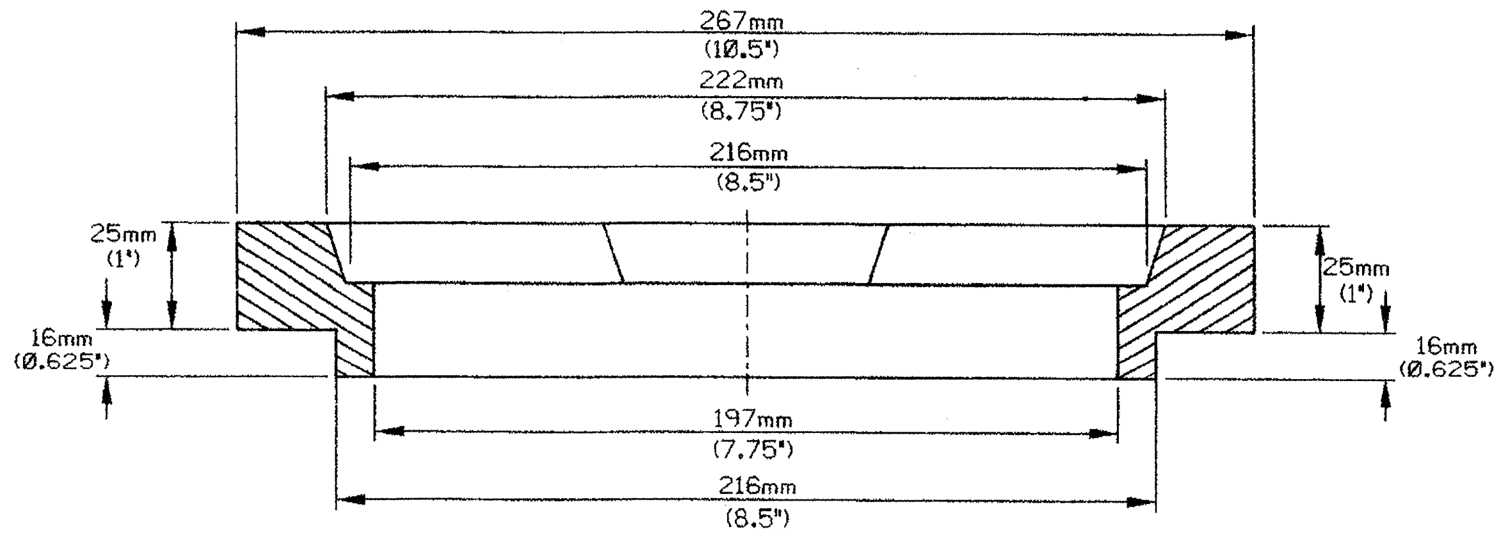
N.T.S.



200mm
(7.875")
25mm
(1")
6mm
(.5")
2mm
(.0625")
13mm R
(.5")
THIS SURFACE
TO BE MACHINE
13mm R
(.5")
35mm
(1.375")
29mm
(1.125")
870mm(34.25") D.
803mm(31.625") D.
750mm(29.5") D.
845mm(33.25") D.
1143mm(45") D.
2mm
(0.625")
6mm
(0.25")
19mm
(.75")
6mm
(0.25")

SECTION "C-C"

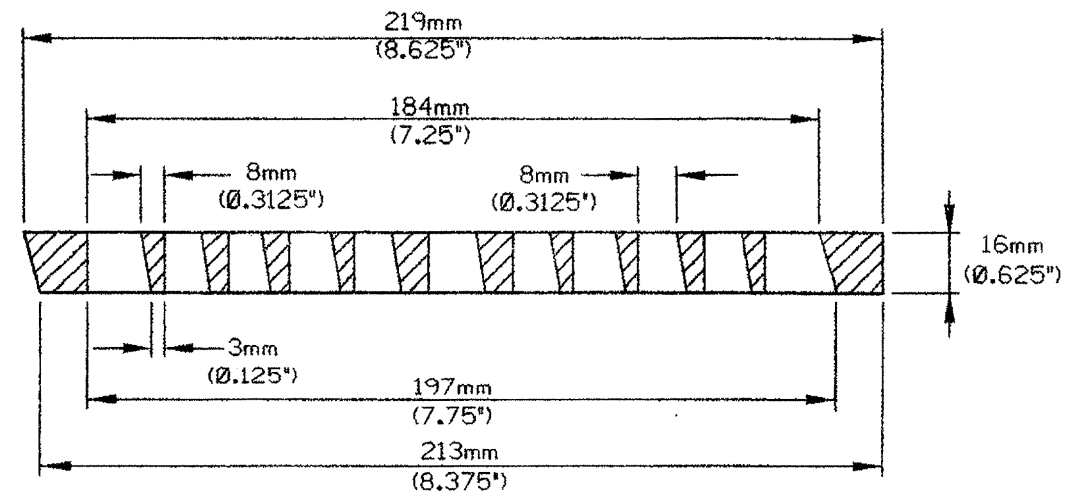
N.T.S.



267mm
(10.5")
222mm
(8.75")
216mm
(8.5")
25mm
(1")
16mm
(0.625")
25mm
(1")
16mm
(0.625")
197mm
(7.75")
216mm
(8.5")

SECTION D-D

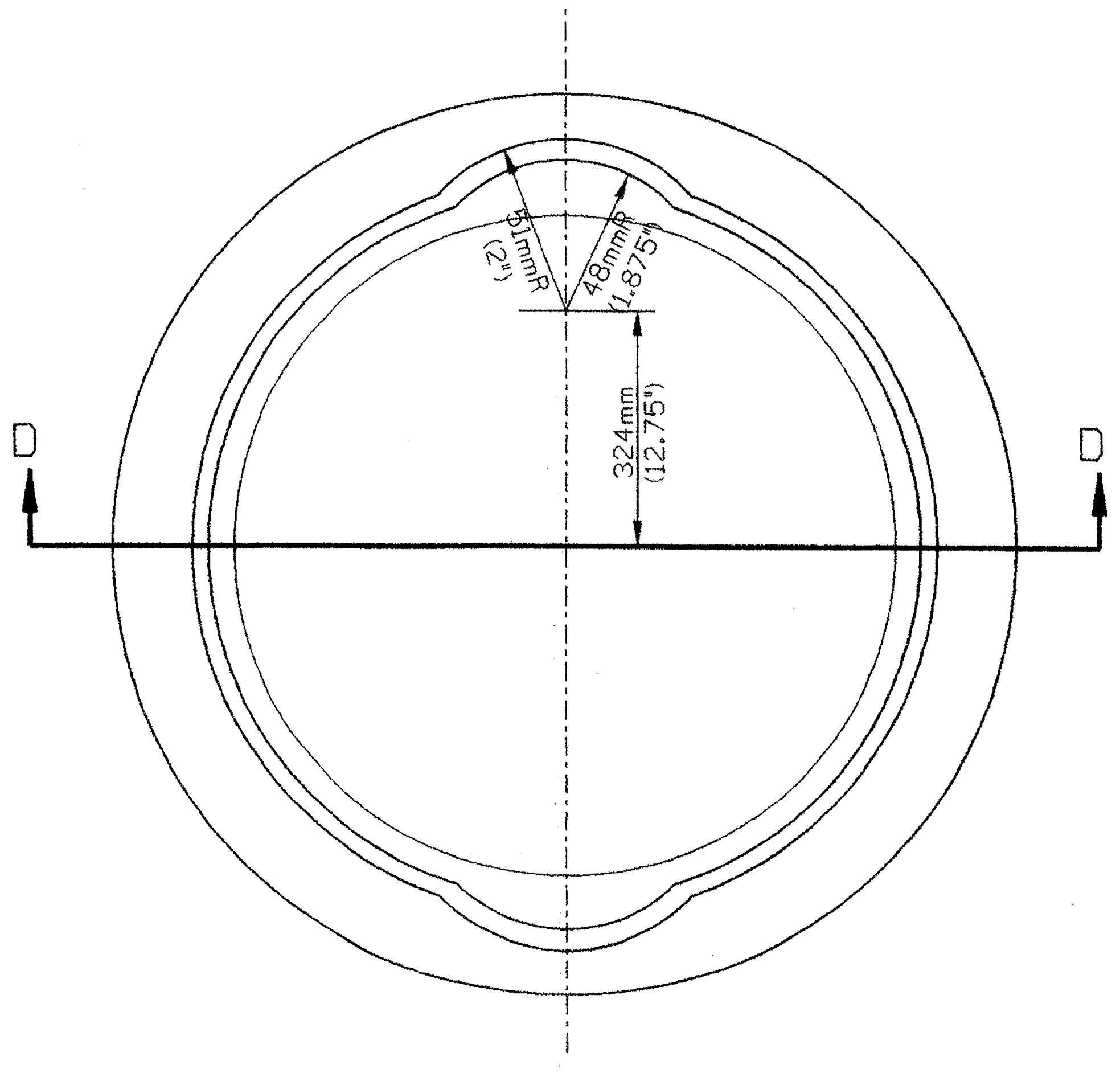
N.T.S.



219mm
(8.625")
184mm
(7.25")
8mm
(0.3125")
8mm
(0.3125")
16mm
(0.625")
3mm
(0.125")
197mm
(7.75")
213mm
(8.375")

SECTION E-E

N.T.S.

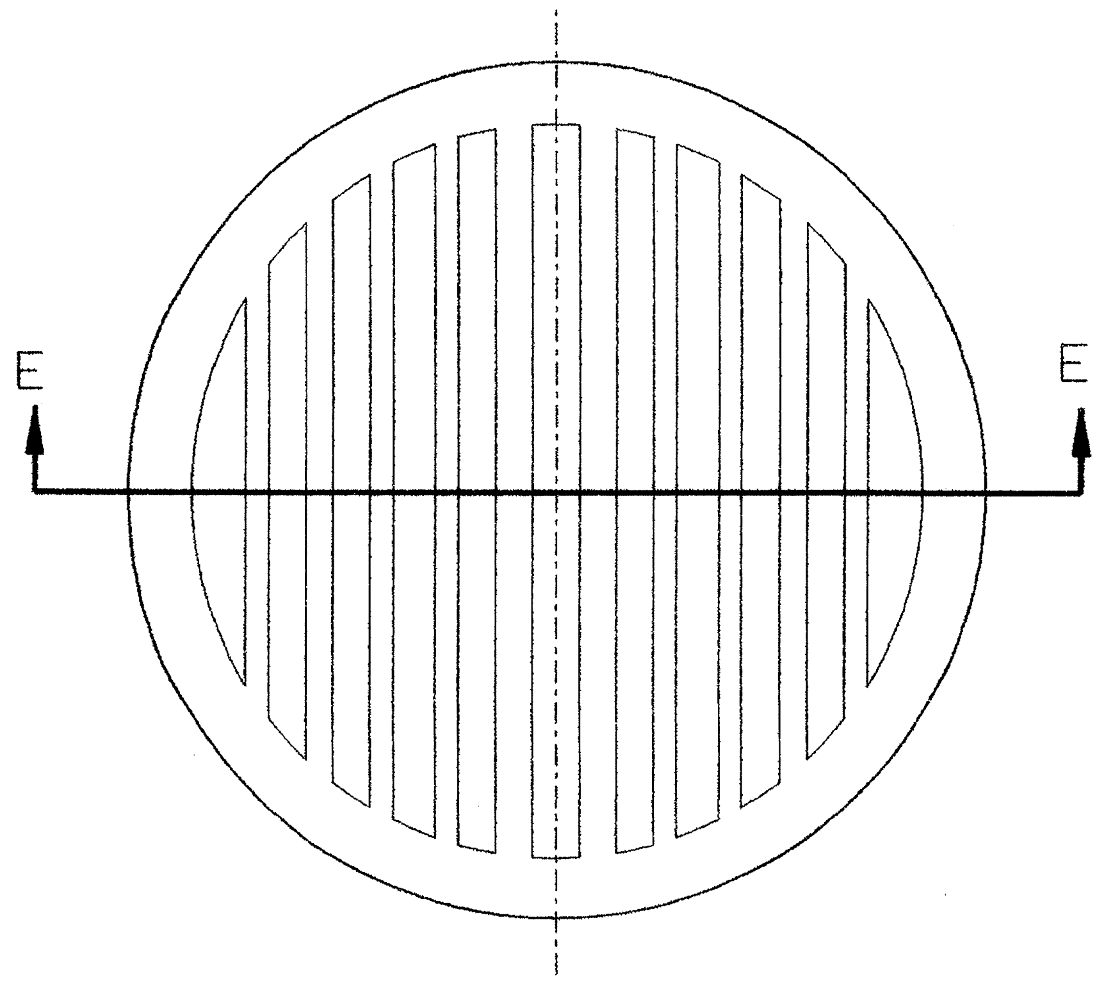


51mmR
(2")
48mm
(1.875")
324mm
(12.75")
D
D

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.

R E V I S I O N S	Date	Description	Chkd. by

ST. LTG. AT CLARK TECH PARK 2

MANHOLE FRAMES & COVERS - SEWER GRATE & RING

Designed by CEA
Drawn by
Checked by ---------

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

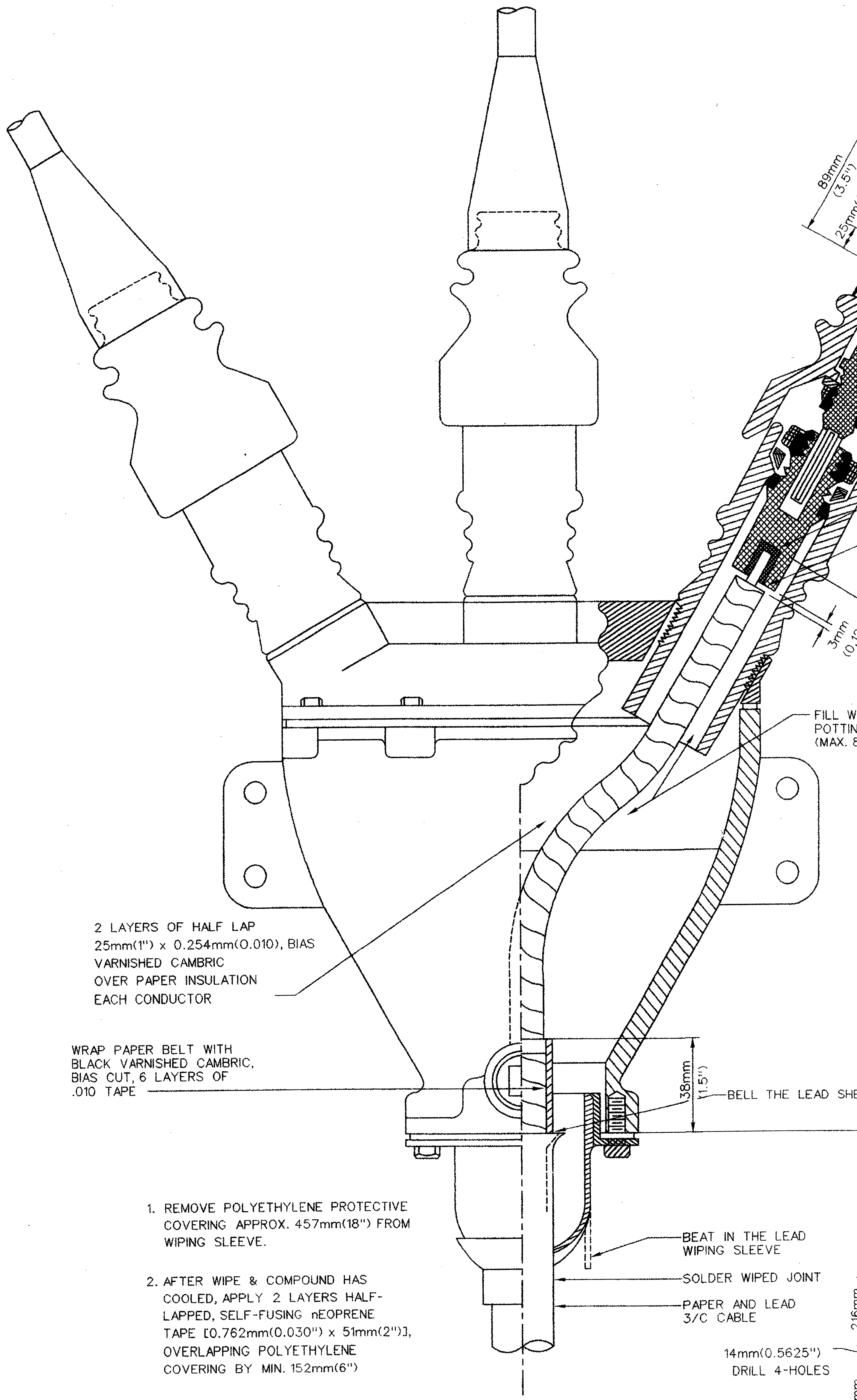
Disk File Name: 108PLDM
File No. CEA 132400A

Scale No Scale
Checked by
Approved by

PUBLIC LIGHTING DEPARTMENT
CITY OF DETROIT

108
File No. ---------
Sheet No. 33 of 44
Date 4-26-00

DISK FILE: 108PLDM.MTR


89mm (3.5")
25mm (1")
FACTORY RUBBER INSULATION.
FACTORY NEOPRENE JACKET.
HALF LAP TWO LAYERS OF BLACK POLY-VINYL CHLORIDE ADHESIVE-BACKED ELECTRICAL TAPE PAINTED WITH BLACK INSULATING VARNISH.
SWEAT CONDUCTOR FULL DEPTH OF HOLE IN TERMINAL.
CORONA RESISTANT, SELF-BONDING, HIGH VOLTAGE RUBBER TAPE FOR USE WITH RUBBER INSULATED CABLES.
FILL WITH A NON-HARDENING HIGH VOLTAGE POTHEAD & CABLE JOINT FILLING COMPOUND.
SWEAT CONDUCTOR FULL DEPTH OF HOLE IN TERMINAL.
USE COTTON TAPE AND REMOVE AFTER SWEATING.
3mm (0.125")
FILL WITH LOW TEMP. POTTING COMPOUND (MAX. 85 POUR PT)
THIS DISTANCE TO BE DETERMINED WHEN TRAINING CABLE IS IN POTHEAD (APPROX. 381mm(15"))
2 LAYERS OF HALF LAP 25mm(1") x 0.254mm(0.010), BIAS VARNISHED CAMBRIC OVER PAPER INSULATION EACH CONDUCTOR
WRAP PAPER BELT WITH BLACK VARNISHED CAMBRIC, BIAS CUT, 6 LAYERS OF .010 TAPE
38mm (1.5")
BELL THE LEAD SHEATH
BEAT IN THE LEAD WIPING SLEEVE
SOLDER WIPED JOINT
PAPER AND LEAD 3/C CABLE

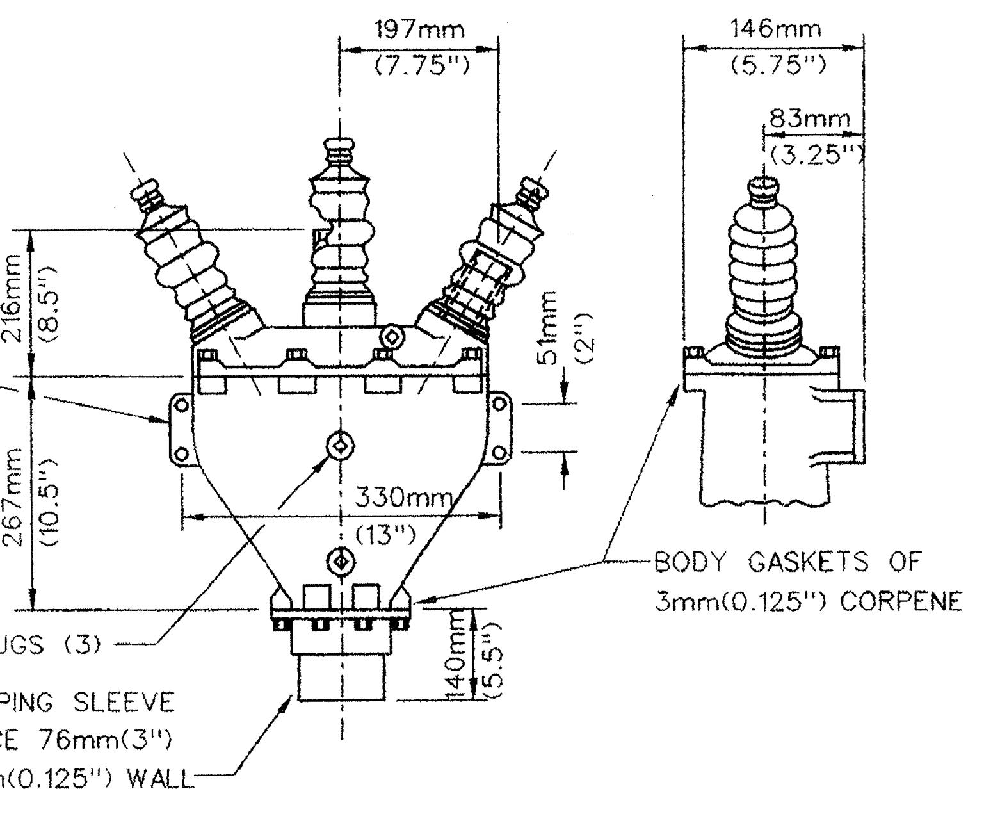
1. REMOVE POLYETHYLENE PROTECTIVE COVERING APPROX. 457mm(18") FROM WIPING SLEEVE.
2. AFTER WIPE & COMPOUND HAS COOLED, APPLY 2 LAYERS HALF-LAPPED, SELF-FUSING nEOPRENE TAPE [0.762mm(0.030") x 51mm(2")], OVERLAPPING POLYETHYLENE COVERING BY MIN. 152mm(6")

5000V. & 7500V. 3/C DISC. POTHEAD

N.T.S.

NOTES:

1. SEE SPECIFICATIONS OR P.L.D., WHERE REQUIRED, FOR MATERIAL SPECIFICATIONS.
2. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL A LIST OF ALL SPLICING MATERIALS HE PROPOSES TO USE WITH SUPPORTING DATA THAT MATERIAL IS SUITABLE FOR APPLICATION AS SHOWN ON THE DRAWINGS.

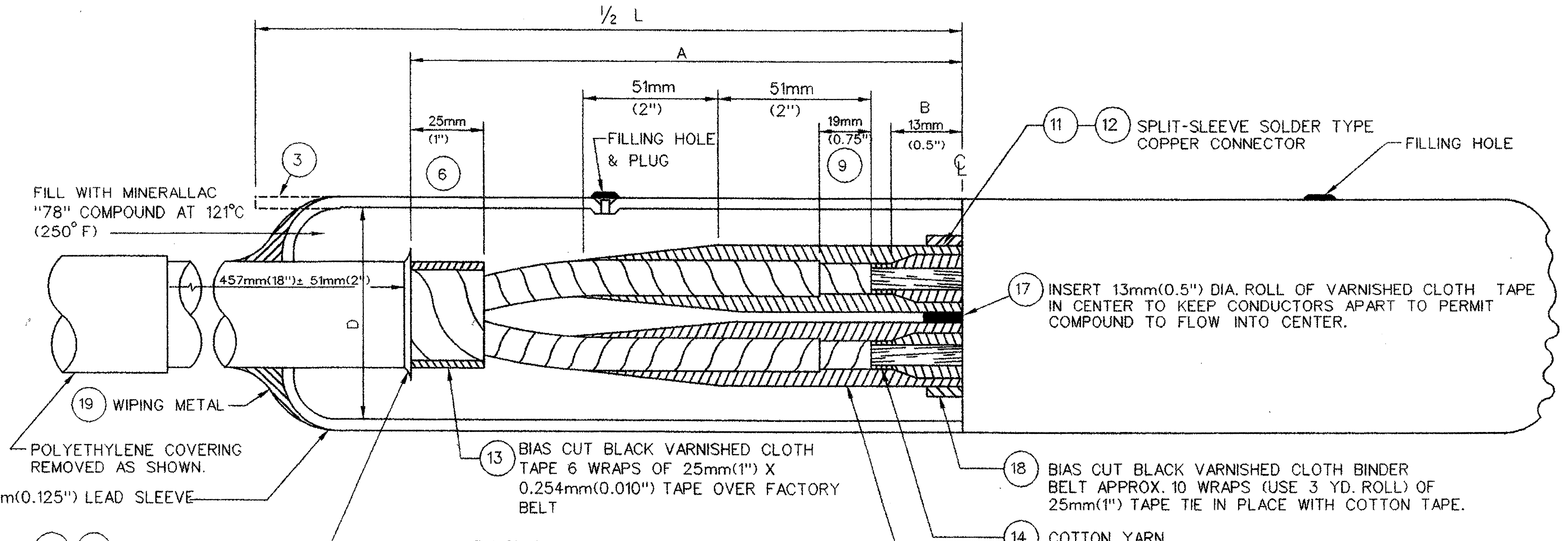

197mm (7.75")
146mm (5.75")
83mm (3.25")
216mm (8.5")
51mm (2")
14mm(0.5625") DRILL 4-HOLES
267mm (10.5")
330mm (13")
140mm (5.5")
BODY GASKETS OF 3mm(0.125") CORPENE
PIPE PLUGS (3)
LEAD WIPING SLEEVE ENTRANCE 76mm(3") I.D., 3mm(0.125") WALL

ASSEMBLED POTHEAD

NOTE:

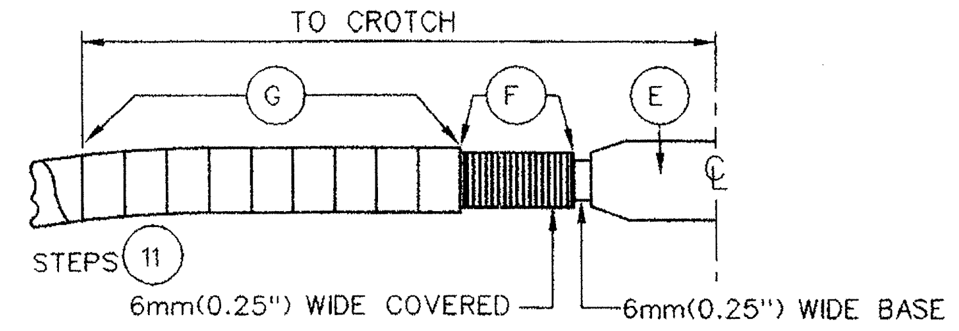
DIMENSIONS APPLY TO BOTH 250A. & 500A. POTHEADS.

POTHEADS FURNISHED SHALL INCLUDE ENTRANCE SLEEVE & CAPS.


½ L
A
51mm (2")
51mm (2")
B
25mm (1")
19mm (0.75")
13mm (0.5")
FILLING HOLE & PLUG
③
⑥
⑨
℄
⑪ ⑫ SPLIT-SLEEVE SOLDER TYPE COPPER CONNECTOR
FILLING HOLE
⑳
FILL WITH MINERALLAC "78" COMPOUND AT 121°C (250° F)
457mm(18")± 51mm(2")
D
⑰ INSERT 13mm(0.5") DIA. ROLL OF VARNISHED CLOTH TAPE IN CENTER TO KEEP CONDUCTORS APART TO PERMIT COMPOUND TO FLOW INTO CENTER.
⑲ WIPING METAL
POLYETHYLENE COVERING REMOVED AS SHOWN.
3mm(0.125") LEAD SLEEVE
⑬ BIAS CUT BLACK VARNISHED CLOTH TAPE 6 WRAPS OF 25mm(1") X 0.254mm(0.010") TAPE OVER FACTORY BELT
⑱ BIAS CUT BLACK VARNISHED CLOTH BINDER BELT APPROX. 10 WRAPS (USE 3 YD. ROLL) OF 25mm(1") TAPE TIE IN PLACE WITH COTTON TAPE.
⑭ COTTON YARN
④ ⑤ CREASE AND TEAR TO GIVE NATURAL BELL
⑯ BIAS CUT BLACK VARNISHED CLOTH 0.254mm(0.010") TAPE. APPLY HALF-LAP AND BUILD UP UNTIL THICKNESS OF V.C. TAPE OVER CONNECTION IS 6mm(0.25")

DIMENSIONS

	*2	*2/0	*4/0	350 MCM
A	191mm (7.5")	241mm (9.5")	241mm (9.5")	267mm (10.5")
B	25mm (1")	25mm (1")	38mm (1.5")	32mm (1.25")
D	76mm (3")	89mm (3.5")	89mm (3.5")	102mm (4")
L	457mm (18")	610mm (24")	610mm (24")	610mm (24")


TO CROTCH
G
F
E
℄
STEPS ⑪
6mm(0.25") WIDE COVERED
6mm(0.25") WIDE BASE

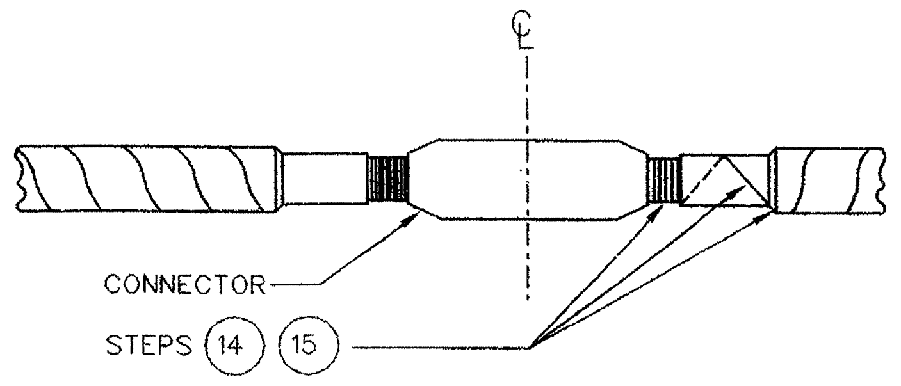
Ⓔ CONNECTOR

Ⓕ WRAP ASBESTOS ROVING OVER BARE CONDUCTOR AND FIRST STEP OF INSULATION.

Ⓖ WRAP COTTON TAPE HALF-LAPPED OVER FACTORY PAPER INSULATION.

DETAIL "A"

STEP-11


℄
CONNECTOR
STEPS ⑭ ⑮

BOILED COTTON YARN IN STEP CORNERS, ONE TURN TO HOLD PAPER AND OVER CONDUCTOR TO LEVEL OF FIRST STEP.

DETAIL "B"

STEP-15

SUBSTATION CIRCUIT ABBREVIATIONS ON IDENTIFICATION TAGS SHALL BE SPELLED AS FOLLOWS

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

NOTE:

ASBESTOS TAPE CAN ONLY BE USED WITH PERMISSION OF THE P.L.D.

INSTRUCTIONS FOR 3/C 5.0 & 7.0KV. P. & L. BELTED CABLE JOINTS

① TRAIN CABLE. DO NOT BEND TO RADIUS LESS THAN THE FOLLOWING SPECIFIED MINIMUM: *2 AND *2/0-406mm(16"), *4/0-432mm(17"), 350 MCM-508mm(20").

② ESTABLISH CENTERLINE OF JOINT. CUT CABLES THRU CENTERLINE.

③ CLEAN AND CANDLE OUTSIDE OF SLEEVE FOR 51mm(1") AT BELL ENDS. SLIDE SLEEVE OVER CABLE

④ CREASE LEAD SHEATHS THE SPECIFIED DISTANCE FROM CABLE END (DIM.A). CLEAN AND PROTECT SURFACES OF SHEATH WITH STEARINE WHERE WIPES ARE TO BE MADE.

⑤ REMOVE SHEATH TO CREASE, TEAR SO AS TO GIVE THE SHEATH A NATURAL BELL.

⑥ REMOVE ALL BINDER TAPES TO 25mm(1") FROM END OF SHEATH.

⑦ REMOVE FILLERS FROM CROTCH, CUTTING WITH KNIFE DIRECTED AWAY FROM INSULATION.

⑧ TEST FILLER FOR MOISTURE (IN PARAFFIN AT 121°C(250°F).

⑨ STEP INSULATION BY USE OF GILLING TWINE. FOR THE SINGLE STEP REMOVE HALF OF FACTORY INSULATION THICKNESS.

⑩ REMOVE INSULATION FROM CONDUCTOR FOR THE CONNECTOR BY CUTTING SQUARE WITHOUT NICKING CONDUCTOR.

⑪ PUT CONNECTORS IN PLACE WITH SPLIT OPENINGS TURNED UPWARD. COVER BARE CONDUCTOR AND FIRST STEPS WITH ASBESTOS ROVING COVER PAPER INSULATION WITH HALF-LAPPED COTTON TAPE. SEE DETAIL "A".

⑫ SWEAT CONNECTORS IN PLACE. REMOVE ANY SHARP EDGES OF THE CONNECTOR OR SOLDER. REMOVE COTTON TAPE AND ASBESTOS ROVING BEING CAREFUL TO KEEP METAL PARTICLES OFF OF CONDUCTOR AND PAPER INSULATION.

⑬ APPLY 6 WRAPS OF 25mm(1") BLACK V.C. TAPE OVER THE FACTORY BELT ON EACH END OF SPLICE.

⑭ APPLY STRANDED COTTON YARN BOILED IN PETROLATUM TO FILL IN BETWEEN INSULATION AND CONNECTOR TO LEVEL OF FIRST STEP.

⑮ ALSO APPLY BOILED COTTON YARN OVER STEPS TO HOLD PAPER TAPE IN PLACE WHILE APPLYING V.C. INSULATION. SEE DETAIL "B".

⑯ APPLY V.C. TAPE HALF-LAPPED TO EACH CONDUCTOR, BUILDING UP TO A THICKNESS OF 6mm OVER THE CONNECTOR, TAPERING ENDS AS SHOWN AND HAND WIPING THIN COATING OF PETROLATUM BETWEEN LAYERS OF V.C. TAPE.

⑰ APPLY 13mm(0.5") DIA. SPACER ROLL OF 25mm(1") BLACK V.C. TAPE IN CENTER OF CONDUCTOR.

⑱ INSTALL BINDER BELT OF 25mm(1") BLACK V.C. TAPE APPROX. 10 LAYERS (USE 2.74M(3YD.) ROLL) TIE IN PLACE WITH COTTON TAPE

⑲ PULL UP AND CENTER SLEEVE. WIPE SLEEVE TO CABLE SHEATHS. DO NOT USE STEARINE FOR COOLING AT THIS STAGE.

⑳ FILL JOINT WITH COMPOUND AT 121°C(250°F). COOL FOR 45 MINUTES, REFILL, AND COOL FOR 15 MINUTES. REPEAT REFILLS TWICE IF NECESSARY.

㉑ WHILE JOINT IS COOLING, ATTACH BONDING CONNECTION, FIREPROOF CABLE AND ATTACH CABLE TAGS.

㉒ SEAL FILLING HOLES AND FINISH FIREPROOFING.

㉓ APPLY 51mm(2") WIDE TAPE NEOPRENE COVERING OVER SLEEVE.

203

REVISIONS	Date	Description	Chkd. by

ST. LTG. AT CLARK TECH PARK 2

5000V.& 7000V.BELTED P.& L.CABLE JOINT & POTHEAD SPLICE

Designed by
CEA
Drawn by
Checked by

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

Disk File Name:
203PLDM
File No.
CEA 132400A

Scale
No Scale
Checked by
Approved by

PUBLIC LIGHTING DEPARTMENT
CITY OF DETROIT

File No.

Sheet No.
34 of 44
Date
4-26-00

DISK FILE: 203PLDM.MTR

FIG. 1.

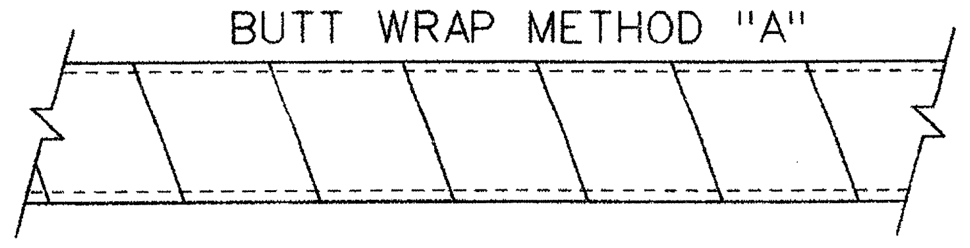


FIGURE 1.

FELTED ASBESTOS INITIAL WRAP BUTT WRAP.

FIG. 2.

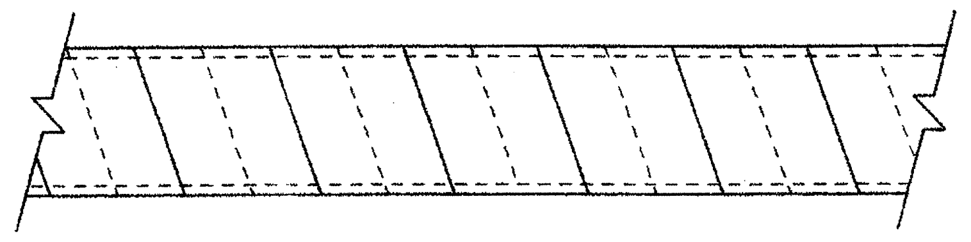


FIGURE 2.

SECOND WRAP FLAME RETARDANT ELASTOMER OFFSET BUTT WRAP.

FIG. 3.

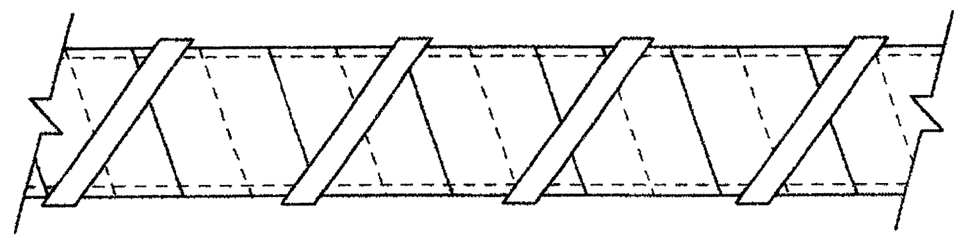


FIGURE 3.

RANDOM WRAP OUTER LAYER WITH A PRESSURE SENSITIVE FIBERGLASS ADHESIVE TAPE TO PREVENT UNRAVELLING.

FIG. 4.

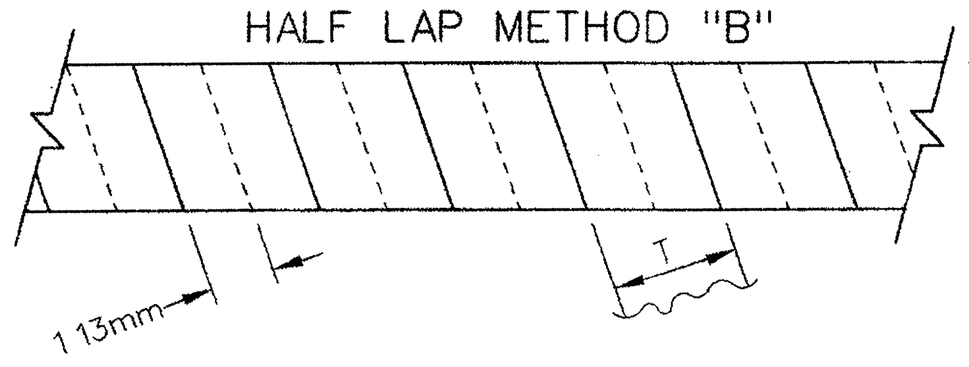


FIGURE 4.

ONE WRAP FLAME RETARDANT ELASTOMER 1/2 OVERLAPPED RANDOM WRAP WITH PRESSURE SENSITIVE FIBERGLASS ADHESIVE TAPE.

NOTE: ELASTOMER TAPE TO BE APPLIED WITH SMOOTH SIDE ON CABLE (ROUGH OR FABRIC SIDE OUT).

APPROXIMATE QUANTITIES REQUIRED PER MANHOLE

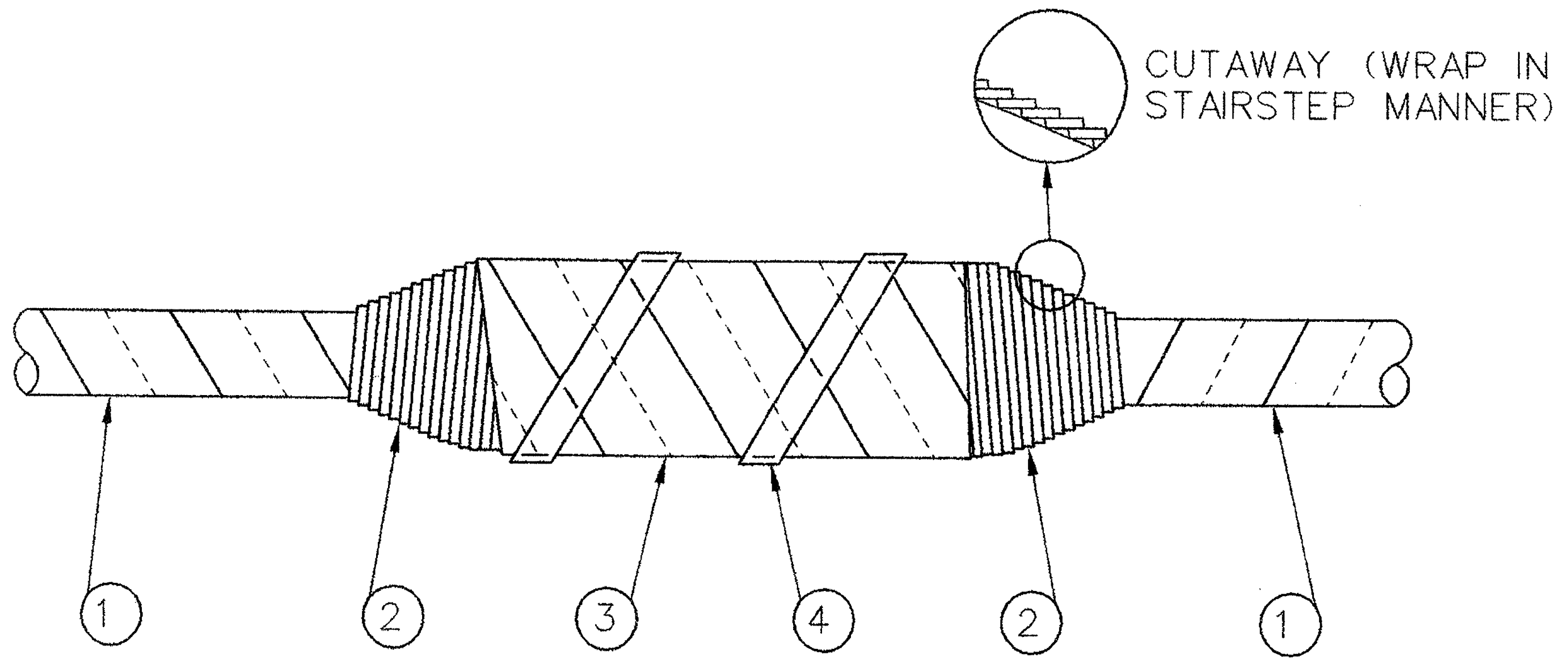
METHOD "A"

5 ROLLS 76mm(3") x 4572mm(15'-0") FELTED ASBESTOS TAPE
4 ROLLS 76mm(3") x 6096mm(20'-0") ELASTOMER TAPE
1 ROLL FIBERGLASS TAPE

METHOD "A" (ASBESTOS TAPE) CAN ONLY BE USED WITH PERMISSION OF THE P.L.D.

METHOD "B"

8 ROLLS (76mm)3") x 6096mm(20'-0") ELASTOMER TAPE (FLAME RETARDANT)
1 ROLL FIBERGLASS TAPE



① WRAP CABLE WITH 76mm(3") WIDE TAPE METHOD "A" OR "B".

② WRAP WIPE WITH 38mm(1.25") WIDE ELASTOMER TAPE AS SHOWN (SPLIT 76mm(3") TAPE WITH SKINNING KNIFE FOR THIS STEP).

③ WRAP SPLICE SLEEVE WITH 76mm(3") WIDE TAPE THE SAME AS IN *1 ABOVE.

④ RANDOM WRAP FIBERGLASS TAPE TO HOLD IN PLACE.

NOTE: WRAP CABLE ON BOTH SIDES OF SPLICE FIRST. NEXT WRAP BOTH WIPES AND THEN COVER THE SLEEVE.

DISK FILE: 204PLD.MTR

REVISIONS	Date	Description	Chkd. by

ST. LTG. AT CLARK TECH PARK 2

CABLE FIREPROOFING

Designed by CEA
Drawn by
Checked by ---------

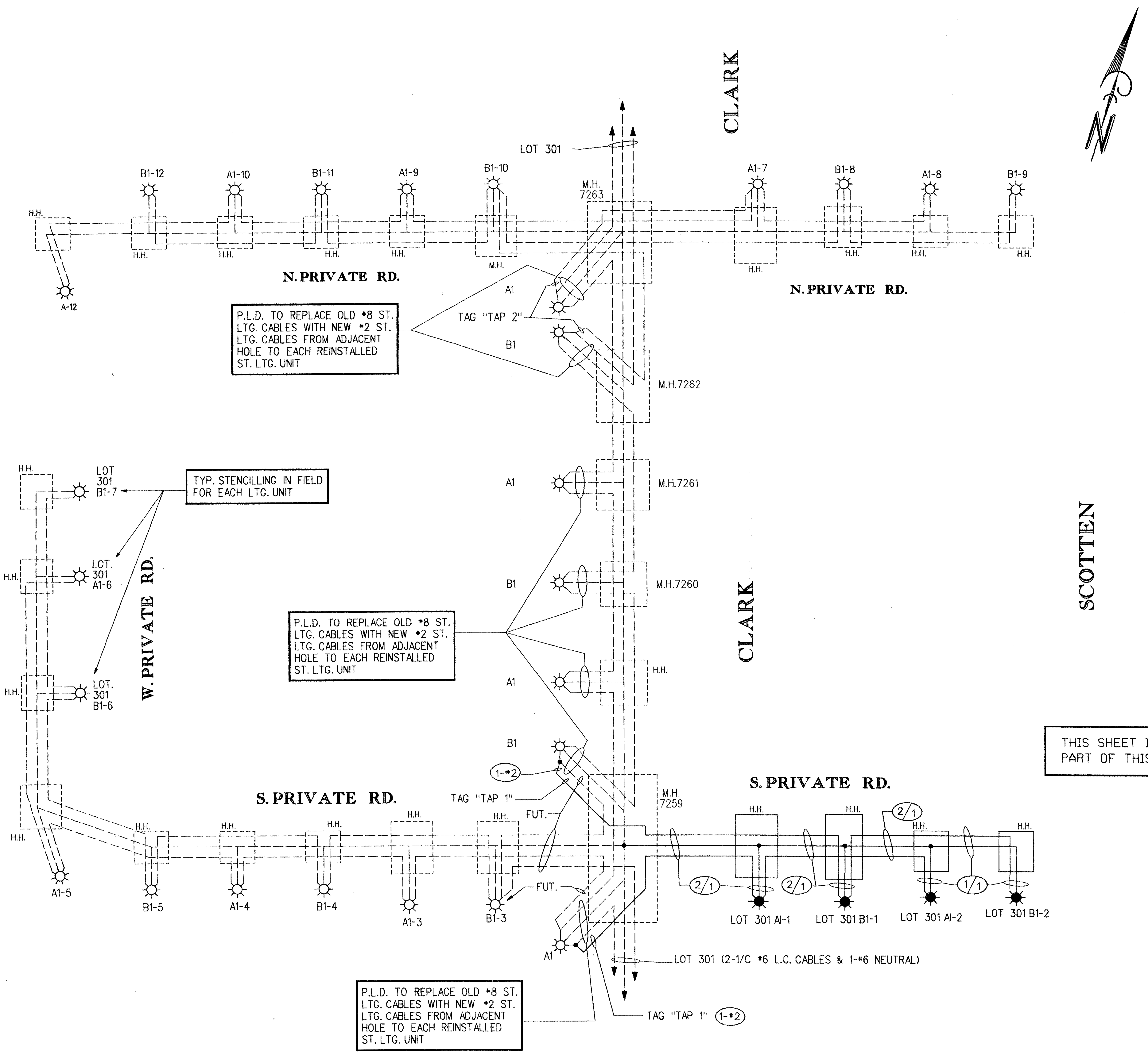
Consulting Engineering Associates, Inc.
16580 WYOMING AVE. DETROIT MICHIGAN 48221
TELEPHONE: (313) 341-5797 FAX: 341-0205

Disk File Name: 204PLDM
File No. CEA 132400A

Scale No Scale
Checked by
Approved by

PUBLIC LIGHTING DEPARTMENT
CITY OF DETROIT

204
File No. ---------
Sheet No. 35 of 44
Date 4-26-00


CLARK
LOT 301
B1-12
A1-10
B1-11
A1-9
B1-10
M.H.
7263
A1-7
B1-8
A1-8
B1-9
H.H.
N. PRIVATE RD.
A-12
M.H.
A1
TAG "TAP 2"
B1
N. PRIVATE RD.
M.H.7262
LOT 301 B1-7
LOT. 301 A1-6
LOT. 301 B1-6
W. PRIVATE RD.
A1
M.H.7261
B1
M.H.7260
CLARK
SCOTTEN
A1
H.H.
B1
1-•2
TAG "TAP 1"
FUT.
M.H.
7259
S. PRIVATE RD.
S. PRIVATE RD.
2/1
2/1
2/1
1/1
LOT 301 AI-1
LOT 301 B1-1
LOT 301 AI-2
LOT 301 B1-2
A1-5
B1-5
A1-4
B1-4
A1-3
B1-3
FUT.
A1
LOT 301 (2-1/C •6 L.C. CABLES & 1-•6 NEUTRAL)
TAG "TAP 1" 1-•2
N

P.L.D. TO REPLACE OLD •8 ST. LTG. CABLES WITH NEW •2 ST. LTG. CABLES FROM ADJACENT HOLE TO EACH REINSTALLED ST. LTG. UNIT

TYP. STENCILLING IN FIELD FOR EACH LTG. UNIT

P.L.D. TO REPLACE OLD •8 ST. LTG. CABLES WITH NEW •2 ST. LTG. CABLES FROM ADJACENT HOLE TO EACH REINSTALLED ST. LTG. UNIT

P.L.D. TO REPLACE OLD •8 ST. LTG. CABLES WITH NEW •2 ST. LTG. CABLES FROM ADJACENT HOLE TO EACH REINSTALLED ST. LTG. UNIT

THIS SHEET IS NOT PART OF THIS CONTRACT

MULT. ST. LTG. DIAGRAM

480/960V.

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

ST. LTG. AT CLARK TECH PARK 2

GENERAL PLAN

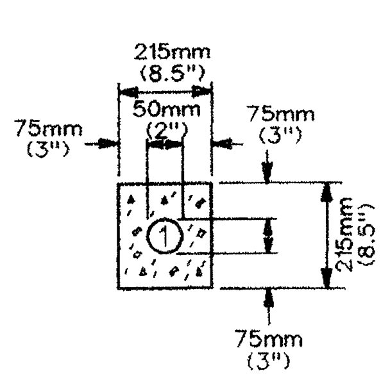
Designed by C.E.A.
Drawn by ---
Checked by ---

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

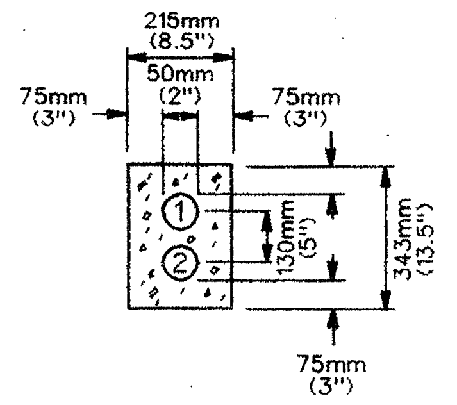
Disk File Name 1324-04
Job File No. CEA 132400
Metric Scale
Checked by
Approved by

PUBLIC LIGHTING DEPARTMENT
CITY OF DETROIT

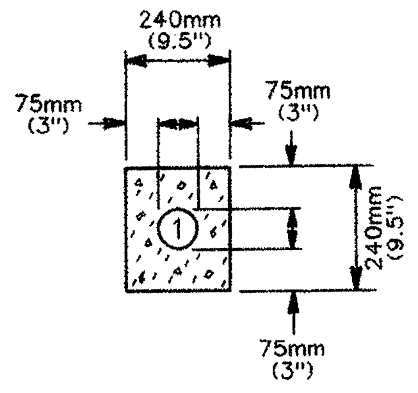
File No. 51-0648
Sheet No. 36 OF 44
Date 4-26-00


215mm (8.5")
50mm (2")
75mm (3")
215mm (8.5")
1

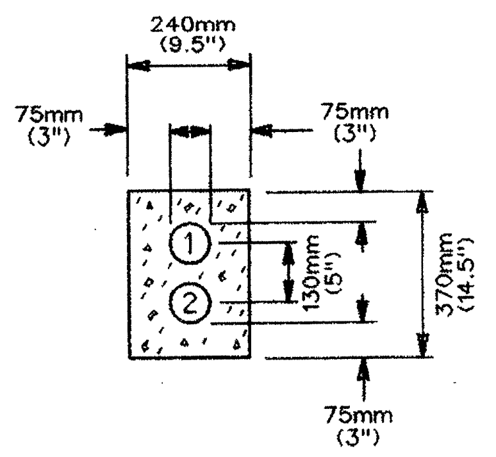
1-50mm (2") CONDUIT


215mm (8.5")
50mm (2")
75mm (3")
130mm (5")
343mm (13.5")
1
2

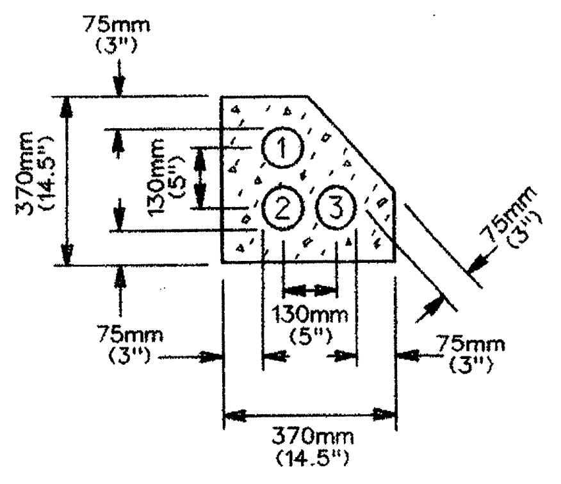
2-50mm (2") CONDUITS


240mm (9.5")
75mm (3")
240mm (9.5")
1

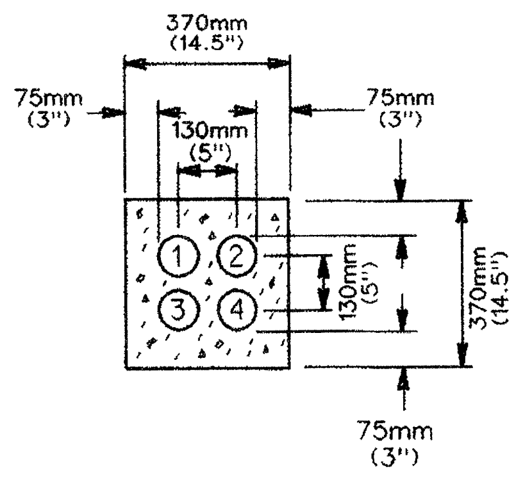
1-75mm (3") CONDUIT


240mm (9.5")
75mm (3")
130mm (5")
370mm (14.5")
1
2

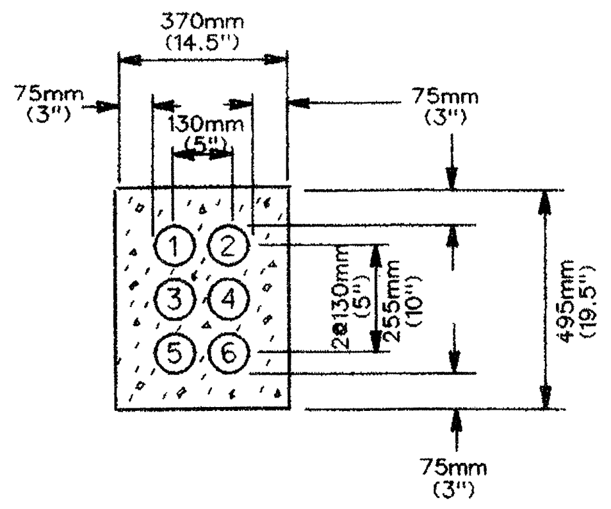
2-75mm (3") CONDUITS


75mm (3")
370mm (14.5")
130mm (5")
1
2 3

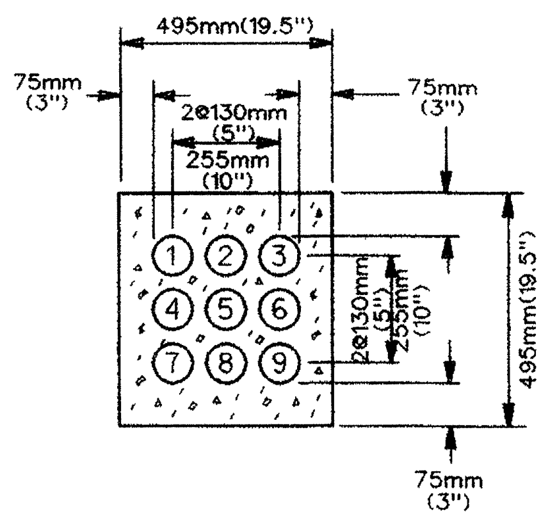
3-75mm (3") CONDUITS


370mm (14.5")
75mm (3")
130mm (5")
370mm (14.5")
1 2
3 4

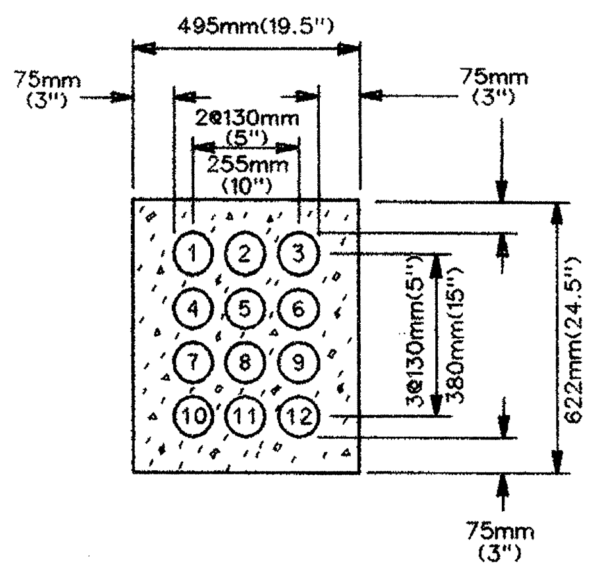
4-75mm (3") CONDUITS


370mm (14.5")
75mm (3")
130mm (5")
2Ø130mm (5")
255mm (10")
495mm (19.5")
1 2
3 4
5 6

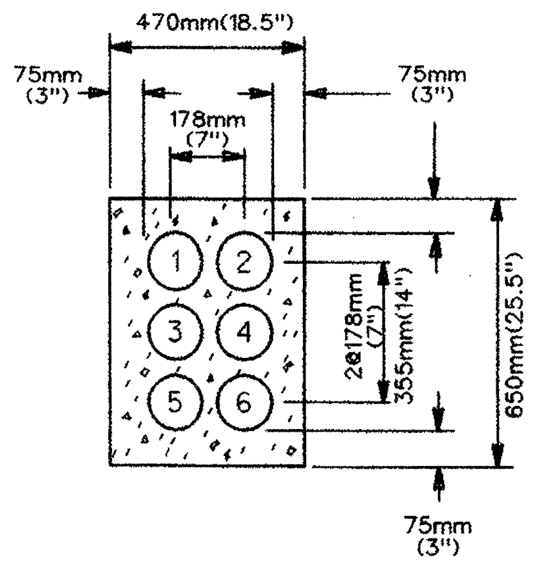
6-75mm (3") CONDUITS


495mm (19.5")
75mm (3")
2Ø130mm (5")
255mm (10")
495mm (19.5")
1 2 3
4 5 6
7 8 9

9-75mm (3") CONDUITS


495mm (19.5")
75mm (3")
2Ø130mm (5")
255mm (10")
3Ø130mm (5")
380mm (15")
622mm (24.5")
1 2 3
4 5 6
7 8 9
10 11 12

12-75mm (3") CONDUITS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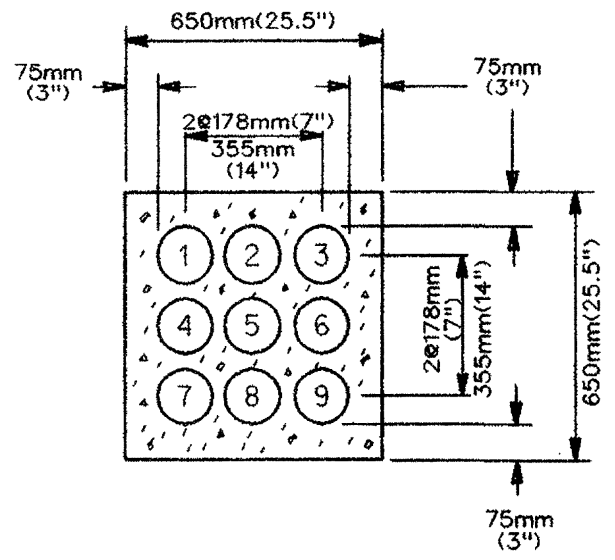
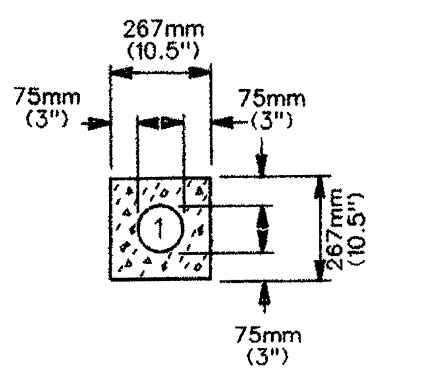
2Ø178mm (7")
355mm (14")
650mm (25.5")
1 2
3 4
5 6

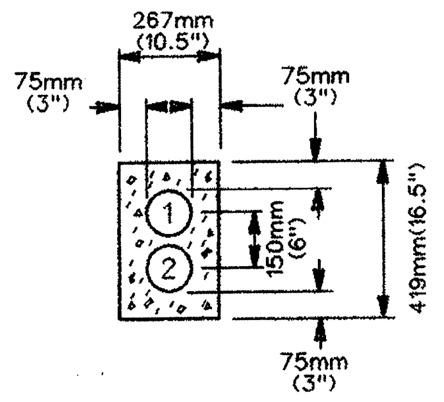
6-130mm (5") CONDUITS


650mm (25.5")
75mm (3")
2Ø178mm (7")
355mm (14")
650mm (25.5")
1 2 3
4 5 6
7 8 9

9-130mm (5") CONDUITS


267mm (10.5")
75mm (3")
267mm (10.5")
1

1-100mm (4") CONDUIT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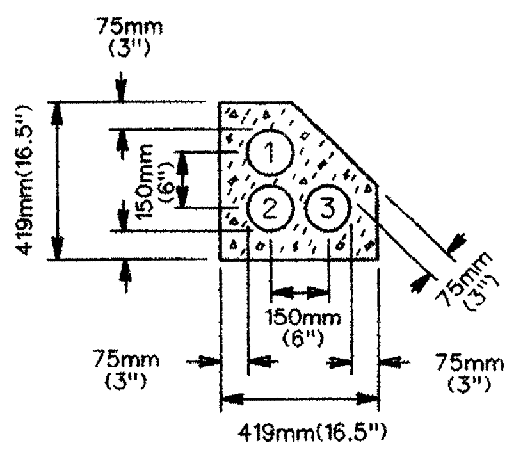
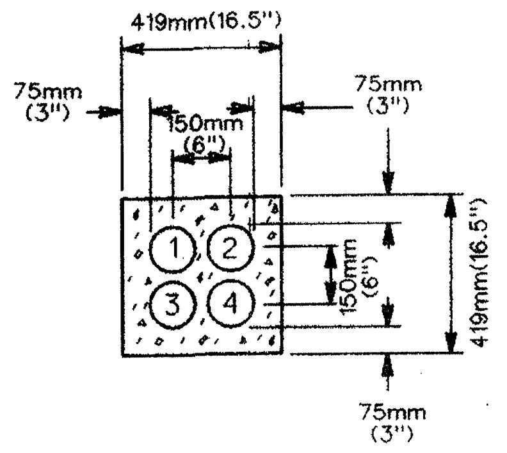
75mm (3")
150mm (6")
419mm (16.5")
1
2

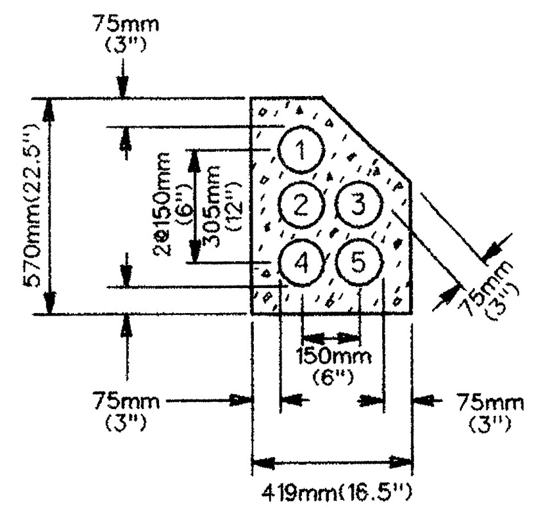
2-100mm (4") CONDUITS


75mm (3")
419mm (16.5")
150mm (6")
419mm (16.5")
1
2 3

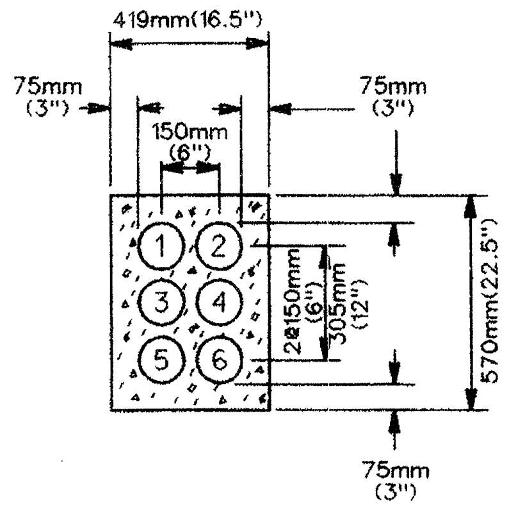
3-100mm (4") CONDUITS


419mm (16.5")
75mm (3")
150mm (6")
419mm (16.5")
1 2
3 4

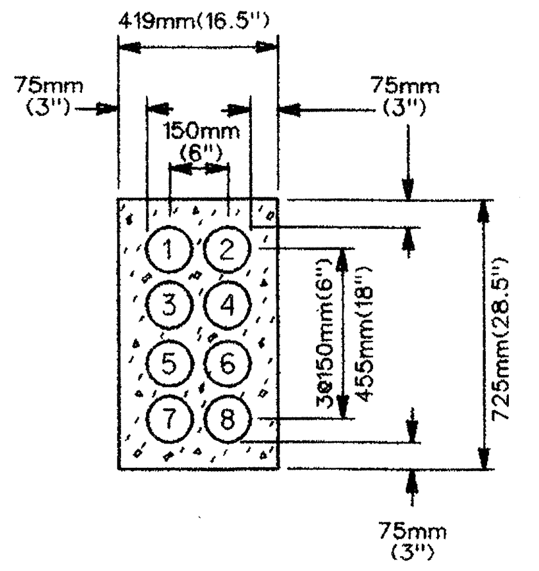
4-100mm (4") CONDUITS


75mm (3")
570mm (22.5")
2Ø150mm (6")
305mm (12")
150mm (6")
419mm (16.5")
1
2 3
4 5

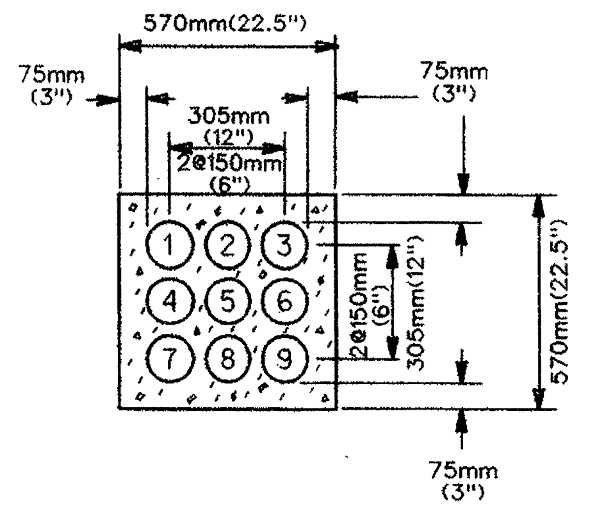
5-100mm (4") CONDUITS


419mm (16.5")
75mm (3")
150mm (6")
2Ø150mm (6")
305mm (12")
570mm (22.5")
1 2
3 4
5 6

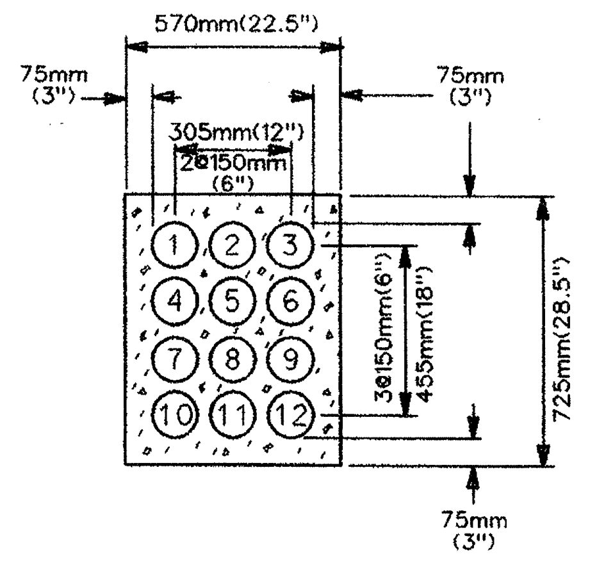
6-100mm (4") CONDUITS


419mm (16.5")
75mm (3")
150mm (6")
3Ø150mm (6")
455mm (18")
725mm (28.5")
1 2
3 4
5 6
7 8

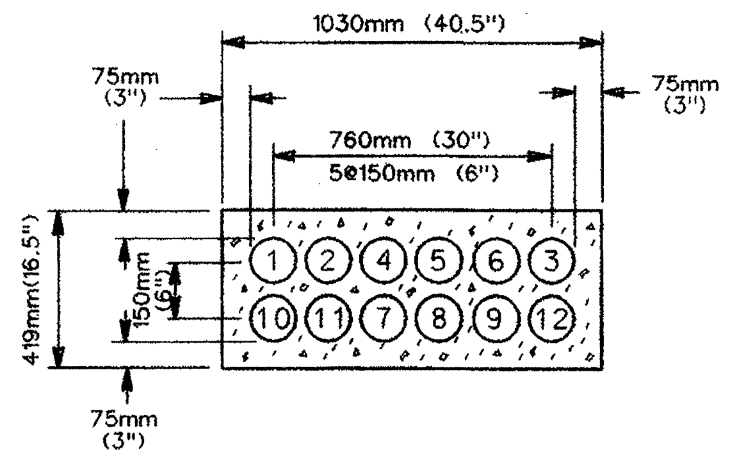
8-100mm (4") CONDUITS


570mm (22.5")
75mm (3")
305mm (12")
2Ø150mm (6")
305mm (12")
570mm (22.5")
1 2 3
4 5 6
7 8 9

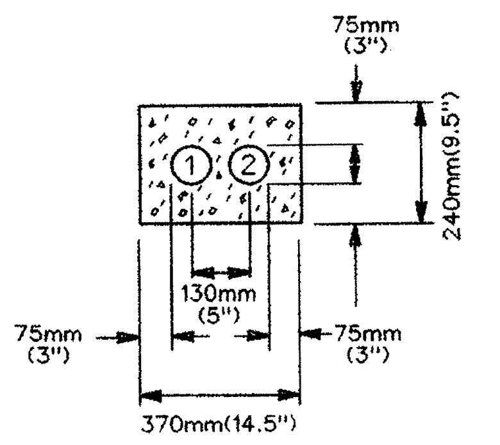
9-100mm (4") CONDUITS


570mm (22.5")
75mm (3")
305mm (12")
2Ø150mm (6")
3Ø150mm (6")
455mm (18")
725mm (28.5")
1 2 3
4 5 6
7 8 9
10 11 12

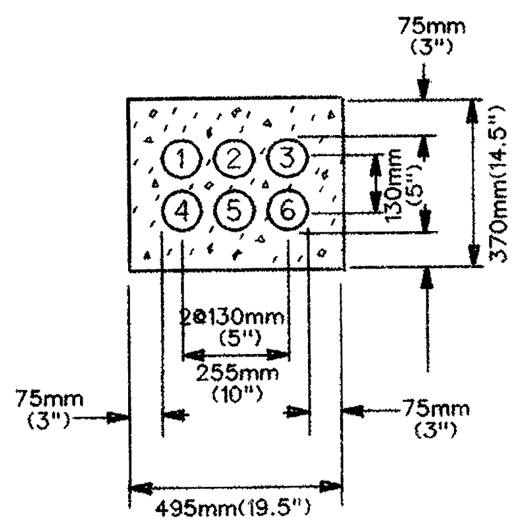
12-100mm (4") CONDUITS


1030mm (40.5")
75mm (3")
760mm (30")
5Ø150mm (6")
150mm (6")
419mm (16.5")
1 2 4 5 6 3
10 11 7 8 9 12

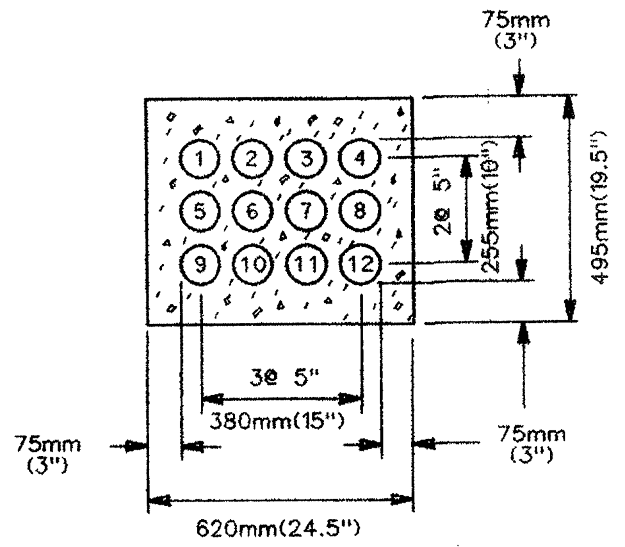
12-100mm (4") CONDUITS IN BRIDGE APPROACH


75mm (3")
240mm (9.5")
130mm (5")
370mm (14.5")
1 2

2-75mm (3") CONDUITS


75mm (3")
130mm (5")
370mm (14.5")
2Ø130mm (5")
255mm (10")
495mm (19.5")
1 2 3
4 5 6

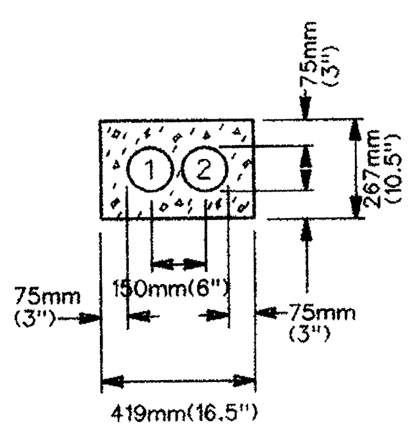
6-75mm (3") CONDUITS


75mm (3")
2Ø 5"
255mm (10")
495mm (19.5")
3Ø 5"
380mm (15")
620mm (24.5")
1 2 3 4
5 6 7 8
9 10 11 12

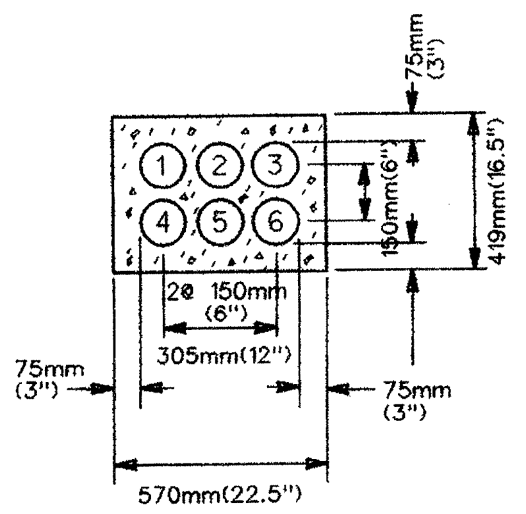
12-75mm (3") CONDUITS

ALTERNATE ARRANGEMENT OF 75mm (3") CONDUIT

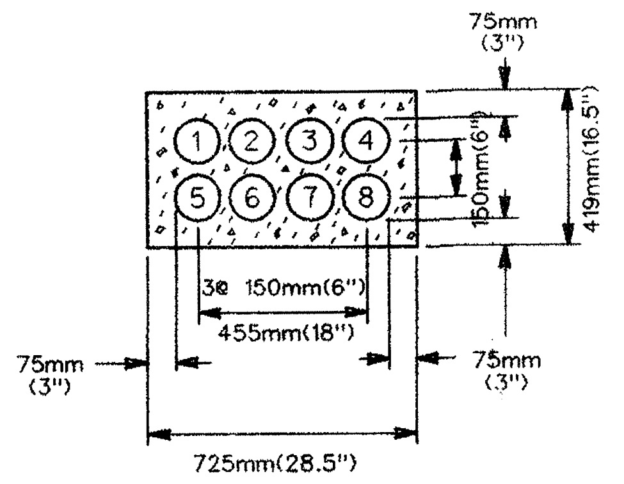
(TO SUIT FIELD CONDITIONS)
(TO BE APPROVED BY THE ENGINEER)


75mm (3")
267mm (10.5")
150mm (6")
419mm (16.5")
1 2

2-100mm (4") CONDUITS


75mm (3")
150mm (6")
419mm (16.5")
2Ø 150mm (6")
305mm (12")
570mm (22.5")
1 2 3
4 5 6

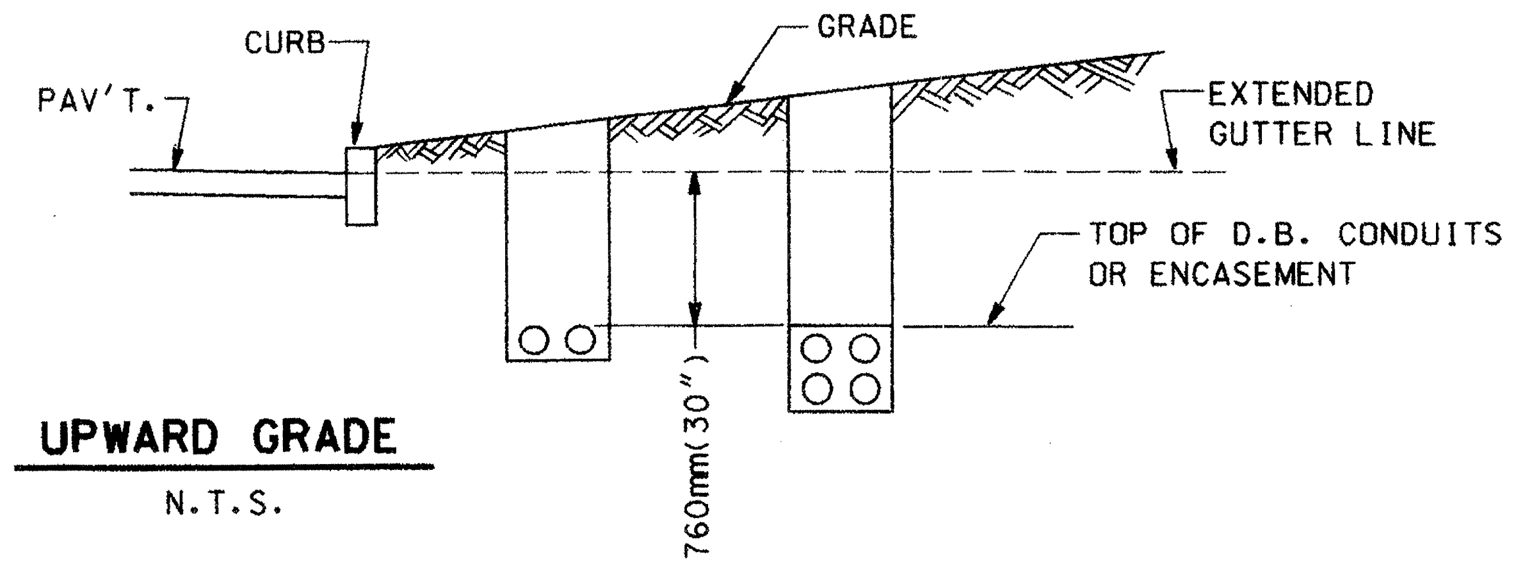
6-100mm (4") CONDUITS


75mm (3")
150mm (6")
419mm (16.5")
3Ø 150mm (6")
455mm (18")
725mm (28.5")
1 2 3 4
5 6 7 8

8-100mm (4") CONDUITS

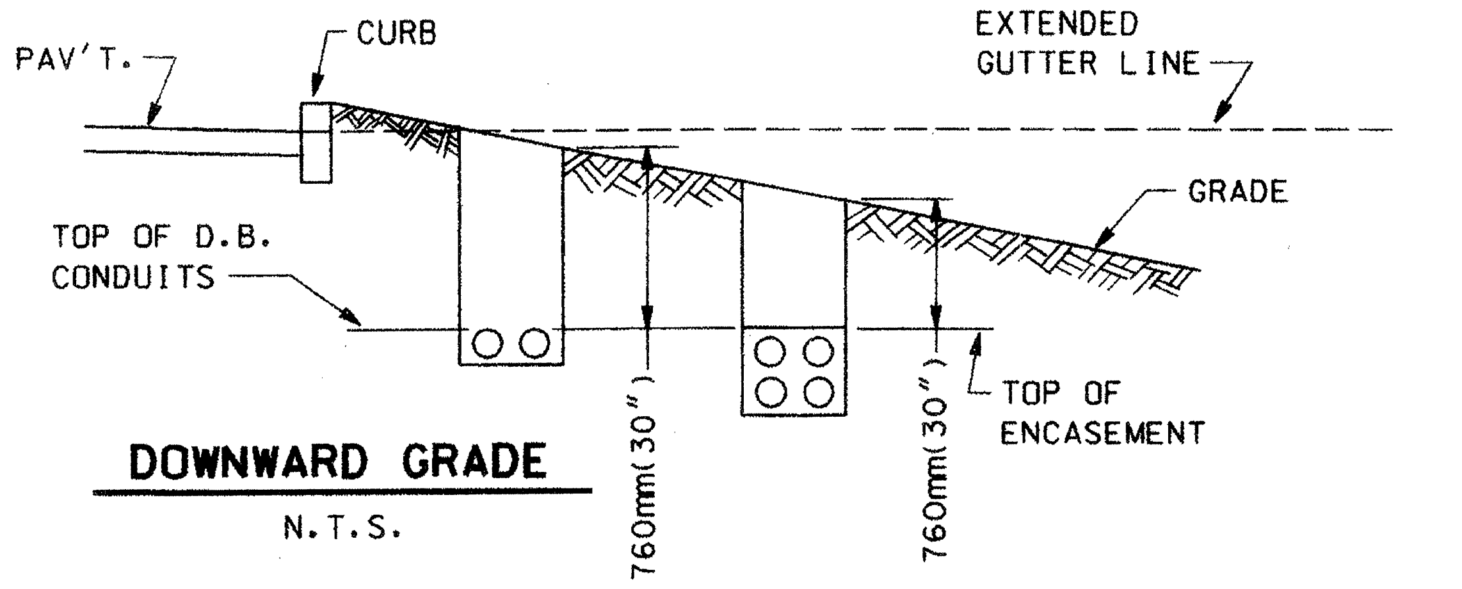
ALTERNATE ARRANGEMENT OF 100mm (4") CONDUIT

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


CURB
GRADE
PAV'T.
EXTENDED GUTTER LINE
TOP OF D.B. CONDUITS OR ENCASEMENT
760mm (30")

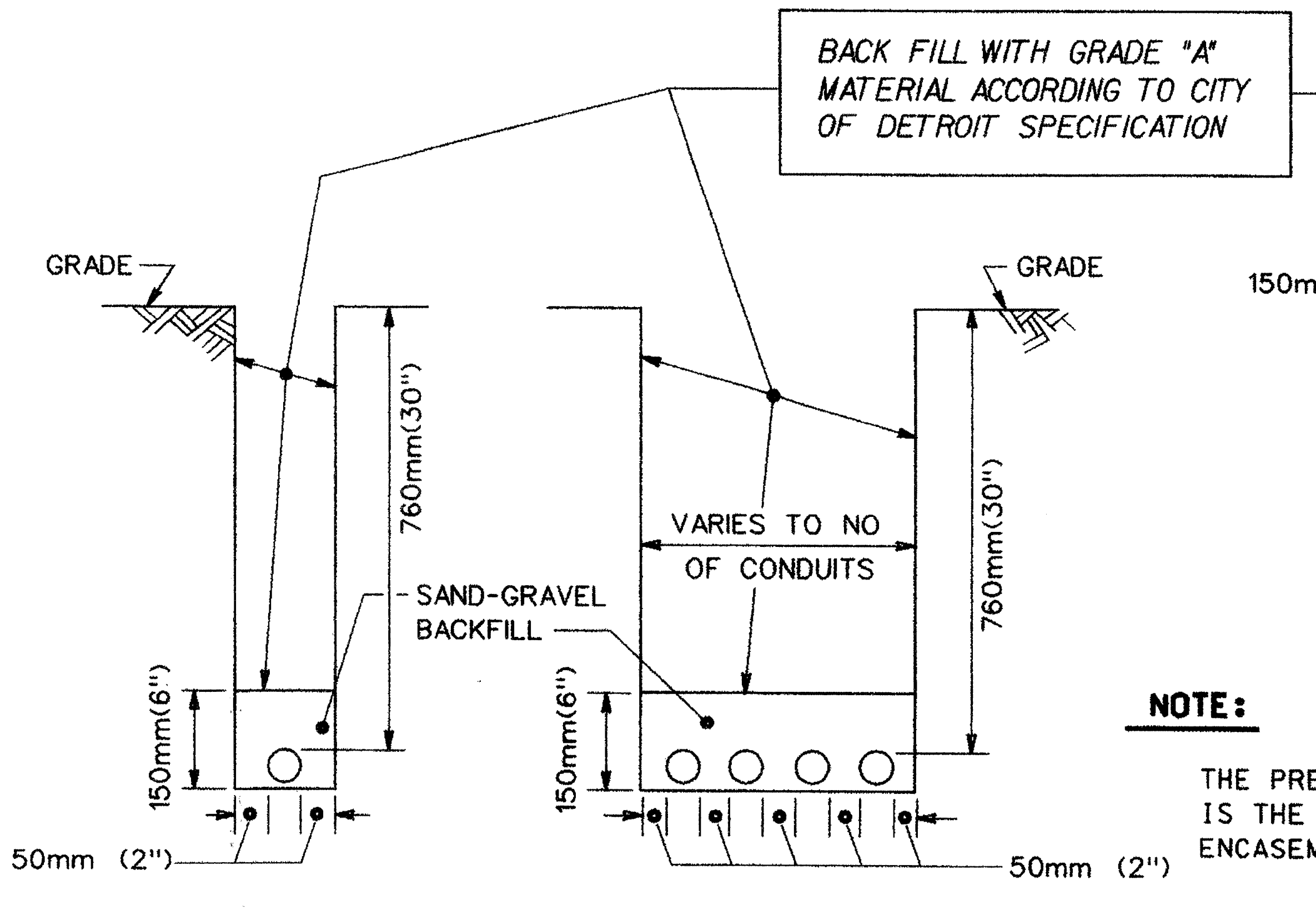
UPWARD GRADE

N.T.S.

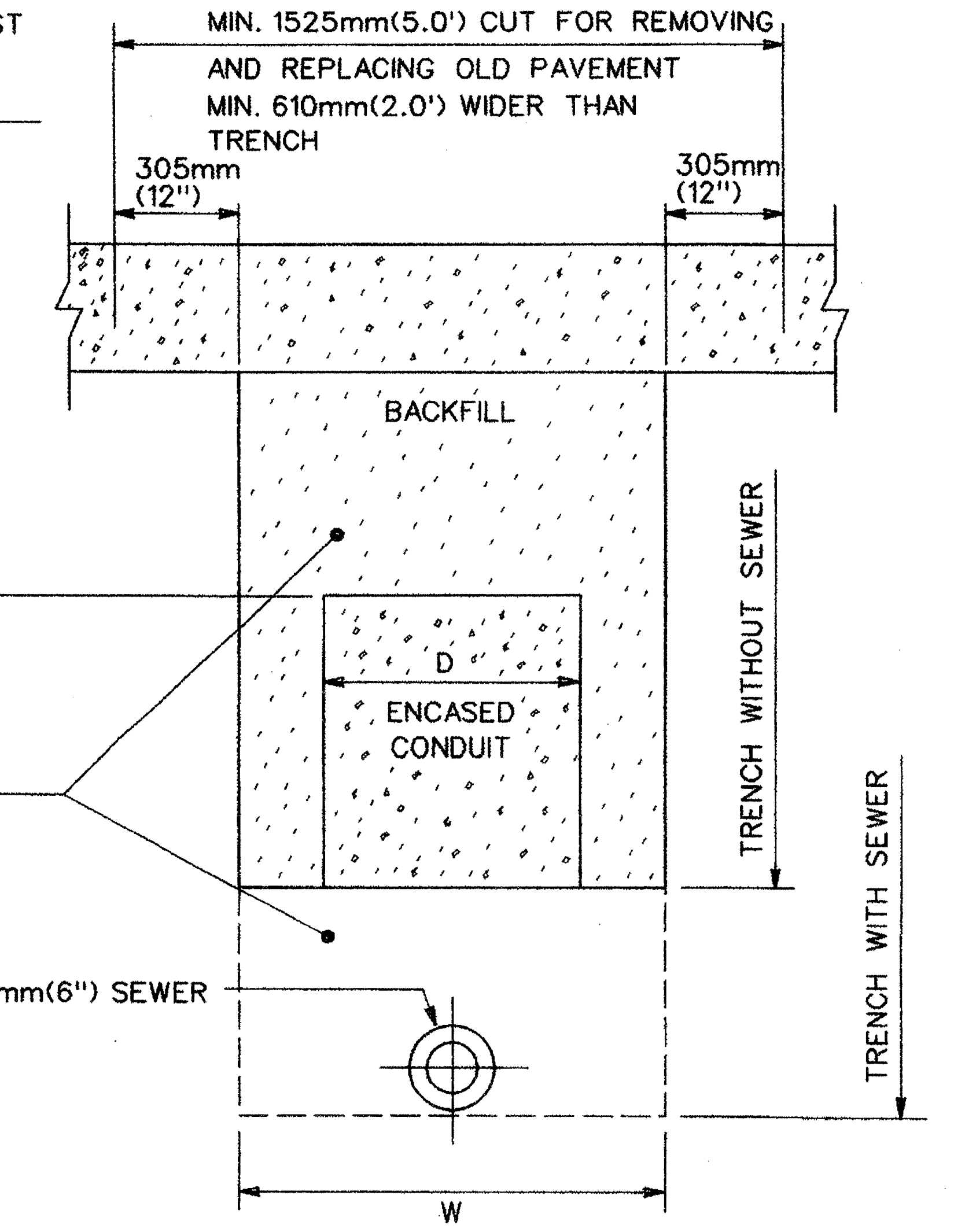

PAV'T.
CURB
EXTENDED GUTTER LINE
GRADE
TOP OF D.B. CONDUITS
TOP OF ENCASEMENT
760mm (30")
760mm (30")

DOWNWARD GRADE

N.T.S.


BACK FILL WITH GRADE "A" MATERIAL ACCORDING TO CITY OF DETROIT SPECIFICATION
GRADE
GRADE
760mm (30")
SAND-GRAVEL BACKFILL
VARIES TO NO OF CONDUITS
760mm (30")
150mm (6")
150mm (6")
50mm (2")
50mm (2")

DIRECT BURIAL CONDUIT(S)


TOP OF NEAREST CURB
915mm (3.0') FOR MAIN RUNS
760mm (2.5') FOR LATERALS
MIN. 1525mm(5.0') CUT FOR REMOVING AND REPLACING OLD PAVEMENT MIN. 610mm(2.0') WIDER THAN TRENCH
305mm (12")
305mm (12")
BACKFILL
D
ENCASED CONDUIT
TRENCH WITHOUT SEWER
TRENCH WITH SEWER
150mm(6") SEWER
W

ENCASED CONDUIT(S)

NOTE:

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

101

REVISIONS	Date	Description	Chkd. by

IMPROVEMENT OF TRAFFIC SIGNALS
ST. LTG. AT CLARK TECH PARK 2

MISCELLANEOUS CONDUIT SECTIONS

Designed by CEA
Drawn by
Checked by --------

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

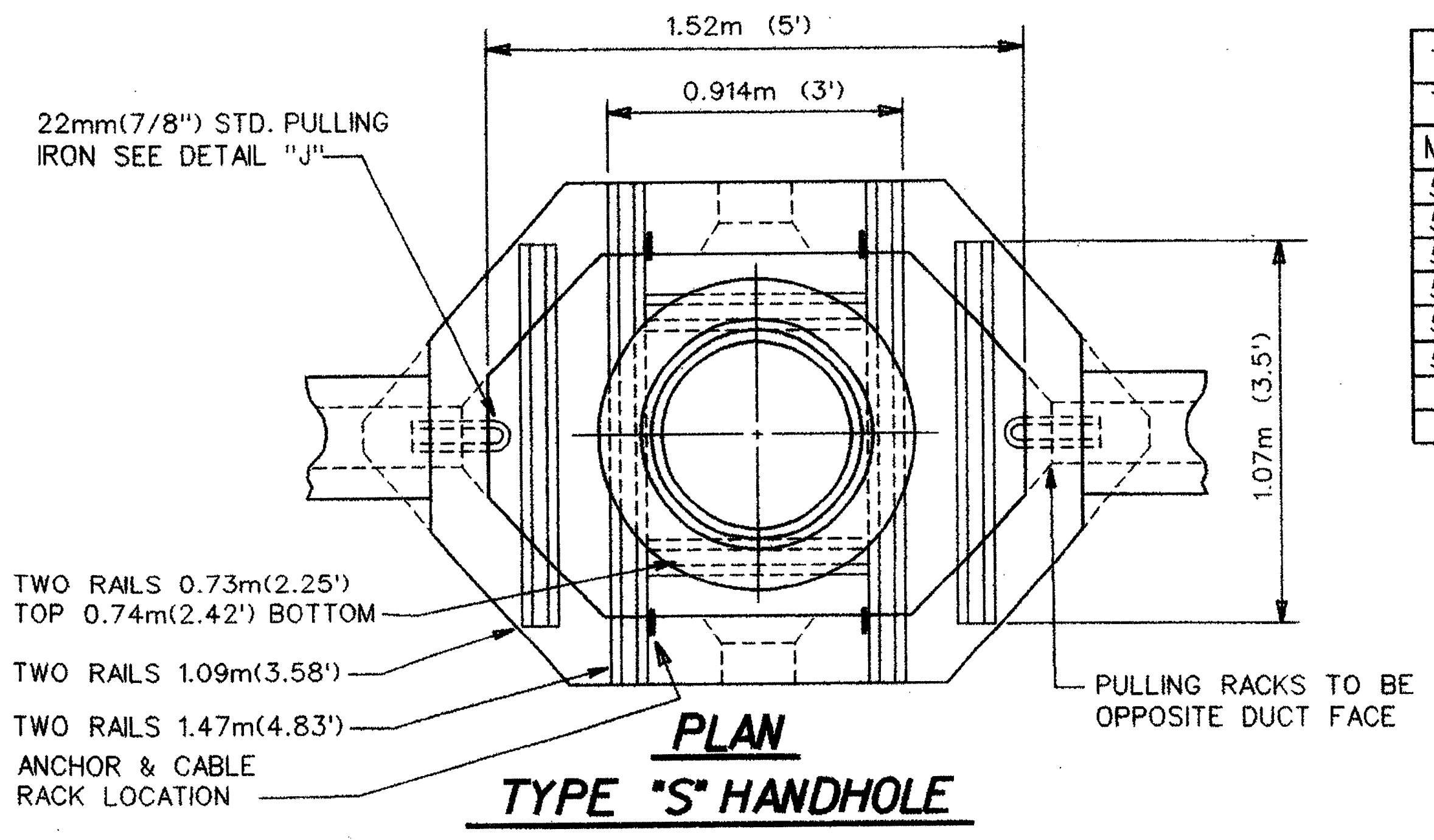
Disk File Name: 101PLDM
File No. CEA 132400

Scale No Scale
Checked by
Approved by

PUBLIC LIGHTING DEPARTMENT
CITY OF DETROIT

File No.
Sheet No. 37 of 44
Date 4-26-00

DISK FILE: 101PLDM.MTR


1.52m (5')
0.914m (3')
22mm(7/8") STD. PULLING IRON SEE DETAIL "J"
1.07m (3.5')
TWO RAILS 0.73m(2.25') TOP 0.74m(2.42') BOTTOM
TWO RAILS 1.09m(3.58')
TWO RAILS 1.47m(4.83')
ANCHOR & CABLE RACK LOCATION
PULLING RACKS TO BE OPPOSITE DUCT FACE

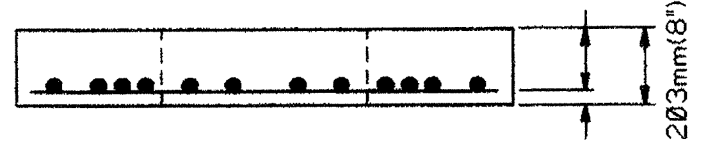
PLAN

TYPE "S" HANDHOLE

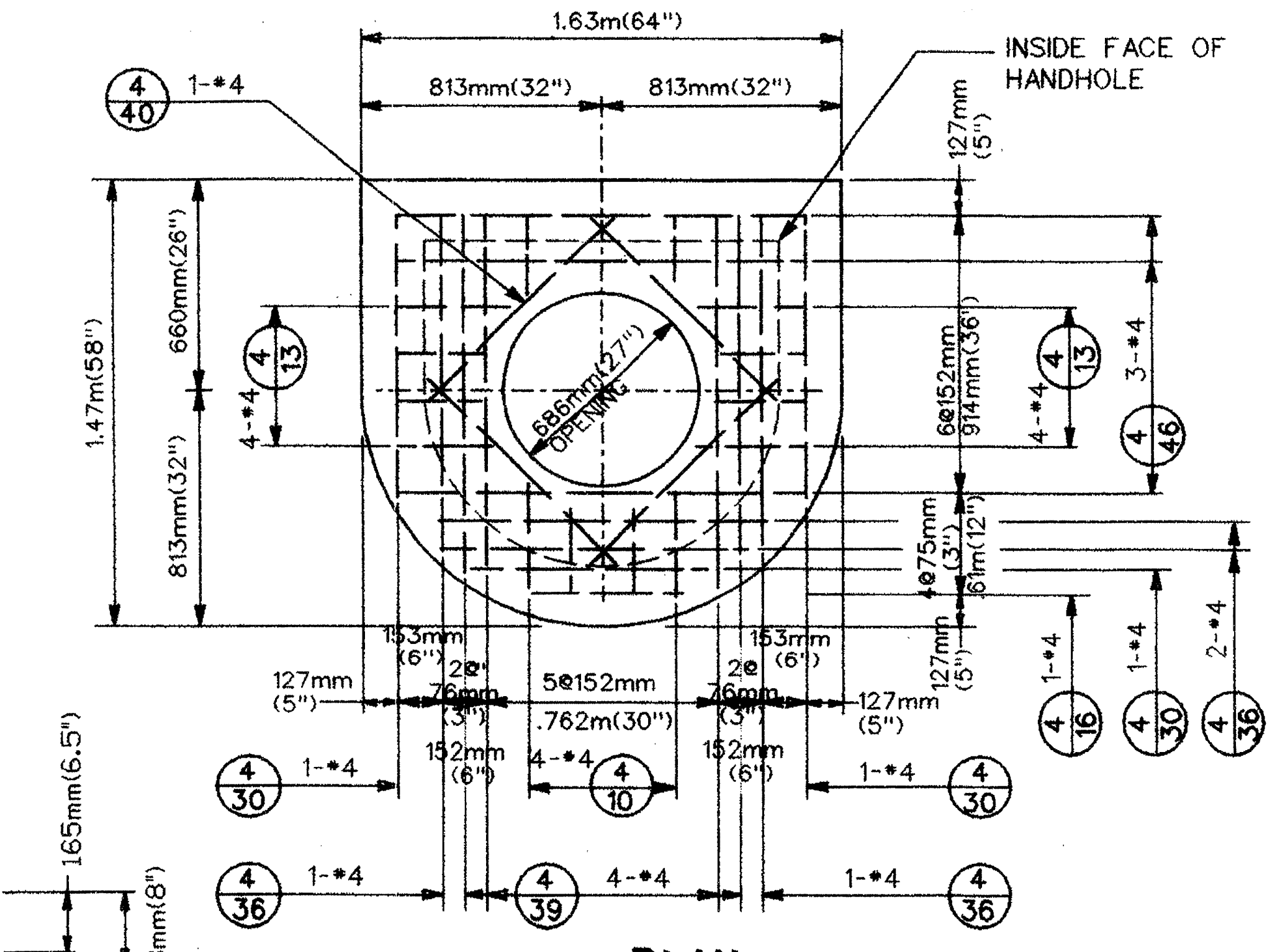
N.T.S.

TYPE "S" HANDHOLE		
TABLE FOR *5 BARS		
MARK	NO.	LENGTH
5-50	2	1.524m(5')
5-46	8	11.37m(4.5')
5-36	4	1.07m(3.5')
5-30	6	.6096m(2')
5-19	10	533mm(21")
5-10	8	3048mm(12")

TYPE "D" HANDHOLE		
TABLE FOR *4 BARS		
MARK	NO.	LENGTH
4-46	3	1.37m(54")
4-40	4	1.22m(48")
4-39	4	1.14m(45")
4-36	4	1.07m(42")
4-30	3	914mm(36")
4-16	1	457mm(18")
4-13	8	381mm(15")
4-10	4	305mm(12")


165mm(6.5")
203mm(8")
40mm

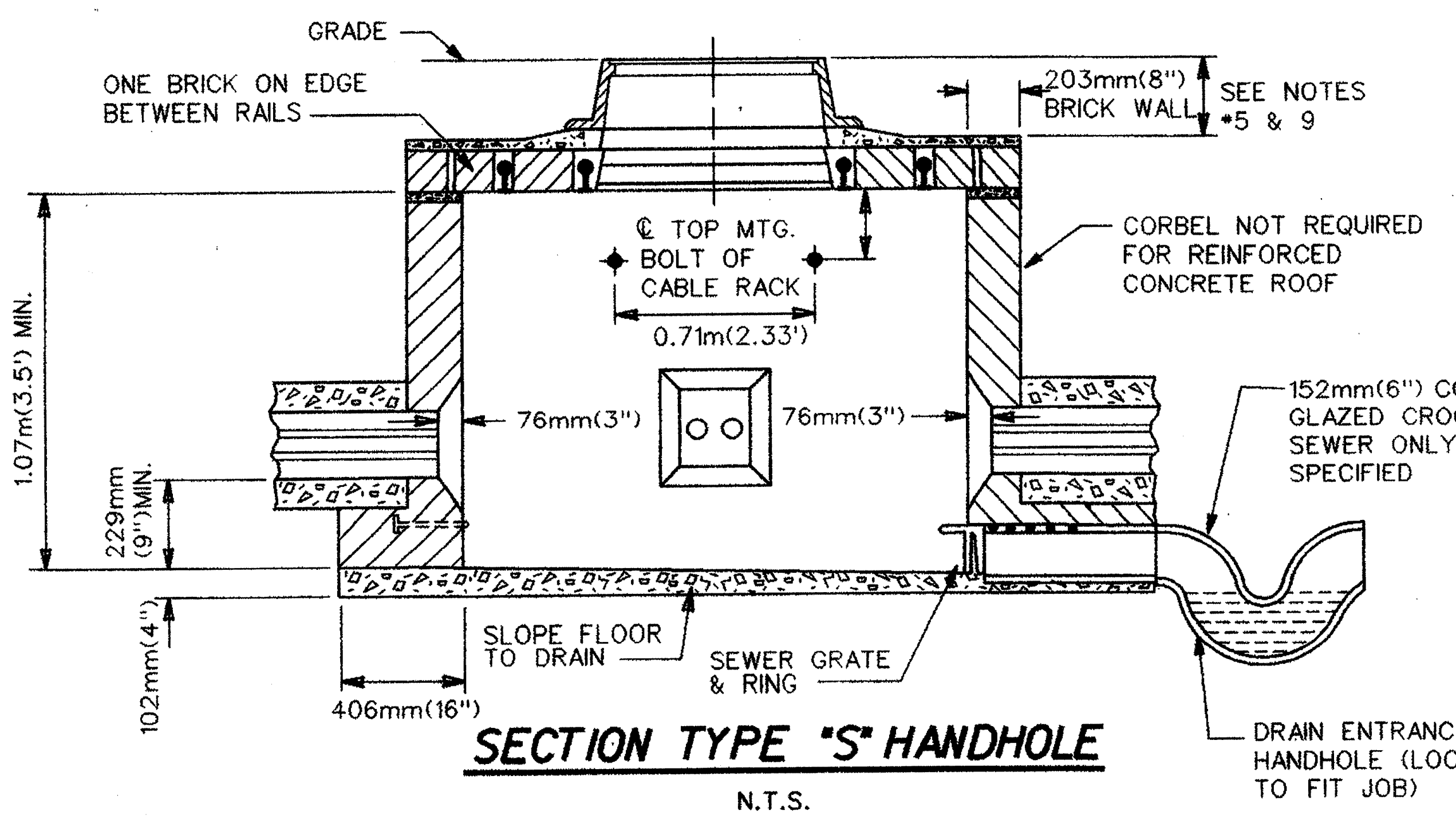
ELEVATION


1.63m(64")
813mm(32")
813mm(32")
INSIDE FACE OF HANDHOLE
1-*4
660mm(26")
1.47m(58")
813mm(32")
5@152mm .762m(30")
127mm (5")
153mm (6")
152mm (6")
2-*4
3-*4
4-*4
1-*4

PLAN

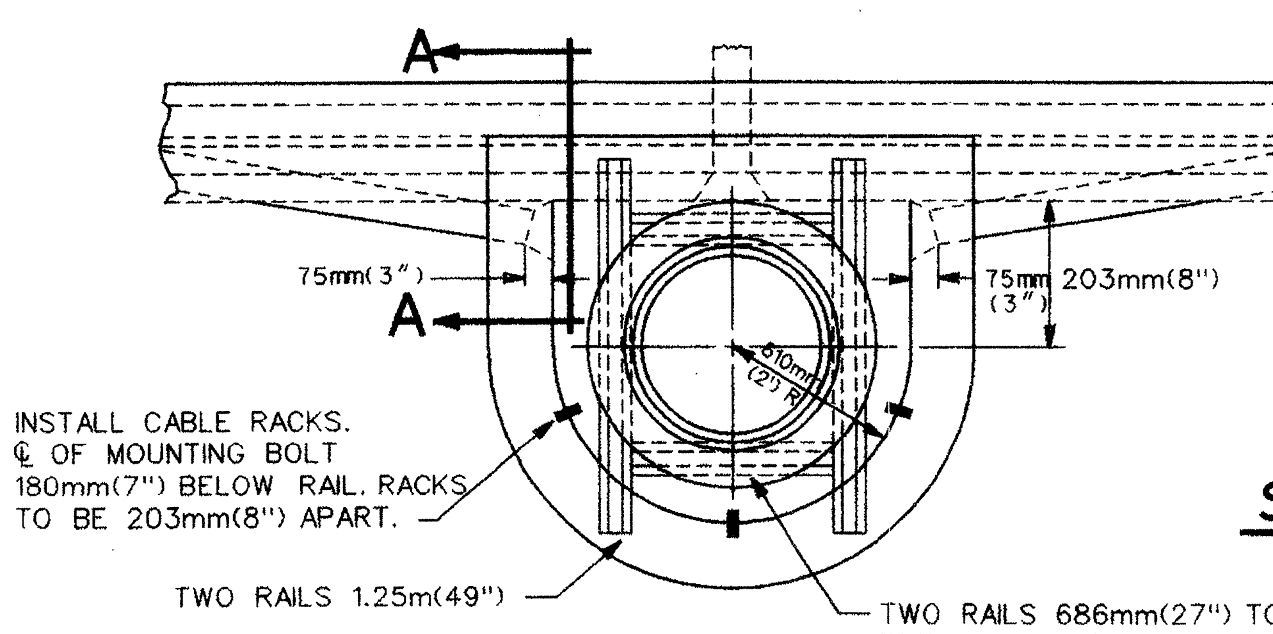
ALTERNATE ROOF-TYPE "D" HANDHOLE

N.T.S.

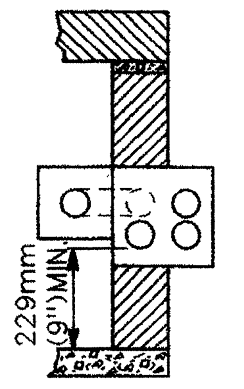

GRADE
ONE BRICK ON EDGE BETWEEN RAILS
203mm(8") BRICK WALL
SEE NOTES *5 & 9
℄ TOP MTG. BOLT OF CABLE RACK
0.71m(2.33')
CORBEL NOT REQUIRED FOR REINFORCED CONCRETE ROOF
1.07m(3.5') MIN.
76mm(3")
76mm(3")
152mm(6") CONCRETE OR GLAZED CROCK DRAIN TO SEWER ONLY WHERE SPECIFIED
229mm (9")MIN.
102mm(4")
SLOPE FLOOR TO DRAIN
SEWER GRATE & RING
406mm(16")
DRAIN ENTRANCE IN HANDHOLE (LOCATE TO FIT JOB)

SECTION TYPE "S" HANDHOLE

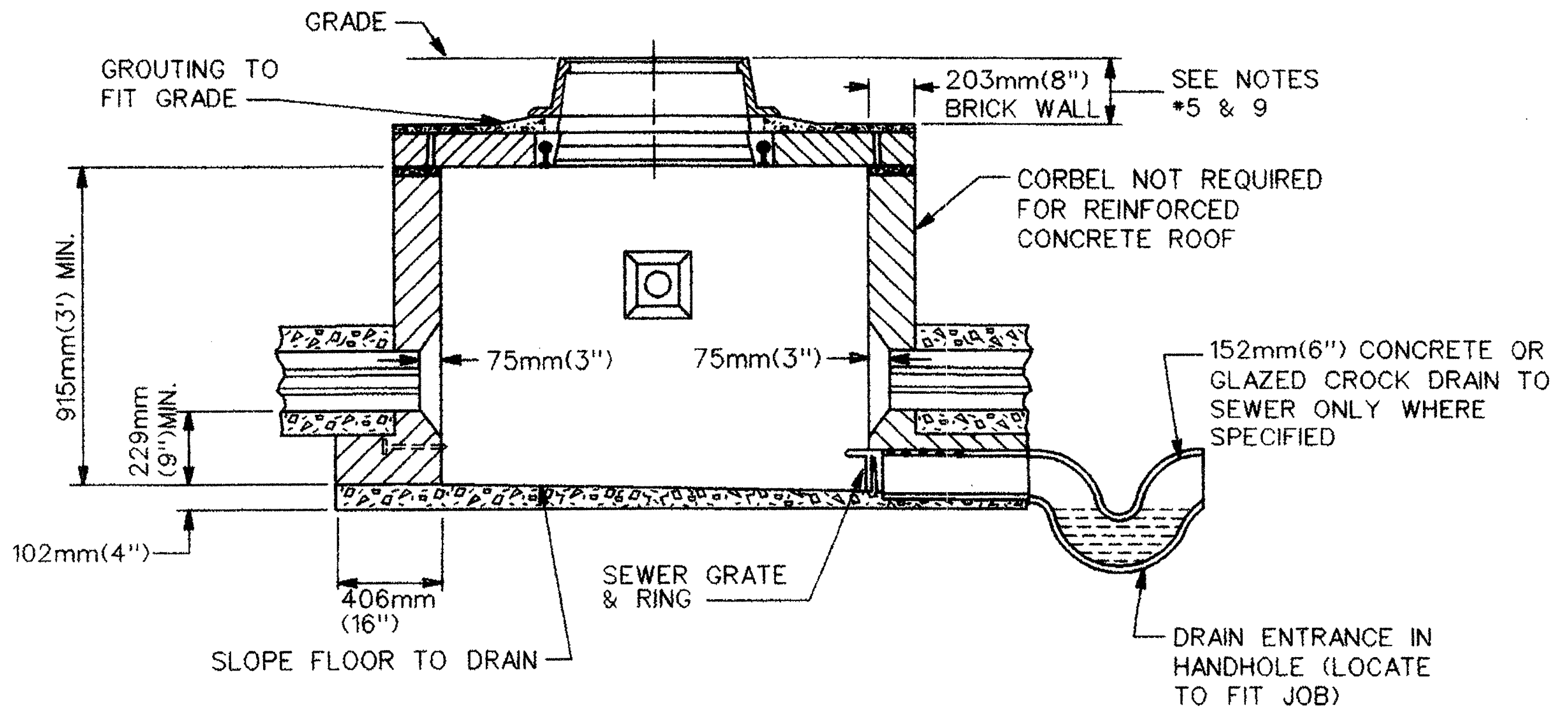
N.T.S.


A
A
75mm(3")
75mm (3")
203mm(8")
INSTALL CABLE RACKS. ℄ OF MOUNTING BOLT 180mm(7") BELOW RAIL. RACKS TO BE 203mm(8") APART.
TWO RAILS 1.25m(49")
TWO RAILS 686mm(27") TOP 737mm(29") BOTTOM

PLAN



SECTION "A-A"

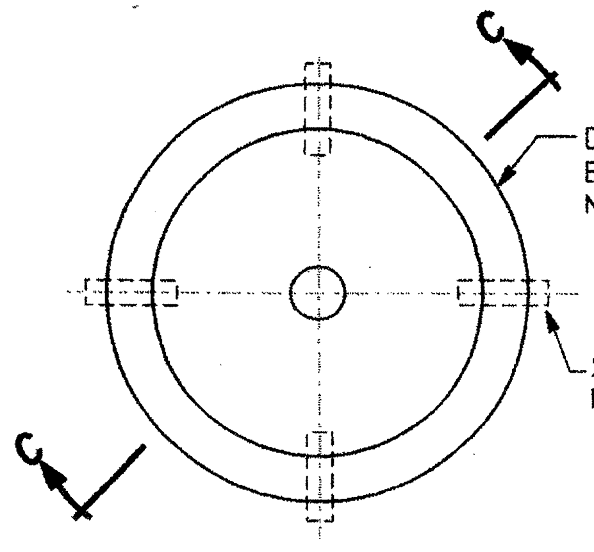

GRADE
GROUTING TO FIT GRADE
203mm(8") BRICK WALL
SEE NOTES *5 & 9
CORBEL NOT REQUIRED FOR REINFORCED CONCRETE ROOF
915mm(3') MIN.
75mm(3")
75mm(3")
229mm (9")MIN.
152mm(6") CONCRETE OR GLAZED CROCK DRAIN TO SEWER ONLY WHERE SPECIFIED
102mm(4")
406mm (16")
SEWER GRATE & RING
SLOPE FLOOR TO DRAIN
DRAIN ENTRANCE IN HANDHOLE (LOCATE TO FIT JOB)

SECTION TYPE "D" HANDHOLE

N.T.S.

NOTE:

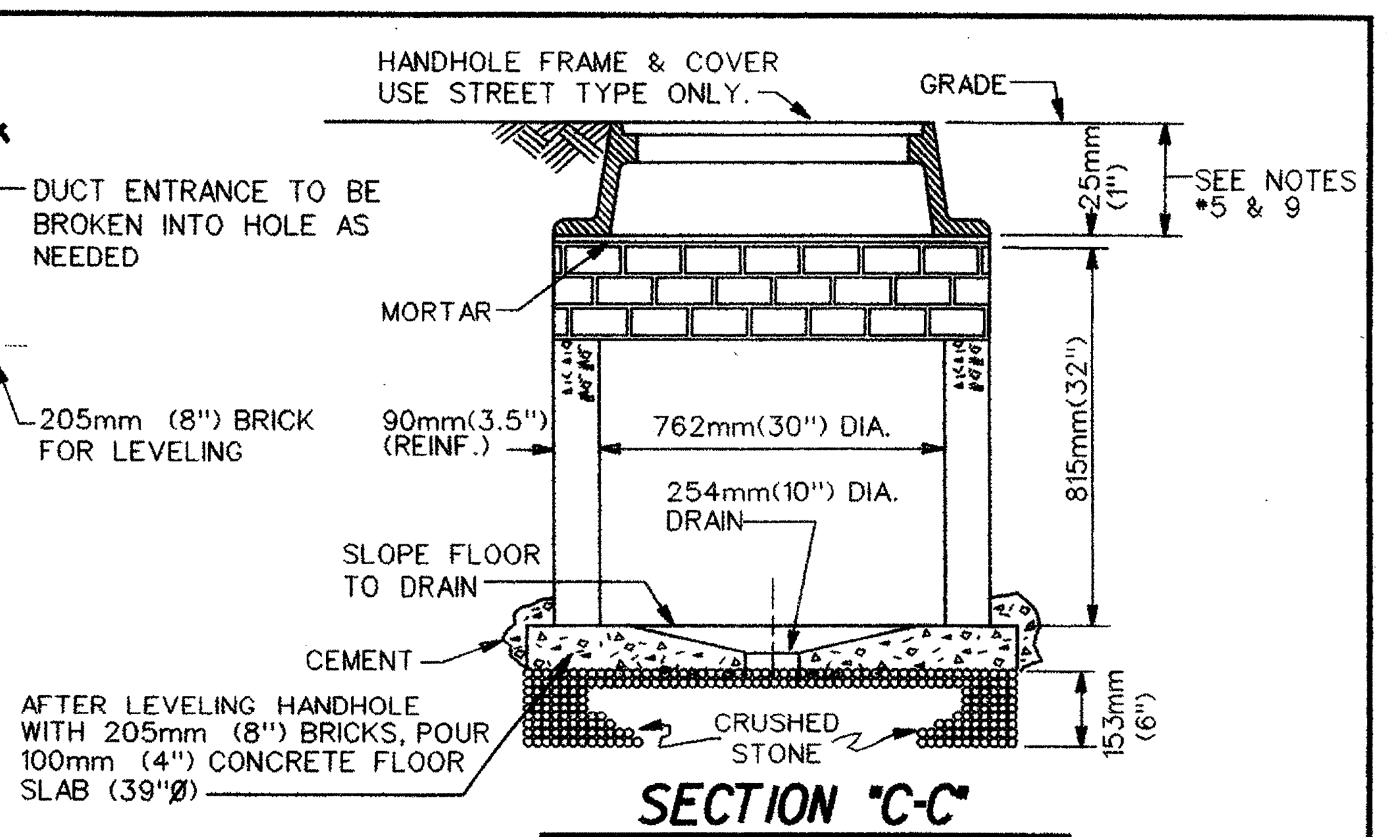
1. DUCT ENTRANCE TO BE BUILT AS REQUIRED.
2. ALL RAILS TO BE 60*/YD. OR HEAVIER.
3. CABLE PULLING IRONS TO BE GALVANIZED
4. CABLE RACKS AND ARMS TO BE GALVANIZED.
5. IN PAVEMENT PROVIDE AT LEAST 75mm(3") BETWEEN ROOF AND BASE OF PAVEMENT. WHERE EXISTING GRADE IS HIGHER THAN PROP. FUTURE GRADE INSTALL 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 457mm(18") BELOW CURB GRADE, TO PROVIDE FOR FUTURE WIDENING.


C
C
DUCT ENTRANCE TO BE BROKEN INTO HOLE AS NEEDED
205mm (8") BRICK FOR LEVELING

PLAN

NOTE:

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


HANDHOLE FRAME & COVER USE STREET TYPE ONLY.
GRADE
25mm (1")
SEE NOTES *5 & 9
MORTAR
90mm(3.5") (REINF.)
762mm(30") DIA.
254mm(10") DIA. DRAIN
815mm(32")
SLOPE FLOOR TO DRAIN
CEMENT
AFTER LEVELING HANDHOLE WITH 205mm (8") BRICKS, POUR 100mm (4") CONCRETE FLOOR SLAB (39"Ø)
CRUSHED STONE
153mm (6")

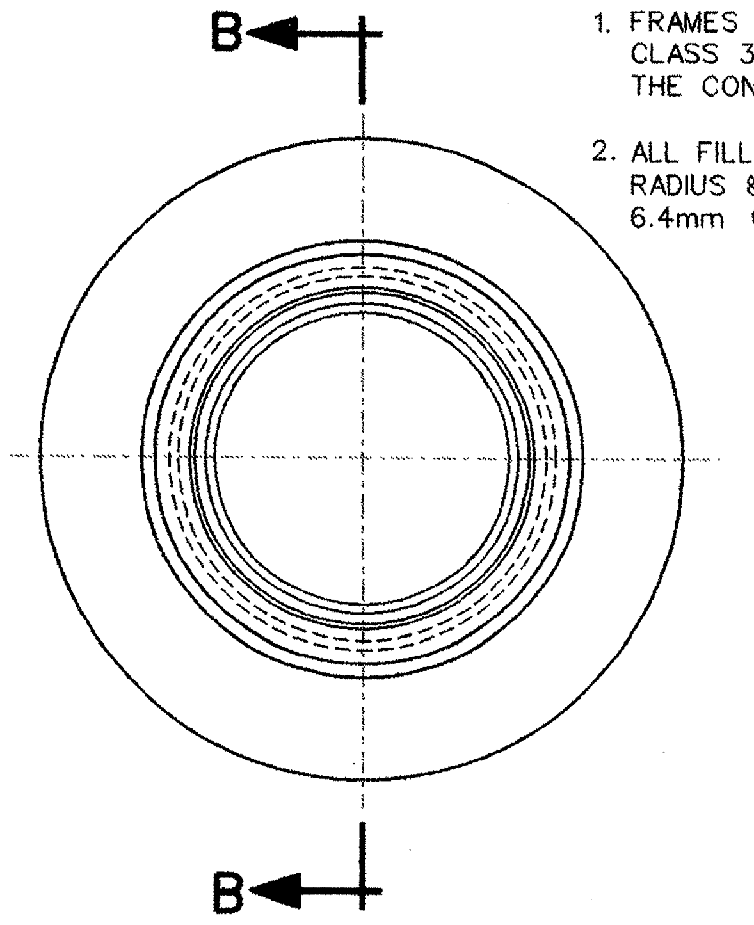
SECTION "C-C"

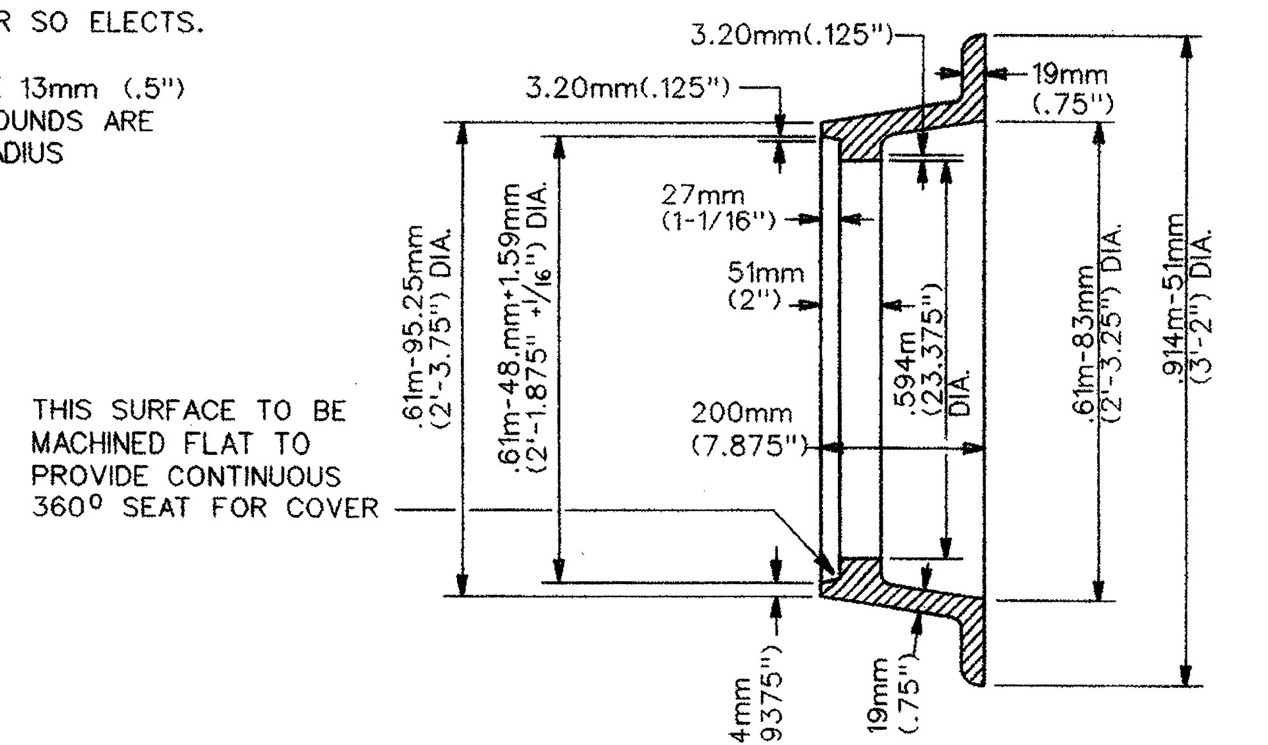
REINFORCED CONCRETE PIPE (CLASS III)

ROUND HANDHOLE

NOTE:

1. FRAMES MAY BE A.S.T.M. CLASS 30 GRAY IRON IF THE CONTRACTOR SO ELECTS.
2. ALL FILLETS ARE 13mm (.5") RADIUS & ALL ROUNDS ARE 6.4mm (.25") RADIUS




3.20mm(.125")
3.20mm(.125")
19mm (.75")
27mm (1-1/16")
51mm (2")
.61m-95.25mm (2'-3.75") DIA.
.61m-48.mm+1.59mm (2'-1.875"+1/16") DIA.
THIS SURFACE TO BE MACHINED FLAT TO PROVIDE CONTINUOUS 360° SEAT FOR COVER
200mm (7.875")
.594m (2'-3.375") DIA.
914m-51mm (3'-2") DIA.
.61m-83mm (2'-3.25") DIA.
24mm (.9375")
19mm (.75")

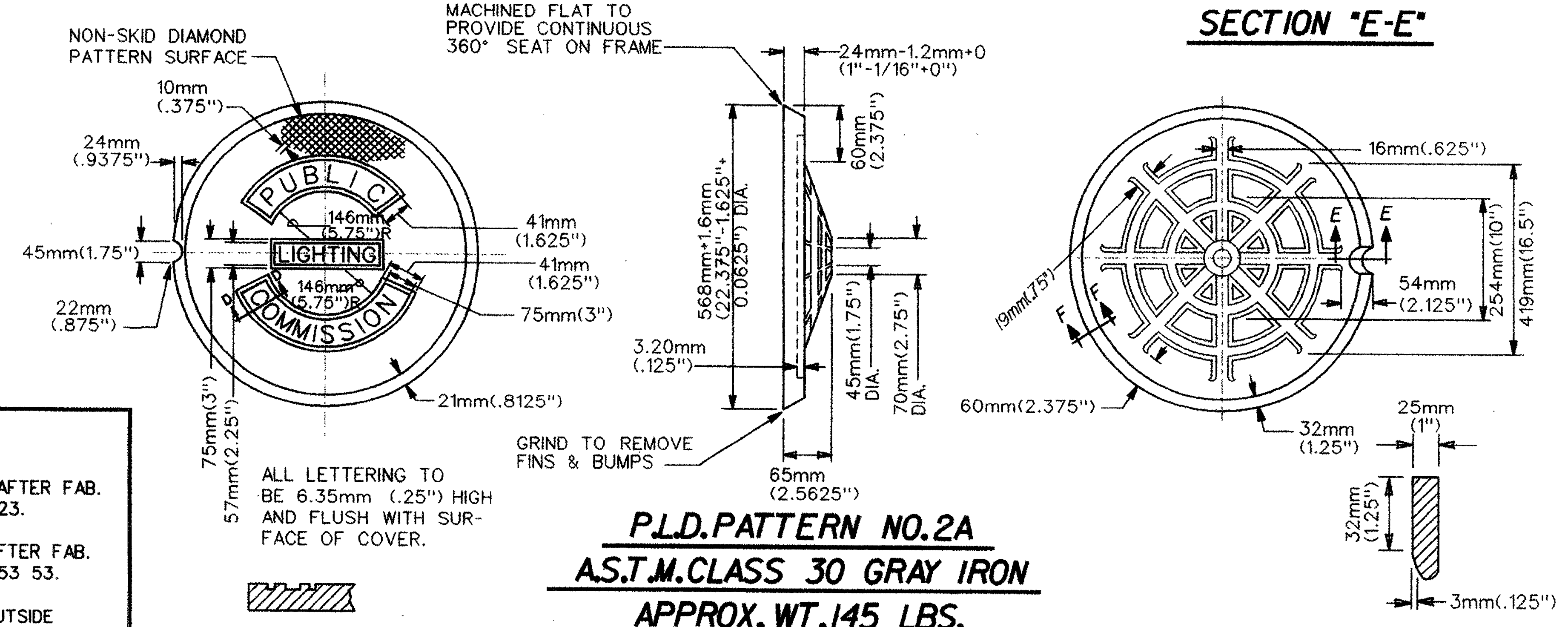
SECTION "B-B"

P.L.D. PATTERN NO.1A

A.S.T.M. CLASS 20 OR 30 GRAY IRON

APPROX. 251 LBS.

HANDHOLE FRAME


NON-SKID DIAMOND PATTERN SURFACE
10mm (.375")
24mm (.9375")
45mm(1.75")
22mm (.875")
PUBLIC
LIGHTING
COMMISSION
146mm (5.75") R
146mm (5.75") R
41mm (1.625")
41mm (1.625")
75mm(3")
21mm(.8125")
75mm(3")
57mm(2.25")
ALL LETTERING TO BE 6.35mm (.25") HIGH AND FLUSH WITH SURFACE OF COVER.
THIS SURFACE TO BE MACHINED FLAT TO PROVIDE CONTINUOUS 360° SEAT ON FRAME
24mm-1.2mm+0 (1"-1/16"+0")
60mm (2.375")
568mm+1.6mm (22.375"-1.625") DIA.
3.20mm (.125")
GRIND TO REMOVE FINS & BUMPS
65mm (2.5625")
45mm(1.75") DIA.
70mm(2.75") DIA.
SECTION "E-E"
16mm(.625")
E
E
F
F
54mm (2.125")
254mm(10")
419mm(16.5")
60mm(2.375")
19mm(.75")
32mm (1.25")
25mm (1")
32mm (1.25")
3mm(.125")
SECTION "D-D"
SECTION "F-F"

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

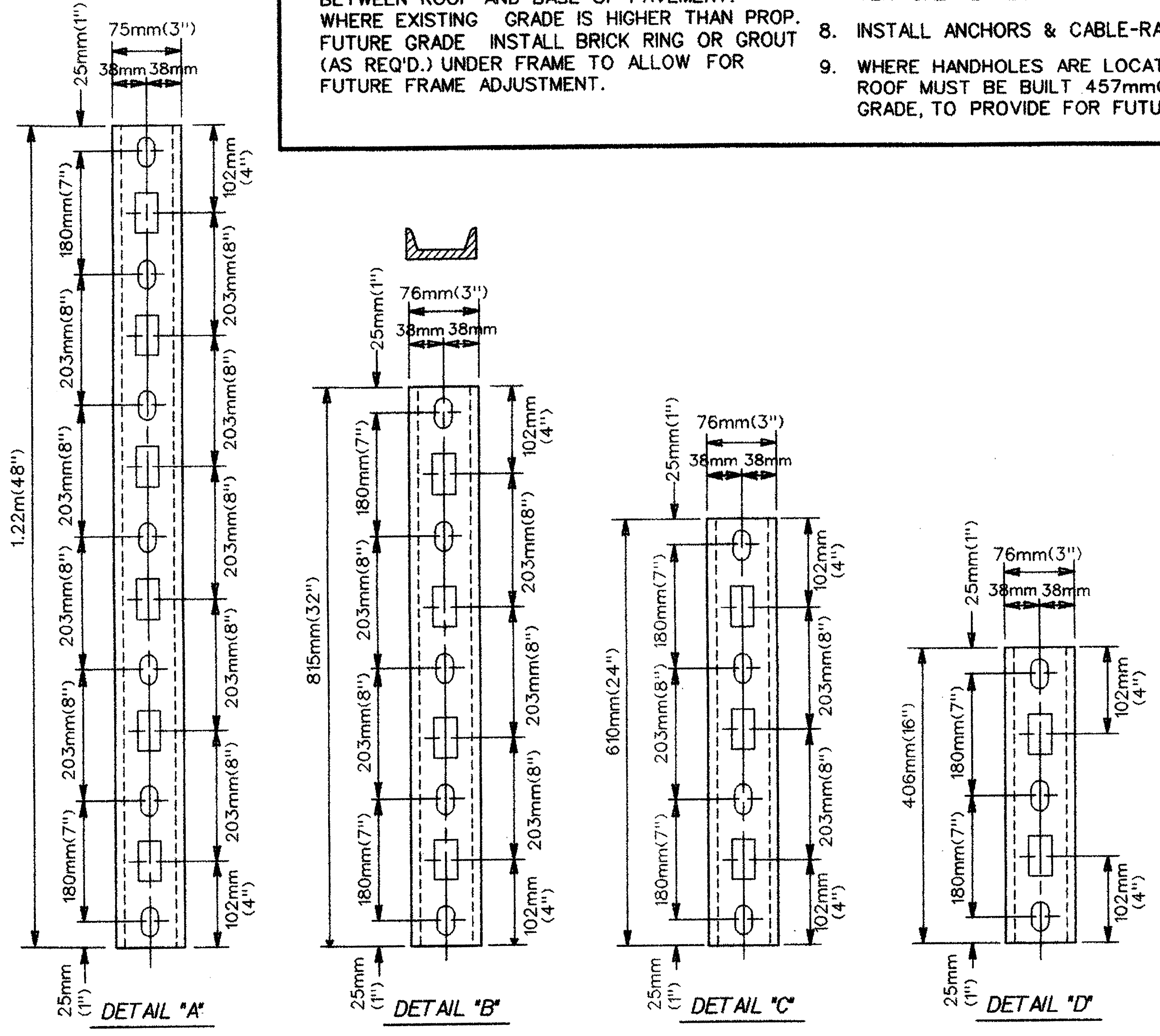
NOTE:

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.

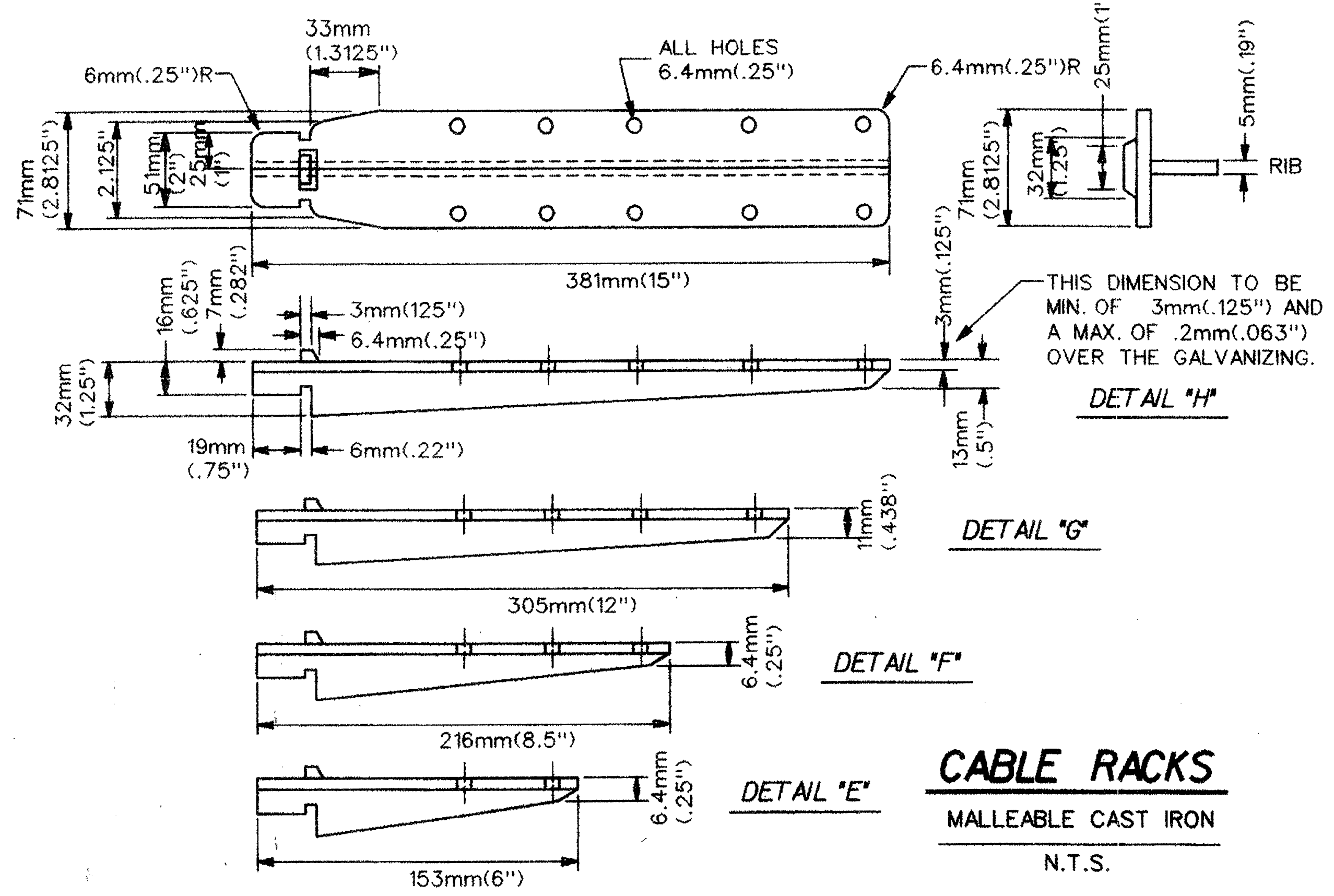
USE 13mm (.5") GALV. SUPPORTING BOLTS AND EXPANSION ANCHORS.


75mm(3")
25mm(1")
38mm 38mm
1.22m(48")
180mm(7")
203mm(8")
102mm (4")
DETAIL "A"
76mm(3")
815mm(32")
DETAIL "B"
610mm(24")
DETAIL "C"
406mm(16")
DETAIL "D"

CABLE RACKS

75mm(3") STD. 4.1* CHANNEL

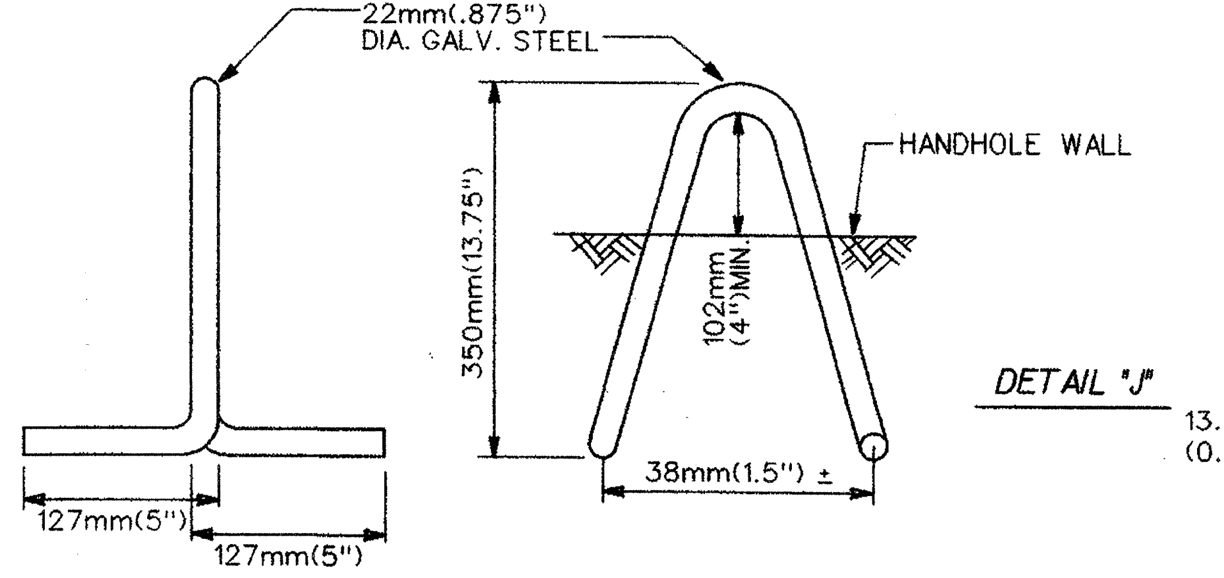
N.T.S.


33mm (1.3125")
ALL HOLES 6.4mm(.25")
6mm(.25")R
6.4mm(.25")R
71mm (2.8125")
381mm(15")
RIB
THIS DIMENSION TO BE MIN. OF 3mm(.125") AND A MAX. OF .2mm(.063") OVER THE GALVANIZING.
DETAIL "H"
3mm(125")
6.4mm(.25")
19mm (.75")
6mm(.22")
DETAIL "G"
305mm(12")
DETAIL "F"
216mm(8.5")
DETAIL "E"
153mm(6")

CABLE RACKS

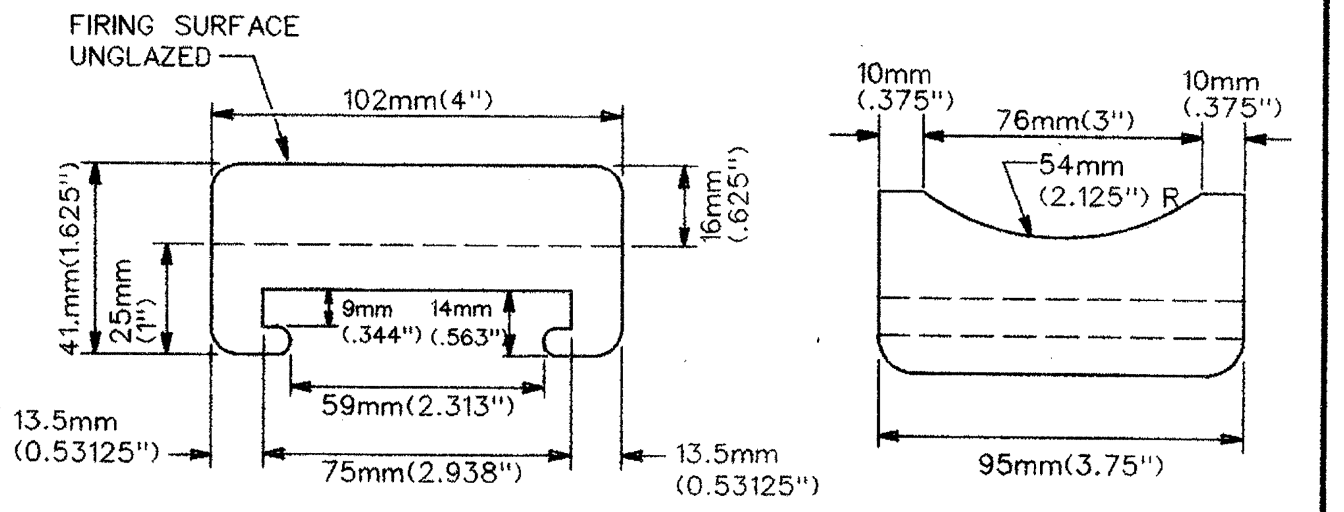
MALLEABLE CAST IRON

N.T.S.


22mm(.875") DIA. GALV. STEEL
HANDHOLE WALL
350mm(13.75")
102mm (4")MIN.
38mm(1.5") ±
127mm(5")
127mm(5")
DETAIL "J"

PULLING IRON

N.T.S.


FIRING SURFACE UNGLAZED
102mm(4")
41mm(1.625")
25mm (1")
16mm (.625")
9mm (.344")
14mm (.563")
59mm(2.313")
13.5mm (0.53125")
75mm(2.938")
13.5mm (0.53125")
10mm (.375")
76mm(3")
10mm (.375")
54mm (2.125") R
95mm(3.75")

CABLE ARM INSULATORS

WHITE GLAZED PORCELAIN DRY PROCESS

N.T.S.

103

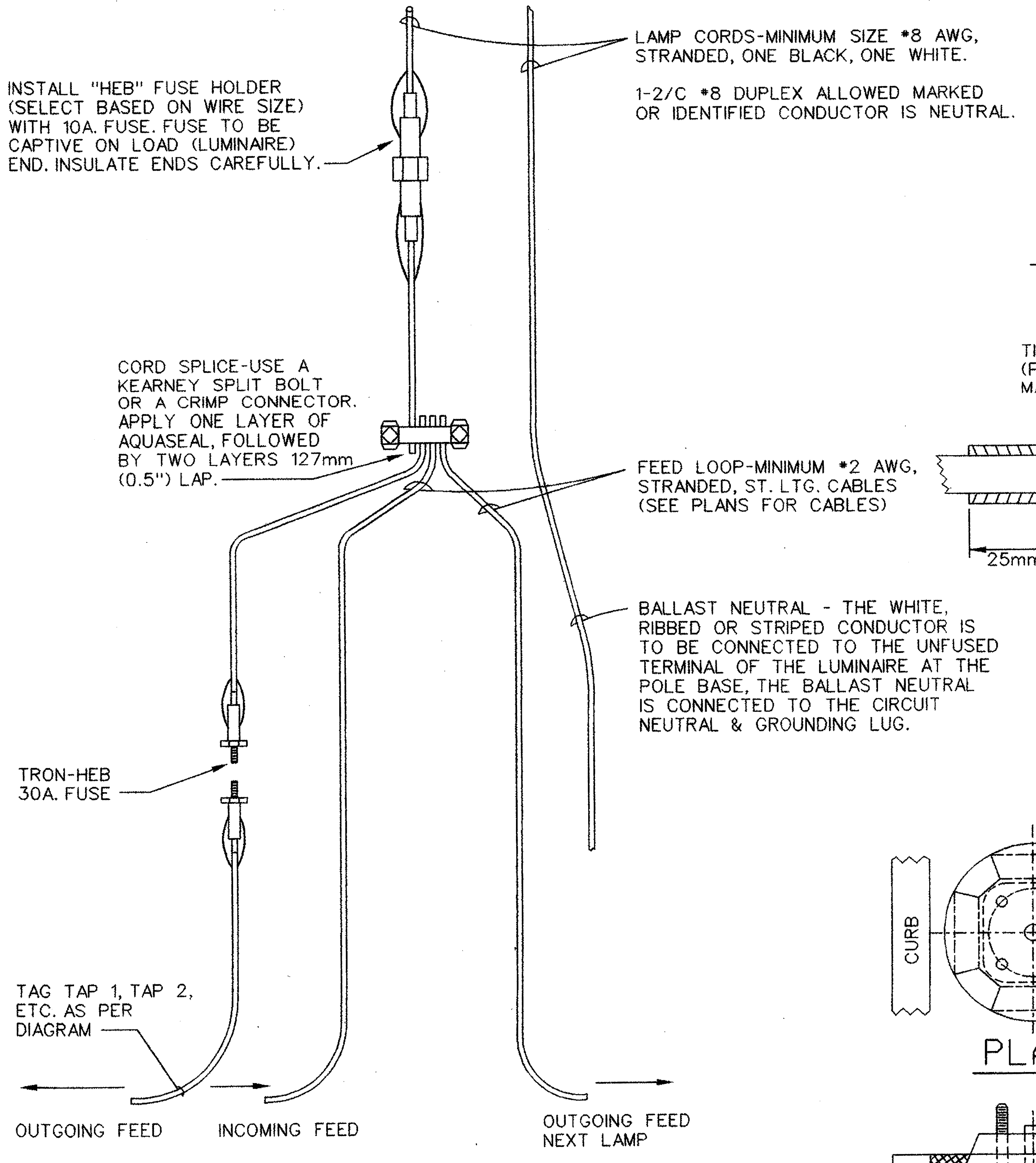
REVISIONS	Date	Description	Chkd. by

IMPROVEMENT OF TRAFFIC SIGNALS
ST. LTG. AT CLARK TECH PARK 2

HANDHOLE

Designed by CEA	Consulting Engineering Associates, Inc. 16580 WYOMING AVE. DETROIT MICHIGAN 48221 TELEPHONE: (313) 341-5797 FAX: 341-0205	Scale No Scale	PUBLIC LIGHTING DEPARTMENT CITY OF DETROIT	File No. --------
Drawn by		Checked by		Sheet No. 38 of 44
Checked by --------	Disk File Name: 103PLDM / File No. CEA 132400	Approved by		Date 4-26-00

DISK FILE: 103PLDM.MTR

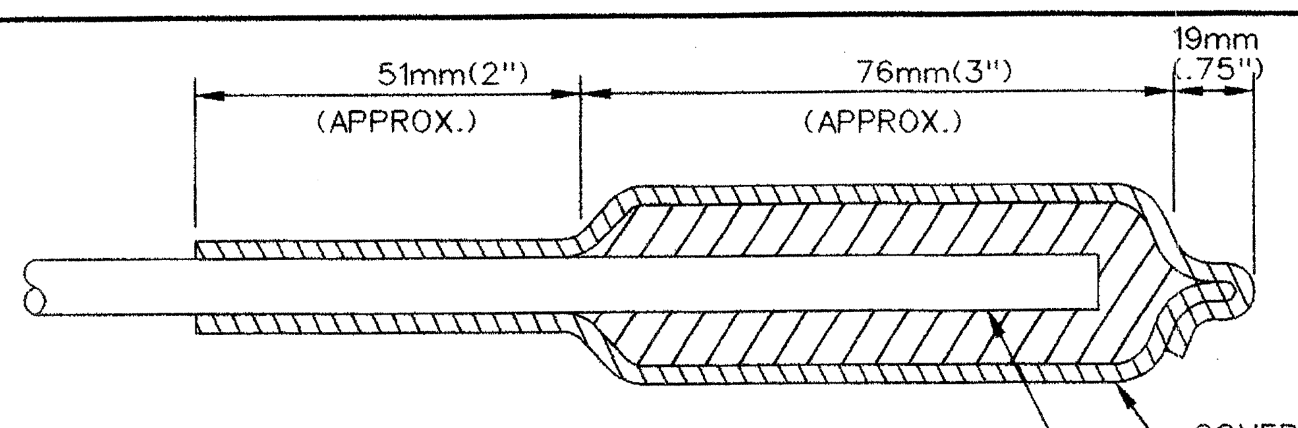

INSTALL "HEB" FUSE HOLDER (SELECT BASED ON WIRE SIZE) WITH 10A. FUSE. FUSE TO BE CAPTIVE ON LOAD (LUMINAIRE) END. INSULATE ENDS CAREFULLY.
LAMP CORDS-MINIMUM SIZE *8 AWG, STRANDED, ONE BLACK, ONE WHITE.
1-2/C *8 DUPLEX ALLOWED MARKED OR IDENTIFIED CONDUCTOR IS NEUTRAL.
CORD SPLICE-USE A KEARNEY SPLIT BOLT OR A CRIMP CONNECTOR. APPLY ONE LAYER OF AQUASEAL, FOLLOWED BY TWO LAYERS 127mm (0.5") LAP.
FEED LOOP-MINIMUM *2 AWG, STRANDED, ST. LTG. CABLES (SEE PLANS FOR CABLES)
BALLAST NEUTRAL - THE WHITE, RIBBED OR STRIPED CONDUCTOR IS TO BE CONNECTED TO THE UNFUSED TERMINAL OF THE LUMINAIRE AT THE POLE BASE, THE BALLAST NEUTRAL IS CONNECTED TO THE CIRCUIT NEUTRAL & GROUNDING LUG.
TRON-HEB 30A. FUSE
TAG TAP 1, TAP 2, ETC. AS PER DIAGRAM
OUTGOING FEED
INCOMING FEED
OUTGOING FEED NEXT LAMP

MULTIPLE STREET LIGHTING CONNECTION IN POLE BASE

N.T.S.

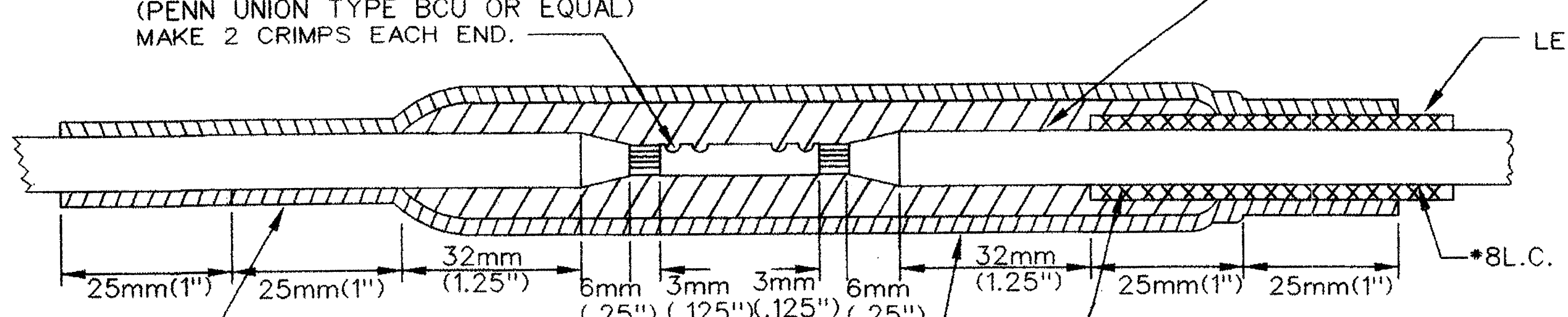
TYPE	POLE DIAMETER
A	91mm(3.6")-114mm(4.5")
B	155mm(6.1")-175mm(6.9")
C	191mm(7.5")-216mm(8.5")

CLAMP SIZE TABLE


51mm(2") (APPROX.)
76mm(3") (APPROX.)
19mm (.75")
COVER CABLE END WITH 19mm(0.75") I.D. HEAT SHRINKABLE TUBING (ALPHA TYPE FIT 300 YELLOW OR EQUAL).
APPLY BISHOP BI-SEAL CLEAR POLYETHYLENE TAPE.

MULTIPLE STREET LIGHTING CABLE DETAIL OF SEALING OF CABLE END

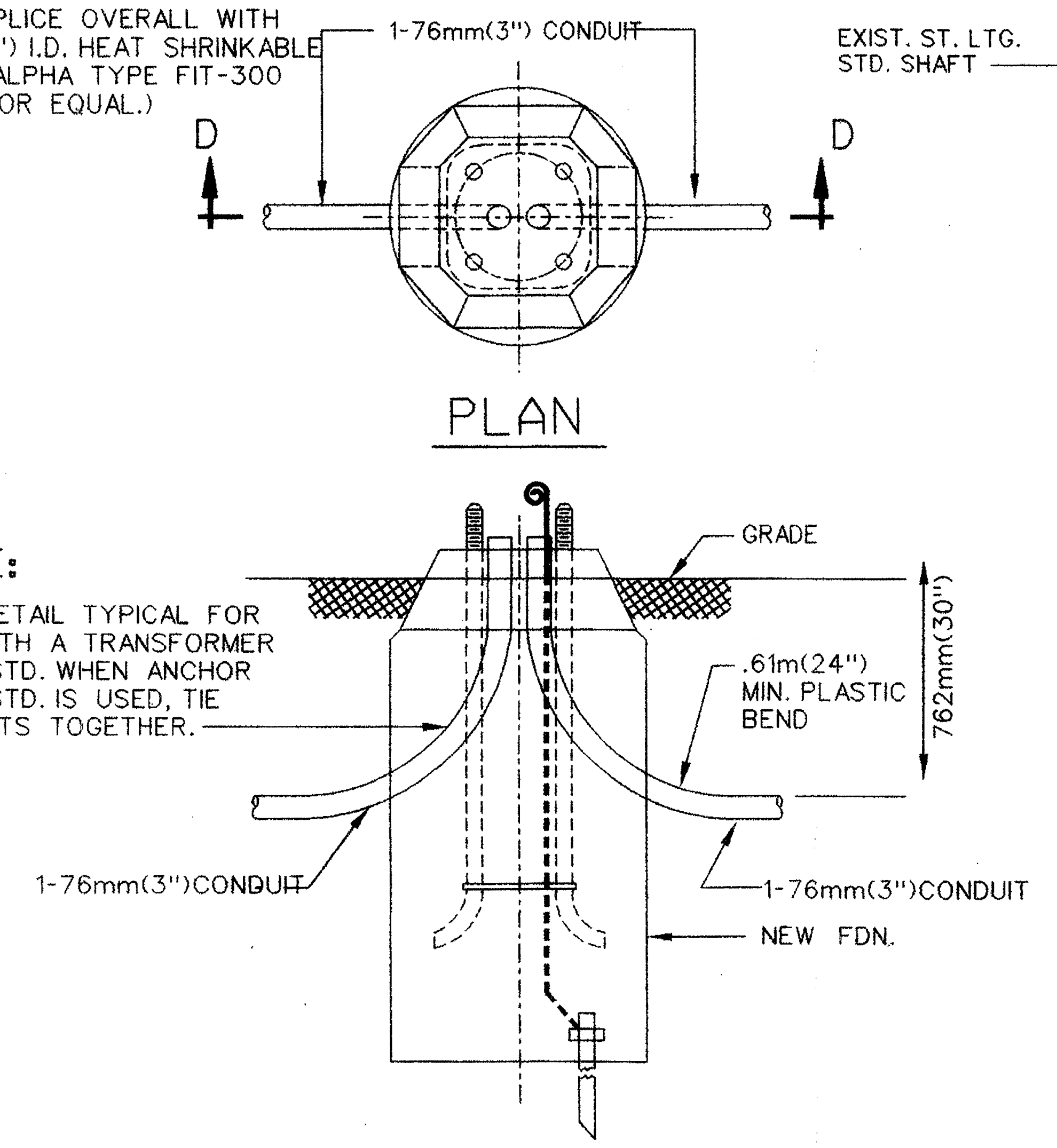
N.T.S.


TIN PLATED CRIMP CONNECTOR (PENN UNION TYPE BCU OR EQUAL) MAKE 2 CRIMPS EACH END.
LEAD SHEATH
*8L.C.
25mm(1")
25mm(1")
32mm (1.25")
6mm (.25")
3mm (.125")
3mm (.125")
6mm (.25")
32mm (1.25")
25mm(1")
25mm(1")
ROUGHEN LEAD SHEATH OR INSULATION. APPLY BISHOP *55C ADHESIVE OVER CONNECTOR AND 51mm(2") OF CONDUCTOR INSULATION BOTH ENDS.
COVER SPLICE OVERALL WITH 19mm(.75") I.D. HEAT SHRINKABLE TUBING (ALPHA TYPE FIT-300 YELLOW OR EQUAL.)

MULTIPLE STREET LIGHTING SPLICE DETAIL "A"

P.J. ST. LTG. TO *8 L.C. ST. LTG.
OR P.J. ST. LTG. TO P.J. ST. LTG.

N.T.S.

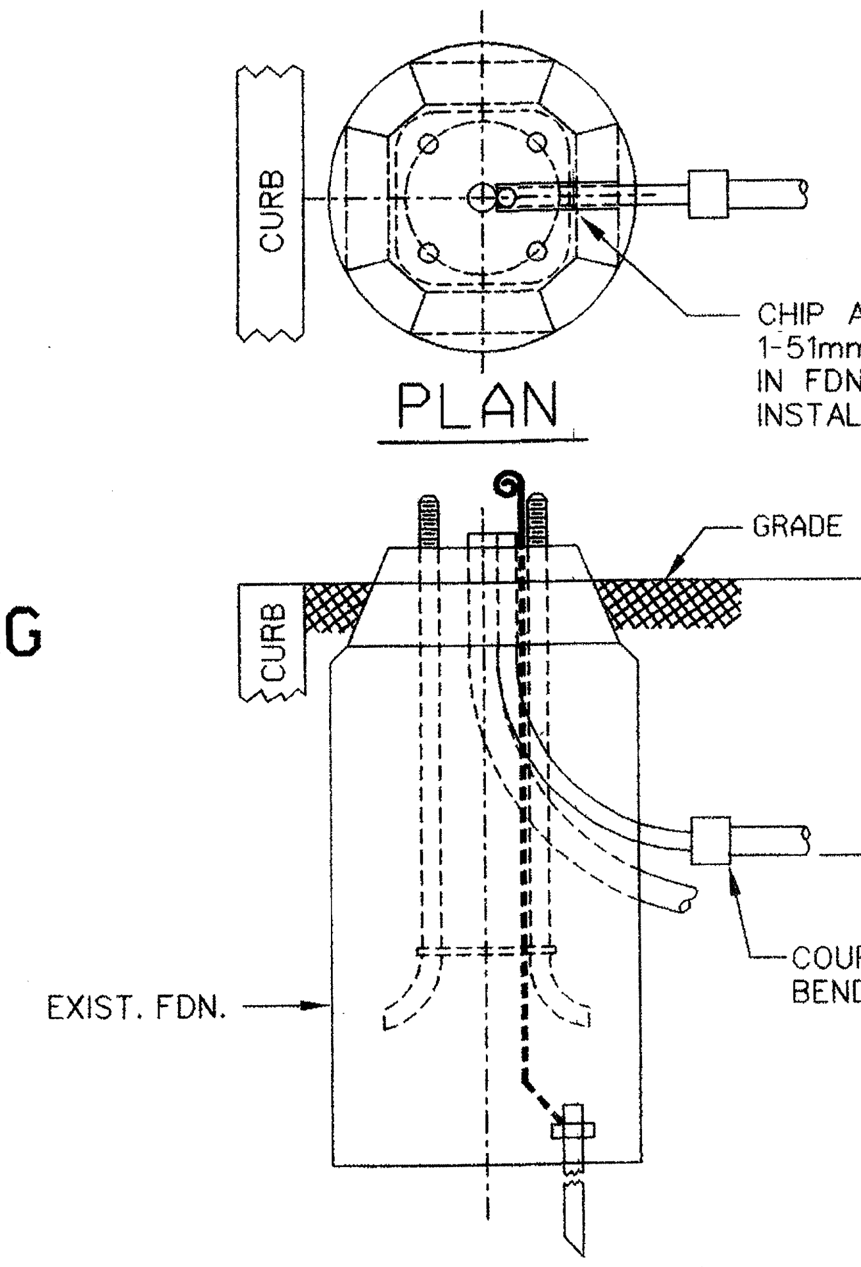

1-76mm(3") CONDUIT
D
D
PLAN
GRADE
.61m(24") MIN. PLASTIC BEND
762mm(30")
1-76mm(3")CONDUIT
1-76mm(3")CONDUIT
NEW FDN.

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

SECTION D-D

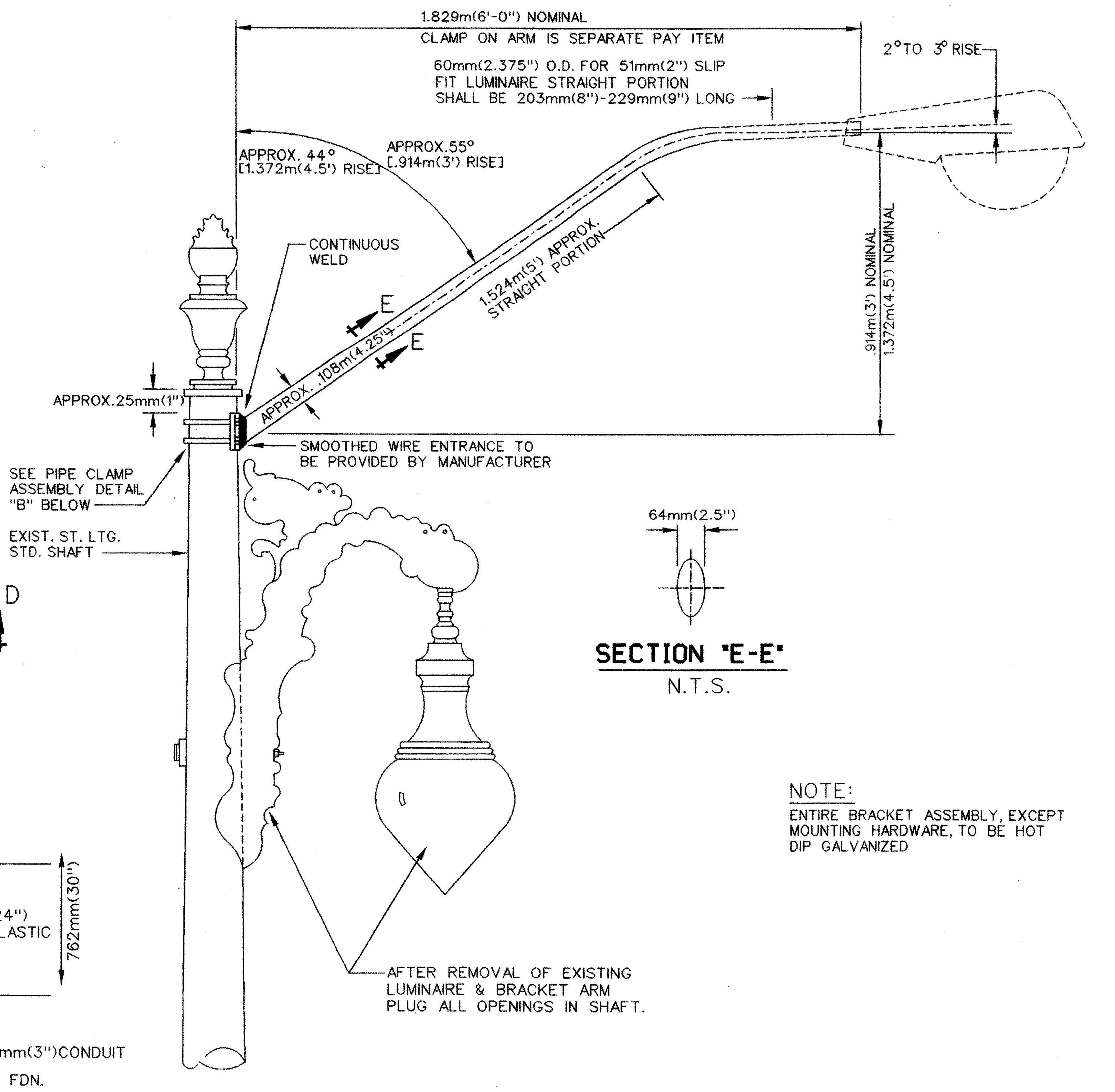
DETAIL OF INSTALLING CONDUITS IN & OUT OF NEW FDN.

N.T.S.


CURB
PLAN
CHIP AWAY FDN. TO INSTALL 1-51mm(2") PLASTIC BEND GROUT IN FDN. AFTER CONDUIT IS INSTALLED.
CURB
GRADE
457mm(18")
EXIST. FDN.
COUPLE 1-51mm(2") PLASTIC BEND TO 1-76mm(3") CONDUIT

DETAIL OF INSTALLING CONDUITS INTO EXISTING FDN.

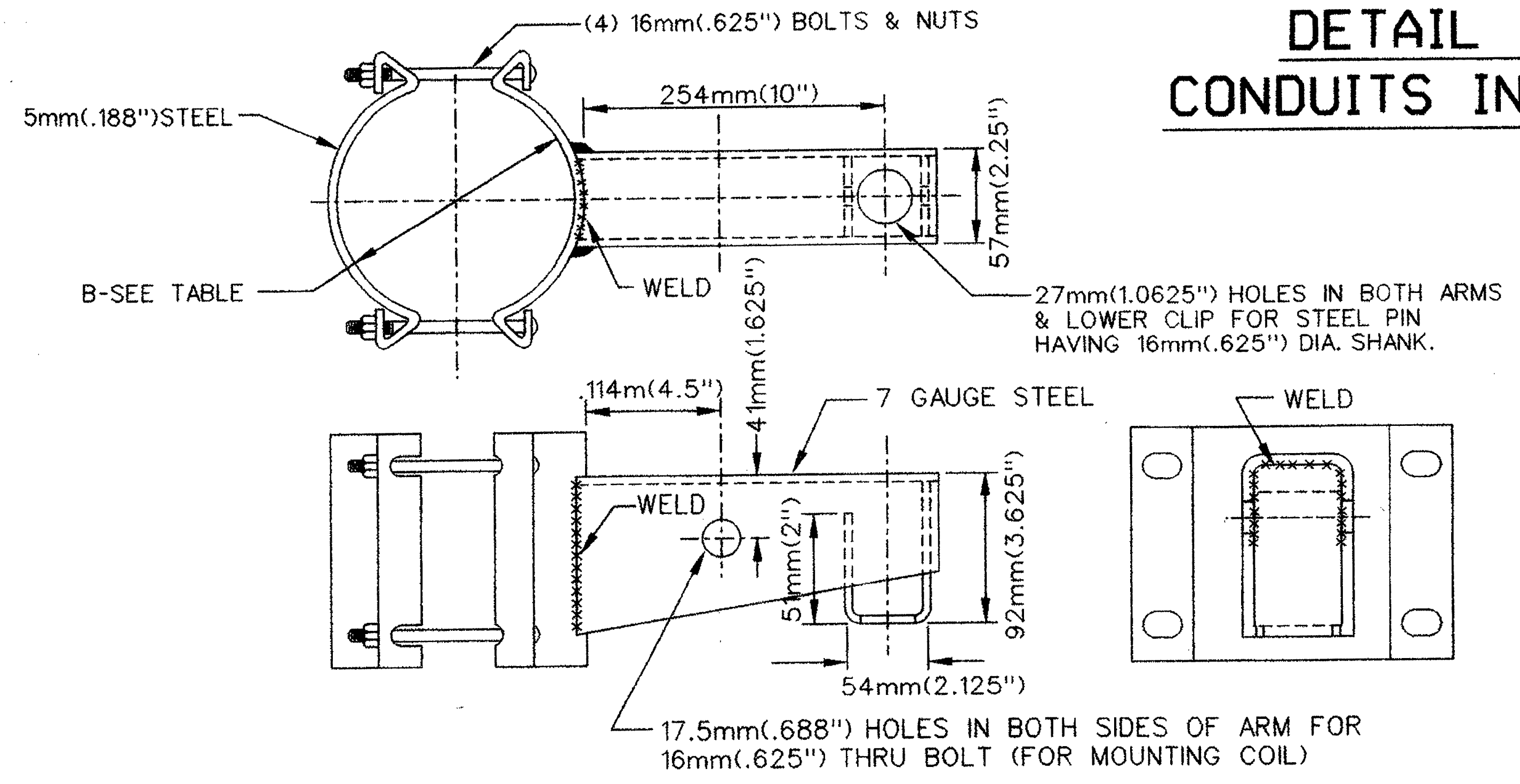
N.T.S.


1.829m(6'-0") NOMINAL
CLAMP ON ARM IS SEPARATE PAY ITEM
60mm(2.375") O.D. FOR 51mm(2") SLIP FIT LUMINAIRE STRAIGHT PORTION SHALL BE 203mm(8")-229mm(9") LONG
2°TO 3° RISE
APPROX. 44° [1.372m(4.5') RISE]
APPROX.55° [.914m(3') RISE]
CONTINUOUS WELD
1.524m(5') APPROX. STRAIGHT PORTION
914m(3') NOMINAL
1.372m(4.5') NOMINAL
E
E
APPROX. 108mm(4.25")
APPROX.25mm(1")
SMOOTHED WIRE ENTRANCE TO BE PROVIDED BY MANUFACTURER
SEE PIPE CLAMP ASSEMBLY DETAIL "B" BELOW
EXIST. ST. LTG. STD. SHAFT
64mm(2.5")
SECTION "E-E"
N.T.S.
AFTER REMOVAL OF EXISTING LUMINAIRE & BRACKET ARM PLUG ALL OPENINGS IN SHAFT.

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

CLAMP ON BRACKET ARM ELEVATION

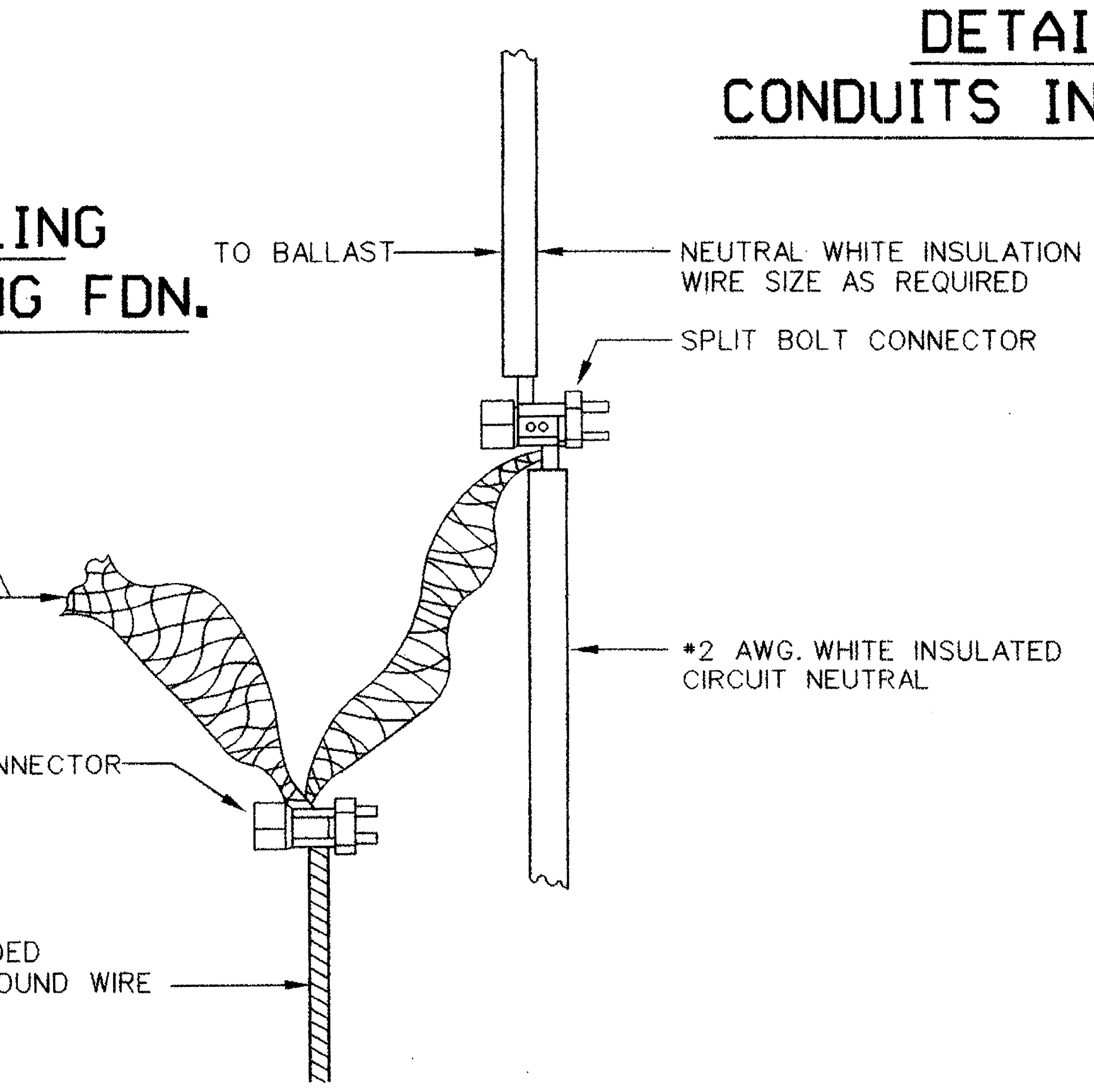
N.T.S.


(4) 16mm(.625") BOLTS & NUTS
5mm(.188")STEEL
254mm(10")
57mm(2.25")
B-SEE TABLE
WELD
41mm(1.625")
27mm(1.0625") HOLES IN BOTH ARMS & LOWER CLIP FOR STEEL PIN HAVING 16mm(.625") DIA. SHANK.
114m(4.5")
7 GAUGE STEEL
WELD
WELD
51mm(2")
92mm(3.625")
54mm(2.125")
17.5mm(.688") HOLES IN BOTH SIDES OF ARM FOR 16mm(.625") THRU BOLT (FOR MOUNTING COIL)

x FINISH SHALL BE HOT DIP GALVANIZED AFTER FABRICATION

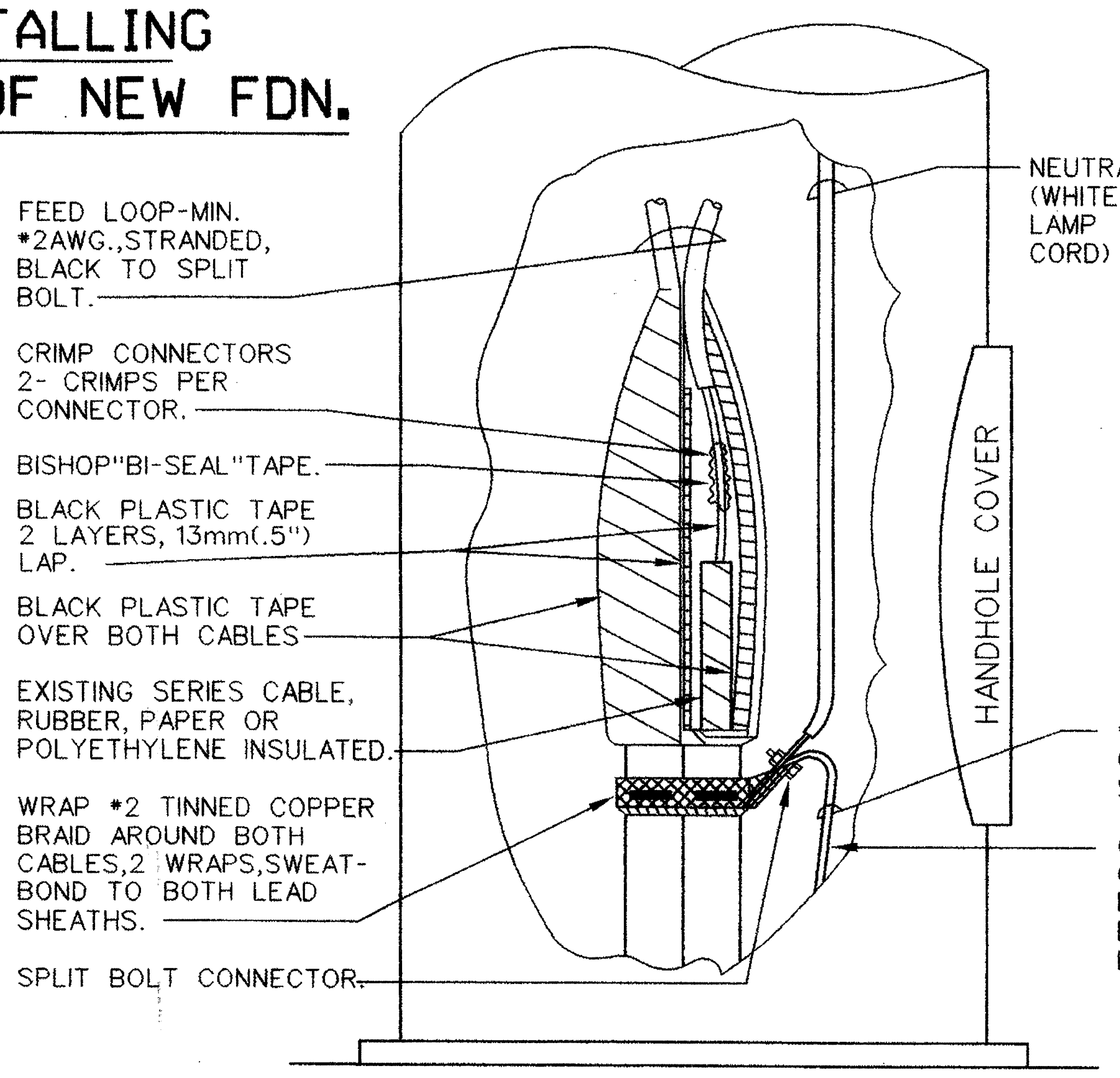
CLAMP FEEDER ARM

N.T.S.


TO BALLAST
NEUTRAL WHITE INSULATION WIRE SIZE AS REQUIRED
SPLIT BOLT CONNECTOR
*2 AWG. TINNED COPPER BRAID EXTRA FLEXIBLE
TO GROUND NUT ON ST. LTG. STANDARD
*2 AWG. WHITE INSULATED CIRCUIT NEUTRAL
SPLIT BOLT CONNECTOR
*2 AWG. STRANDED FOUNDATION GROUND WIRE

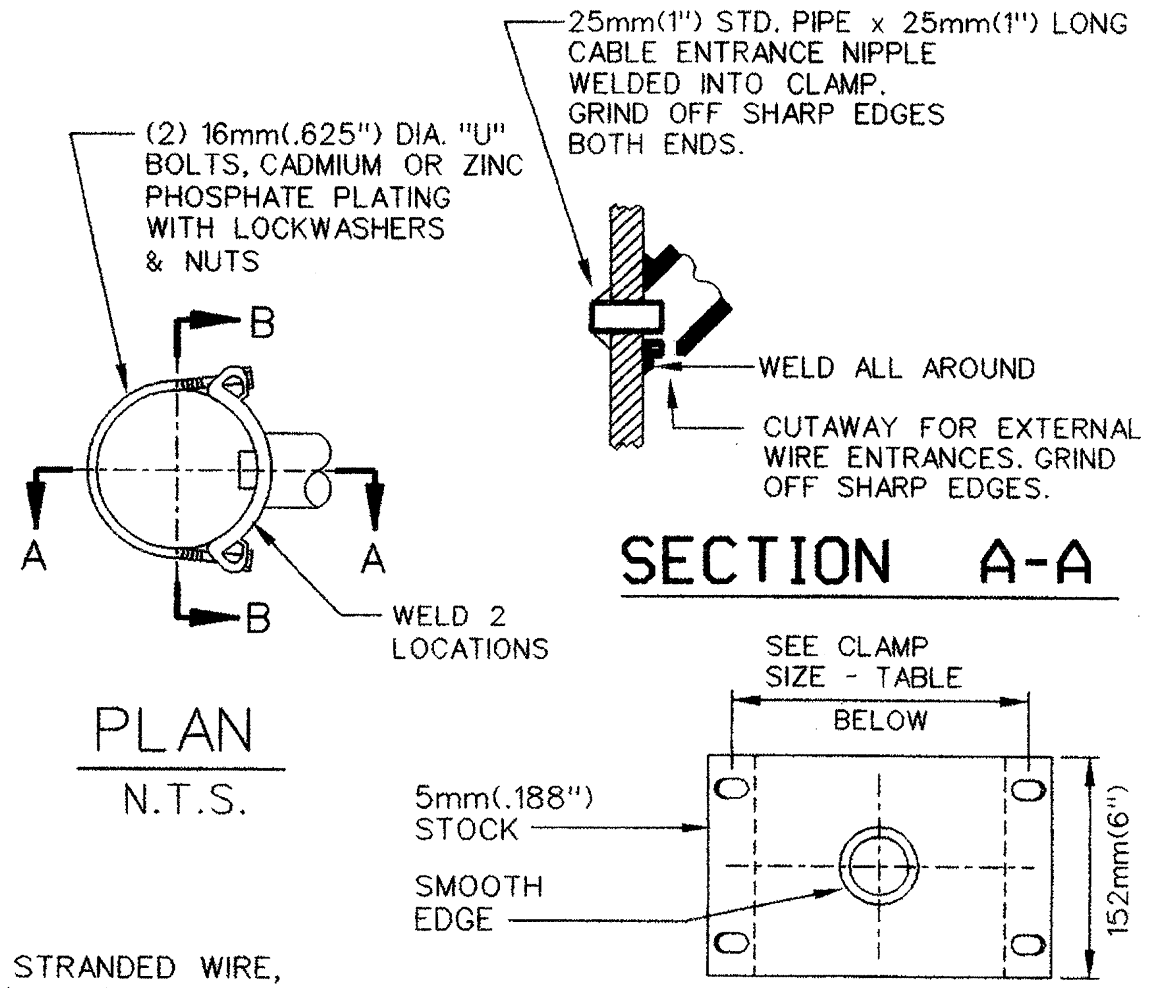
GROUND CONNECTION

N.T.S.


FEED LOOP-MIN. *2AWG.,STRANDED, BLACK TO SPLIT BOLT.
CRIMP CONNECTORS 2- CRIMPS PER CONNECTOR.
BISHOP"BI-SEAL"TAPE.
BLACK PLASTIC TAPE 2 LAYERS, 13mm(.5") LAP.
BLACK PLASTIC TAPE OVER BOTH CABLES
EXISTING SERIES CABLE, RUBBER, PAPER OR POLYETHYLENE INSULATED.
WRAP *2 TINNED COPPER BRAID AROUND BOTH CABLES,2 WRAPS,SWEAT-BOND TO BOTH LEAD SHEATHS.
SPLIT BOLT CONNECTOR
NEUTRAL (WHITE LAMP CORD)
HANDHOLE COVER
*2 STRANDED WIRE, GROUND TO BASE OF STANDARD.
(GROUND WIRE SHALL BE CONNECTED TO GROUNDING LUG AT BASE OF STANDARD PRIOR TO INSTALLING LIGHTING STANDARD.)

SERIES-TO-MULTIPLE LIGHTING CONVERSION POLE BASE CONNECTIONS

N.T.S.


(2) 16mm(.625") DIA. "U" BOLTS, CADMIUM OR ZINC PHOSPHATE PLATING WITH LOCKWASHERS & NUTS
B
B
A
A
WELD 2 LOCATIONS
PLAN
N.T.S.
25mm(1") STD. PIPE x 25mm(1") LONG CABLE ENTRANCE NIPPLE WELDED INTO CLAMP. GRIND OFF SHARP EDGES BOTH ENDS.
WELD ALL AROUND
CUTAWAY FOR EXTERNAL WIRE ENTRANCES. GRIND OFF SHARP EDGES.
SECTION A-A
SEE CLAMP SIZE - TABLE BELOW
5mm(.188") STOCK
SMOOTH EDGE
152mm(6")
SECTION B-B

CLAMP SIZE TABLE

TYPE	POLE DIAMETER
A	91mm(3.6")-114mm(4.5")
B	155mm(6.1")-175mm(6.9")
C	191mm(7.5")-216mm(8.5")

PIPE CLAMP DETAILS

N.T.S.

114

R E V I S I O N S	Date	Description	Chkd. by

DISK FILE: 114PLDM.MTR

IMPROVEMENT OF TRAFFIC SIGNALS
ST. LTG. AT CLARK TECH PARK 2
MULT.ST.LTG.CABLE CONNECTIONS,
CLAMP-ON ARM & MISC.DETAILS

Designed by CEA
Drawn by
Checked by ---------

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

Disk File Name: 114PLDM
File No. CEA 132400

Scale No Scale
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Approved by

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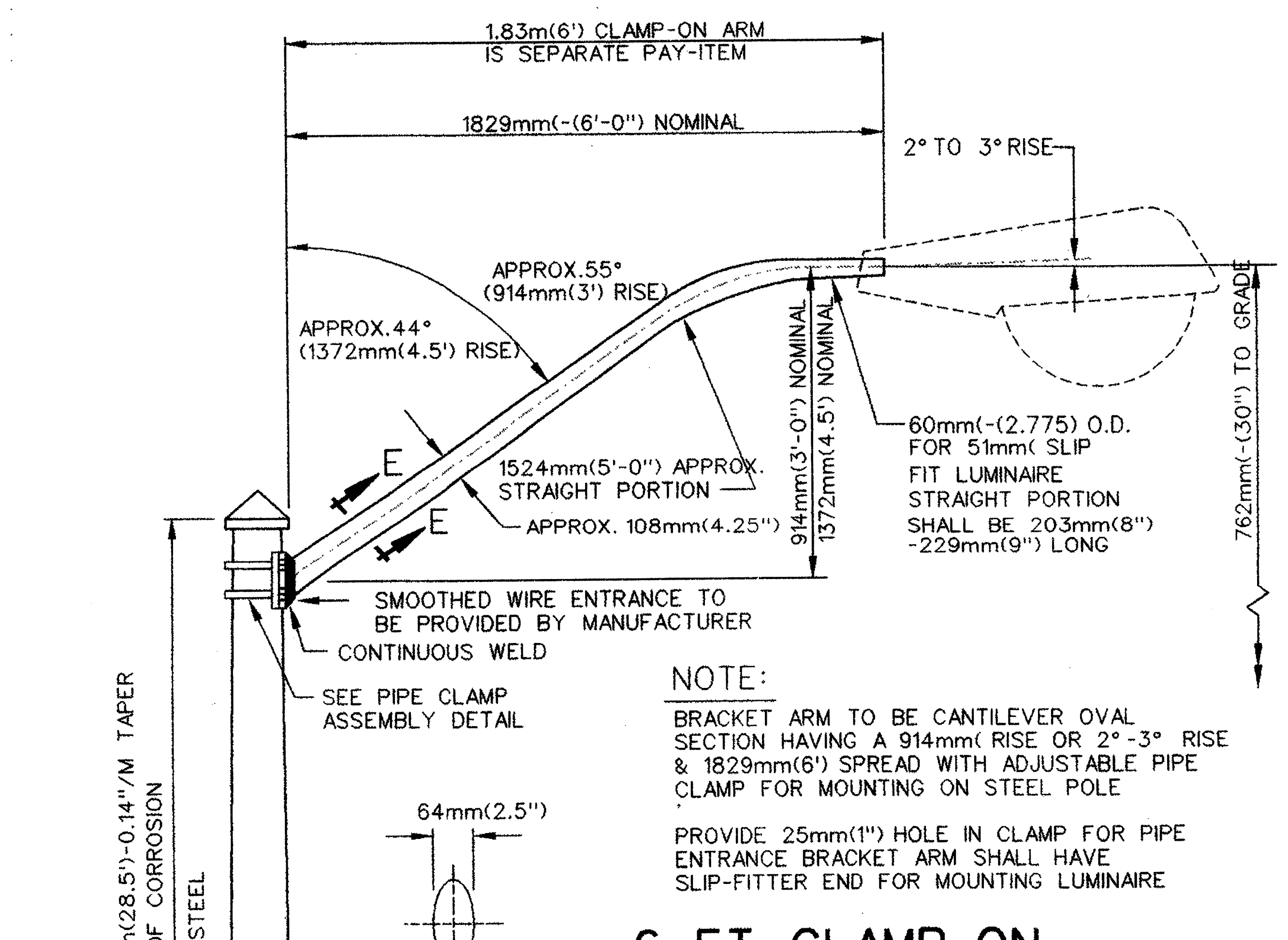
CITY OF DETROIT

File No. ---------
Sheet No. 39 of 44
Date 4-26-00


1.83m(6') CLAMP-ON ARM IS SEPARATE PAY-ITEM
1829mm(-(6'-0") NOMINAL
2° TO 3° RISE
APPROX.55° (914mm(3') RISE)
APPROX.44° (1372mm(4.5') RISE)
E
E
1524mm(5'-0") APPROX. STRAIGHT PORTION
APPROX. 108mm(4.25")
914mm(3'-0") NOMINAL
1372mm(4.5') NOMINAL
60mm(-(2.775) O.D. FOR 51mm(SLIP FIT LUMINAIRE STRAIGHT PORTION SHALL BE 203mm(8") -229mm(9") LONG
762mm(-(30") TO GRADE
SMOOTHED WIRE ENTRANCE TO BE PROVIDED BY MANUFACTURER
CONTINUOUS WELD
SEE PIPE CLAMP ASSEMBLY DETAIL
11GA.-8.0" x 8687mm(28.5')-0.14"/M TAPER TAPERED SHAFT OF CORROSION RESISTANT STEEL
64mm(2.5")

NOTE:

BRACKET ARM TO BE CANTILEVER OVAL SECTION HAVING A 914mm(RISE OR 2°-3° RISE & 1829mm(6') SPREAD WITH ADJUSTABLE PIPE CLAMP FOR MOUNTING ON STEEL POLE

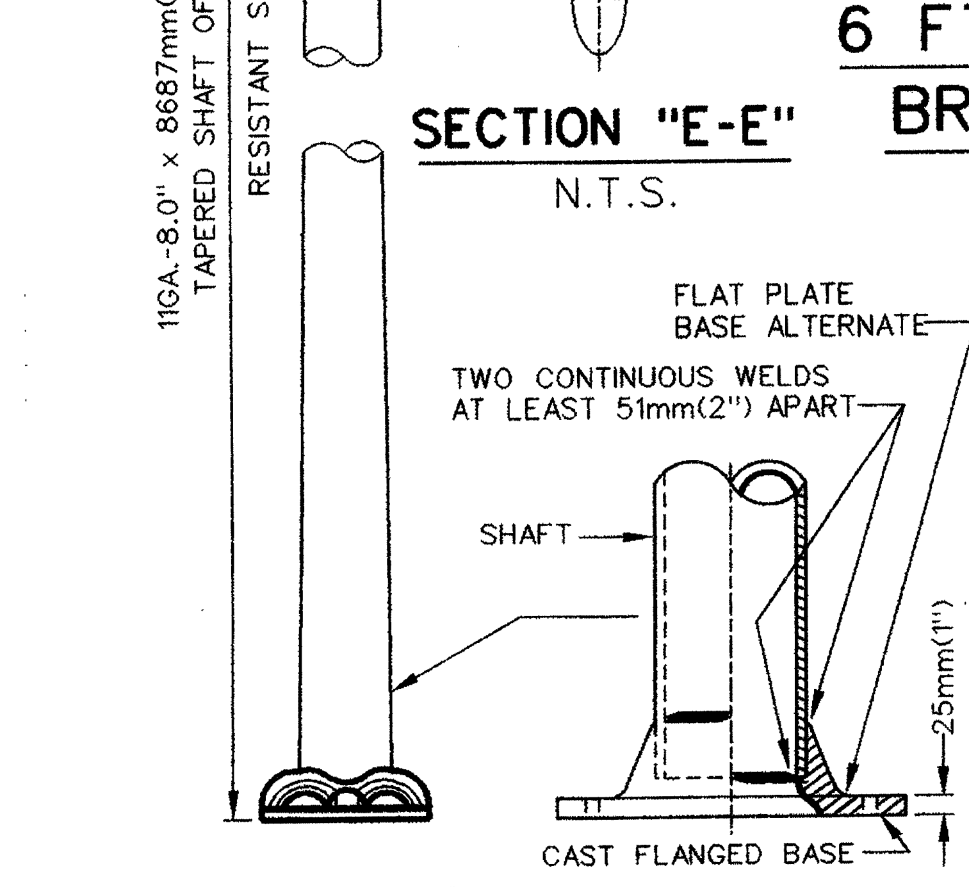
PROVIDE 25mm(1") HOLE IN CLAMP FOR PIPE ENTRANCE BRACKET ARM SHALL HAVE SLIP-FITTER END FOR MOUNTING LUMINAIRE

SECTION "E-E"

N.T.S.

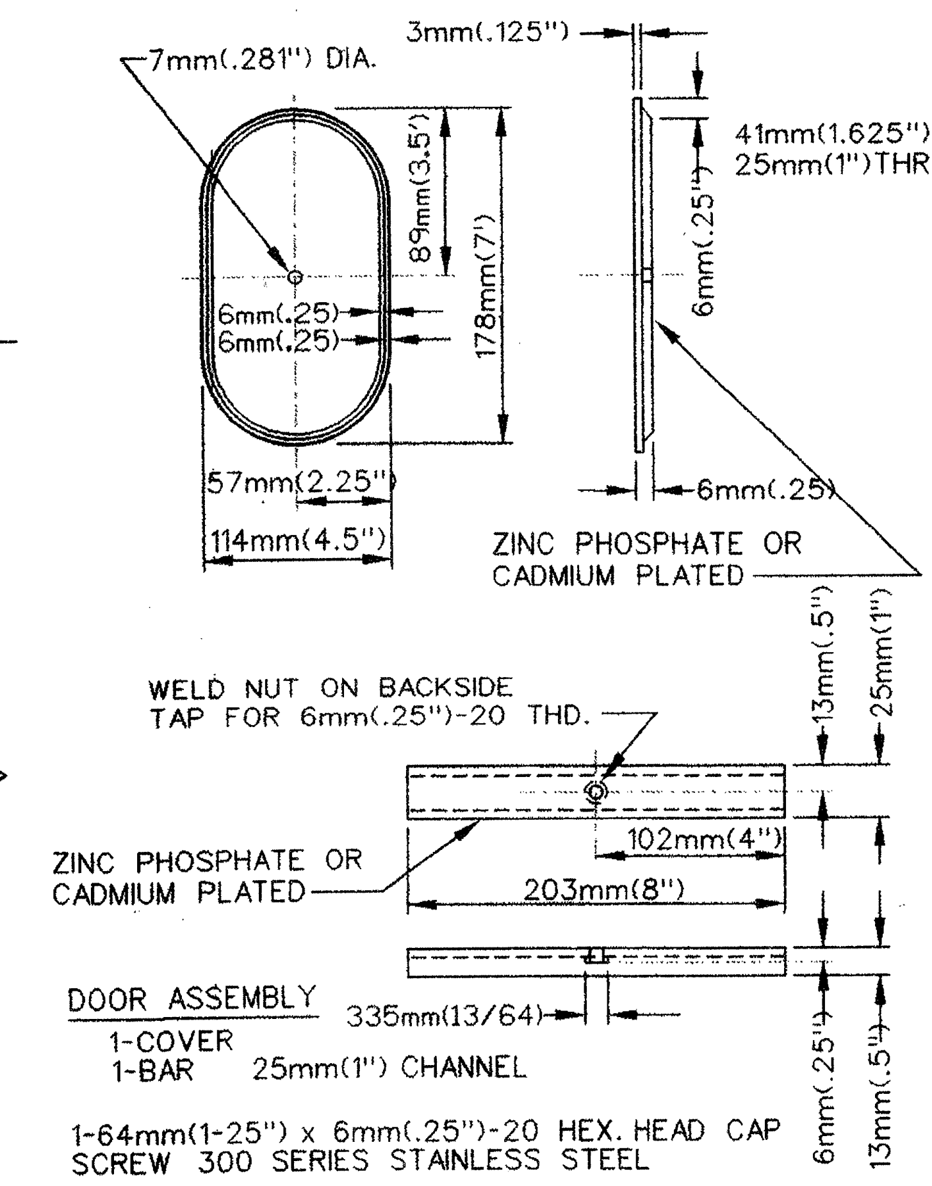
6 FT. CLAMP-ON BRACKET ARM

N.T.S.


FLAT PLATE BASE ALTERNATE
TWO CONTINUOUS WELDS AT LEAST 51mm(2") APART
SHAFT
25mm(1")
CAST FLANGED BASE

CODE 009-00 STREET LIGHTING STANDARD

N.T.S.

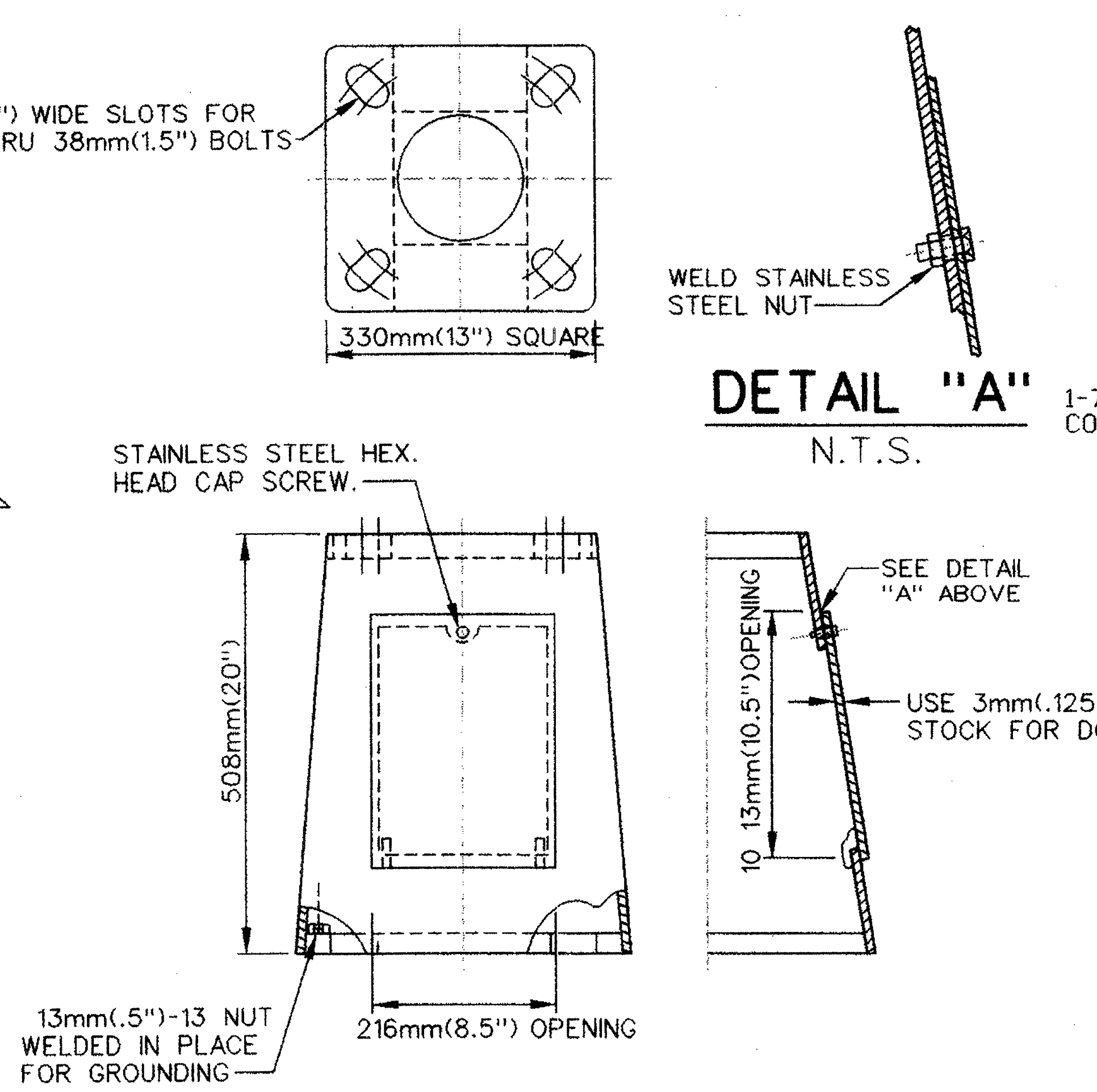

7mm(.281") DIA.
3mm(.125")
89mm(3.5')
178mm(7')
6mm(.25)
6mm(.25)
6mm(.25")
57mm(2.25")
114mm(4.5")
6mm(.25)
41mm(1.625") WIDE SLOTS FOR 25mm(1")THRU 38mm(1.5") BOLTS
ZINC PHOSPHATE OR CADMIUM PLATED
WELD NUT ON BACKSIDE TAP FOR 6mm(.25")-20 THD.
13mm(.5")
25mm(1")
ZINC PHOSPHATE OR CADMIUM PLATED
102mm(4")
203mm(8")
335mm(13/64)
6mm(.25")
13mm(.5")

DOOR ASSEMBLY
1-COVER
1-BAR 25mm(1") CHANNEL

1-64mm(1-25") x 6mm(.25")-20 HEX. HEAD CAP SCREW 300 SERIES STAINLESS STEEL

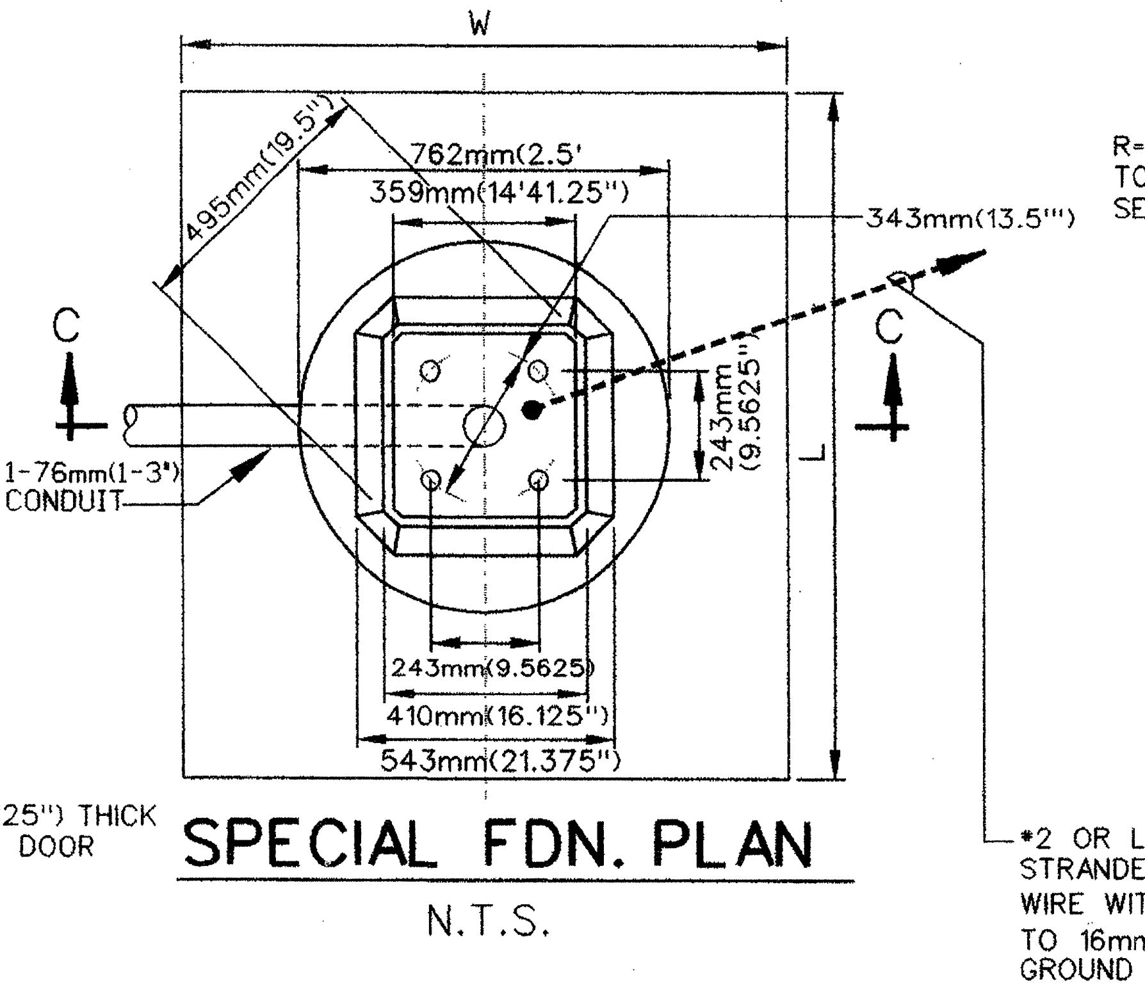
HANDHOLE COVER DETAIL

N.T.S.


330mm(13") SQUARE
STAINLESS STEEL HEX. HEAD CAP SCREW.
508mm(20")
13mm(.5")-13 NUT WELDED IN PLACE FOR GROUNDING
216mm(8.5") OPENING
WELD STAINLESS STEEL NUT
SEE DETAIL "A" ABOVE
10 13mm(10.5")OPENING
USE 3mm(.125") THICK STOCK FOR DOOR

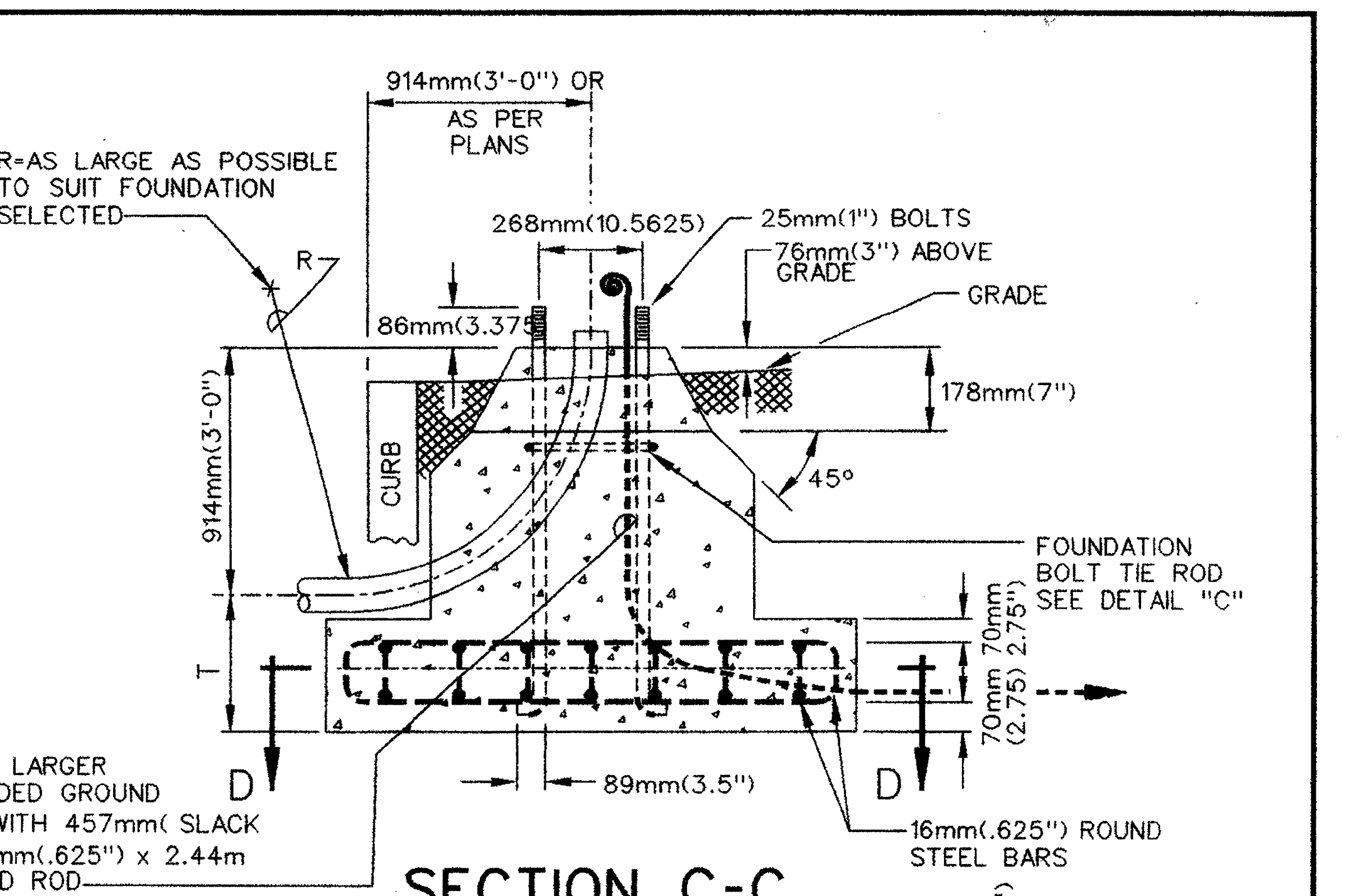
DETAIL "A"

N.T.S.


W
495mm(19.5")
762mm(2.5'
359mm(14'41.25")
343mm(13.5"')
C
C
1-76mm(1-3") CONDUIT
243mm (9.5625")
243mm(9.5625)
410mm(16.125")
543mm(21.375")
L
*2 OR LARGER STRANDED GROUND WIRE WITH 457mm(SLACK TO 16mm(.625") x 2.44m GROUND ROD

SPECIAL FDN. PLAN

N.T.S.


914mm(3'-0") OR AS PER PLANS
R=AS LARGE AS POSSIBLE TO SUIT FOUNDATION SELECTED
R
268mm(10.5625)
25mm(1") BOLTS
76mm(3") ABOVE GRADE
GRADE
86mm(3.375")
178mm(7")
914mm(3'-0")
CURB
45°
FOUNDATION BOLT TIE ROD SEE DETAIL "C"
T
70mm (2.75)
70mm 2.75")
D
D
89mm(3.5")
16mm(.625") ROUND STEEL BARS

SECTION C-C

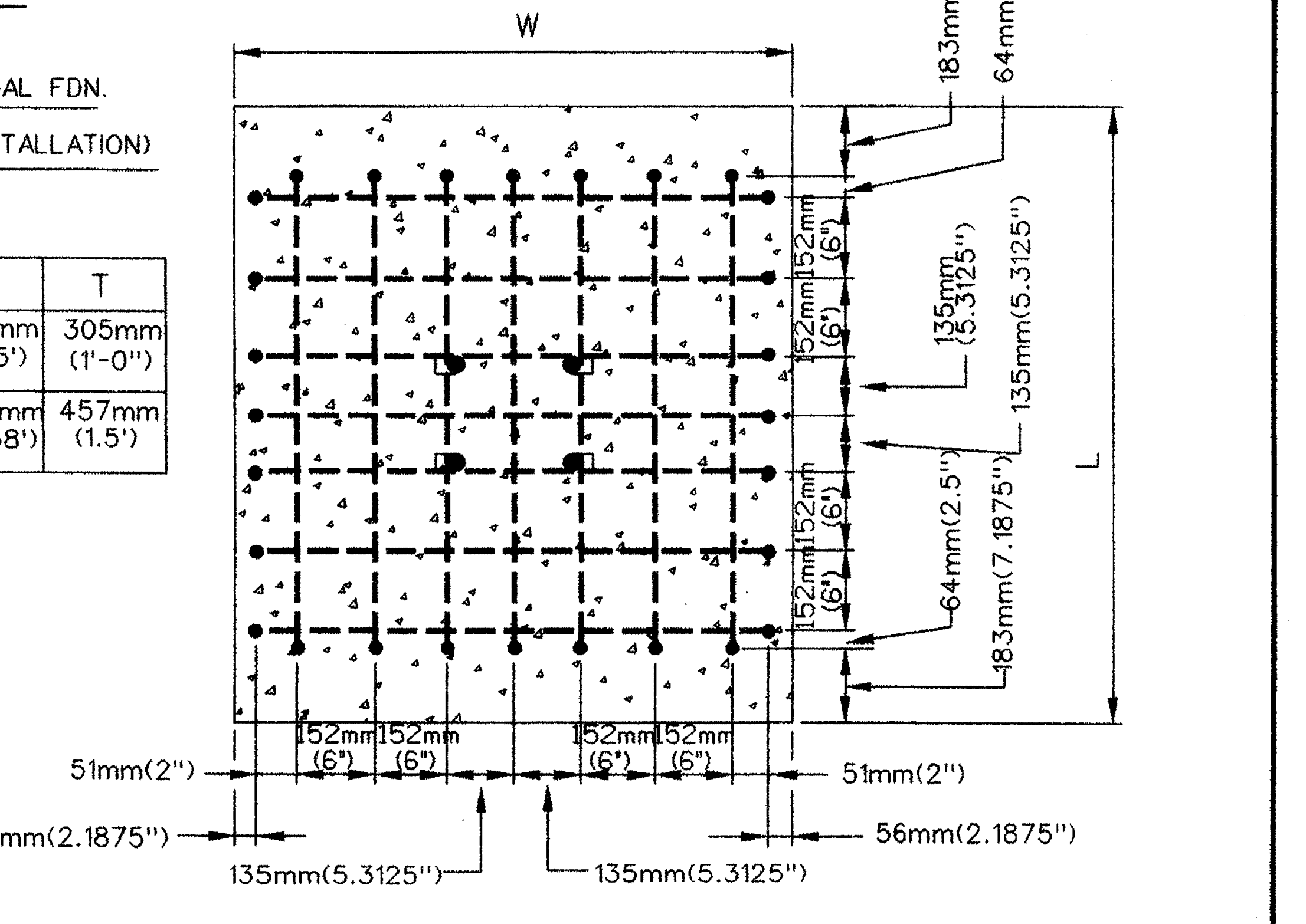
N.T.S.

SPECIAL FOUNDATION

THERE SHALL BE NO EXTRA PAYMENT FOR SPECIAL FDN.

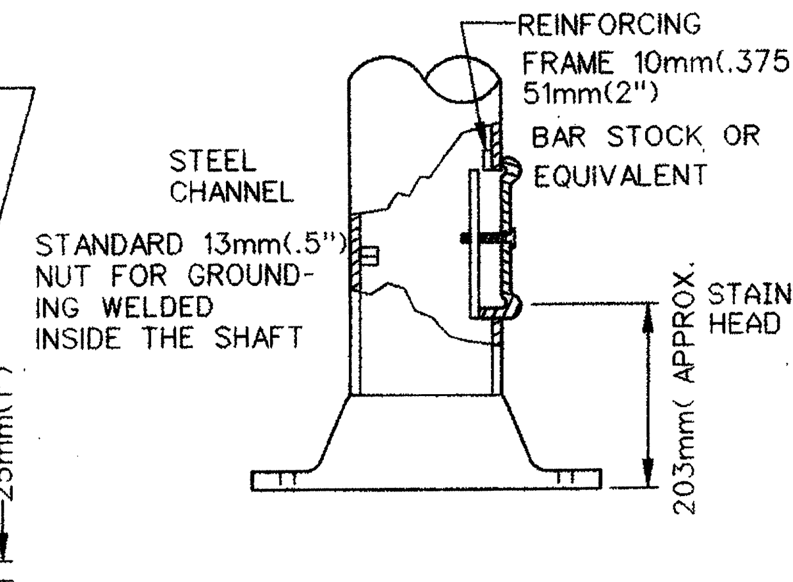
(TO BE PAID FOR AS A NORMAL ST. LTG STD. FDN. INSTALLATION)

L	W	T
1524mm (5'-0")	1295mm (4.25')	305mm (1'-0")
1372mm (4.5')	1092mm (3.58')	457mm (1.5')


W
183mm(7.1875")
64mm(2.5")
152mm (6")
152mm (6")
135mm (5.3125")
135mm(5.3125")
L
64mm(2.5")
183mm(7.1875")
152mm (6")
152mm (6")
51mm(2")
51mm(2")
56mm(2.1875")
56mm(2.1875")
135mm(5.3125")
135mm(5.3125")

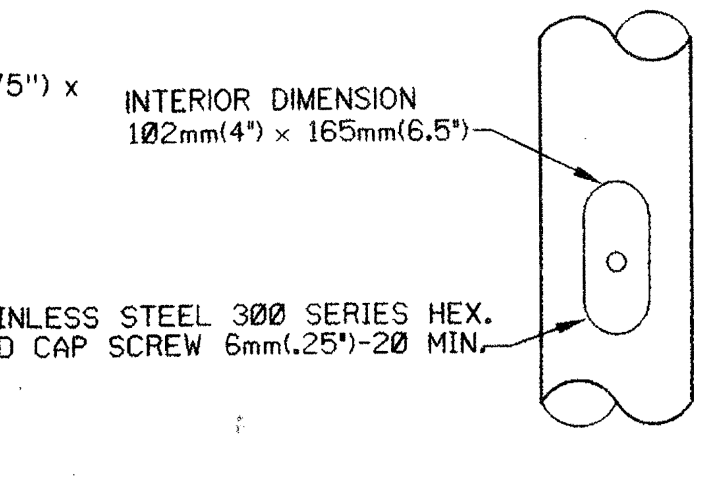
SECTION D-D

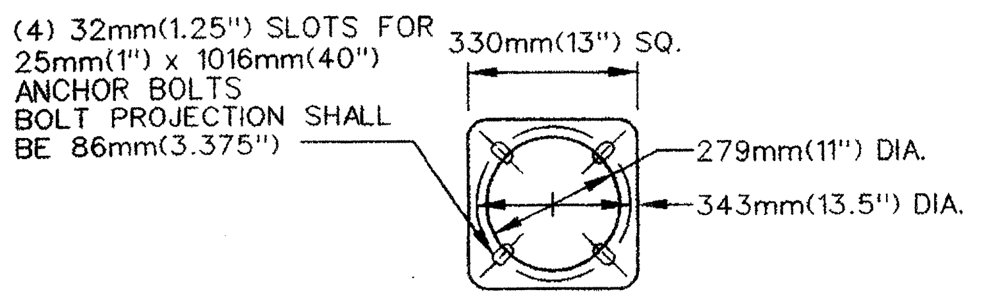
N.T.S.


REINFORCING FRAME 10mm(.375") x 51mm(2") BAR STOCK OR EQUIVALENT
STEEL CHANNEL
STANDARD 13mm(.5") NUT FOR GROUNDING WELDED INSIDE THE SHAFT
203mm(APPROX.

SHAFT MODIFICATION

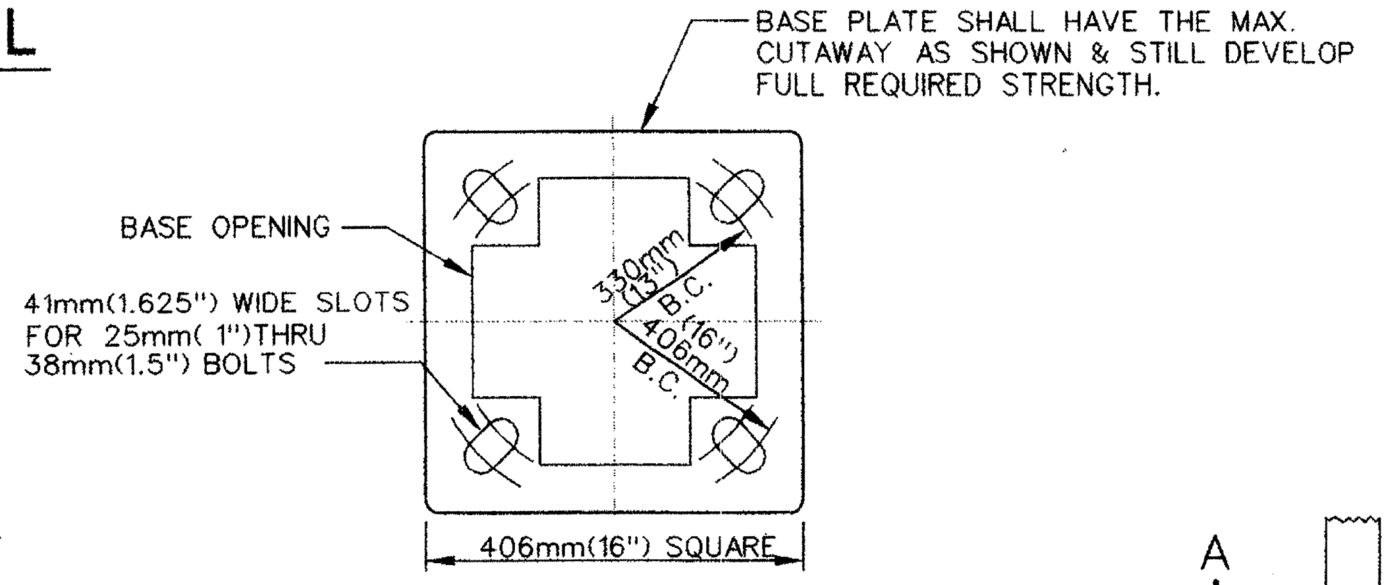
N.T.S.


INTERIOR DIMENSION 102mm(4") x 165mm(6.5")
STAINLESS STEEL 300 SERIES HEX. HEAD CAP SCREW 6mm(.25")-20 MIN.


(4) 32mm(1.25") SLOTS FOR 25mm(1") x 1016mm(40") ANCHOR BOLTS BOLT PROJECTION SHALL BE 86mm(3.375")
330mm(13") SQ.
279mm(11") DIA.
343mm(13.5") DIA.

BASE PLATE PLAN

N.T.S.

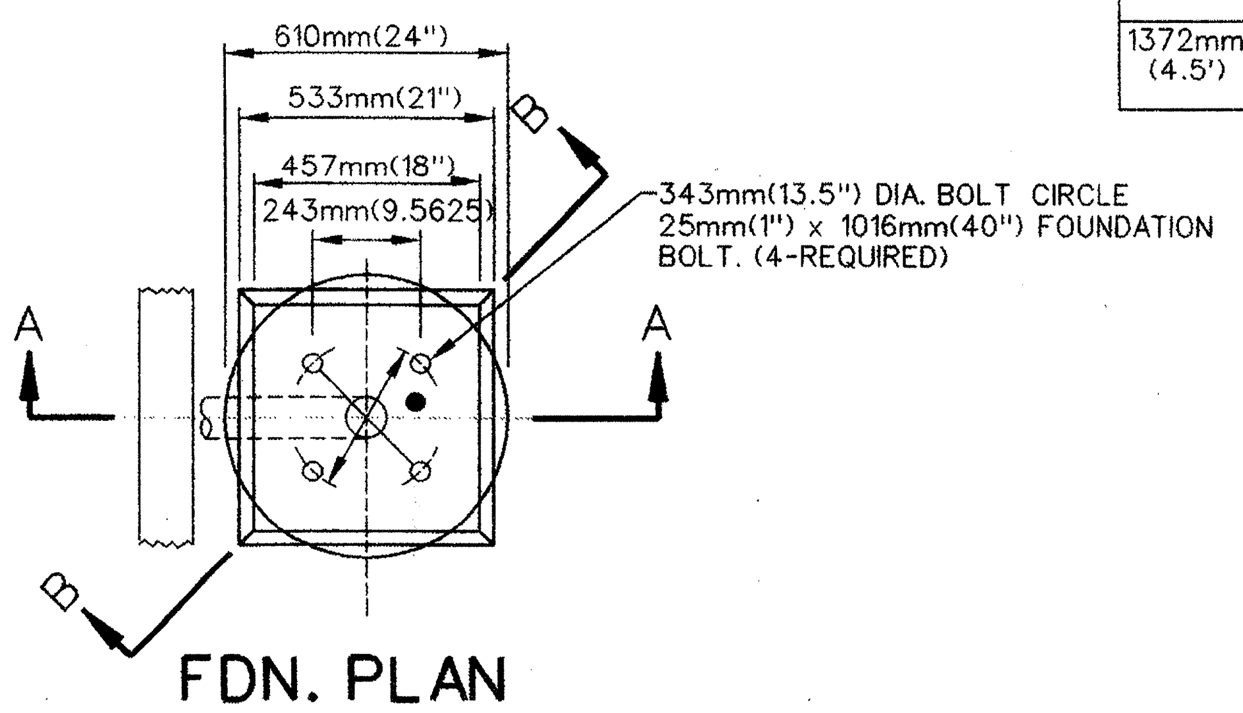

BASE PLATE SHALL HAVE THE MAX. CUTAWAY AS SHOWN & STILL DEVELOP FULL REQUIRED STRENGTH.
BASE OPENING
41mm(1.625") WIDE SLOTS FOR 25mm(1")THRU 38mm(1.5") BOLTS
330mm (13") B.C.
406mm (16") B.C.
406mm(16") SQUARE

NOTES:

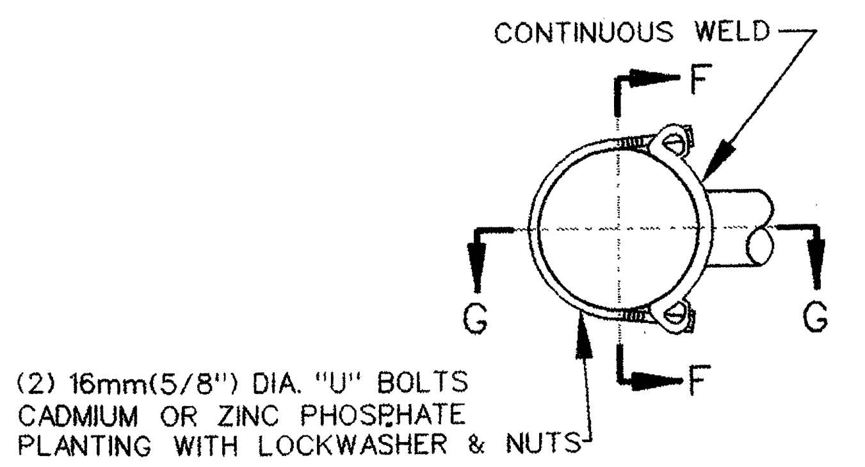
MATERIALS
1. TOP, BOTTOM & SIDES TO BE GALVANIZED STEEL AS PER MANUFACTURER.
2. DOOR FASTENING SCREW TO BE ASTM SERIES 300 STAINLESS STEEL MIN. 6mm(.25")-20 NC. HEX HEAD CAP SCREW ONLY.
3. THE DOOR FASTENING METHOD SHALL USE ONLY ONE HEX. HEAD CAP SCREW, SERIES 300 STAINLESS STEEL. MULTIPLE SCREWS WILL NO LONGER BE ALLOWED TO INSURE PROPER FIELD INSTALLATION AND OPERATION.

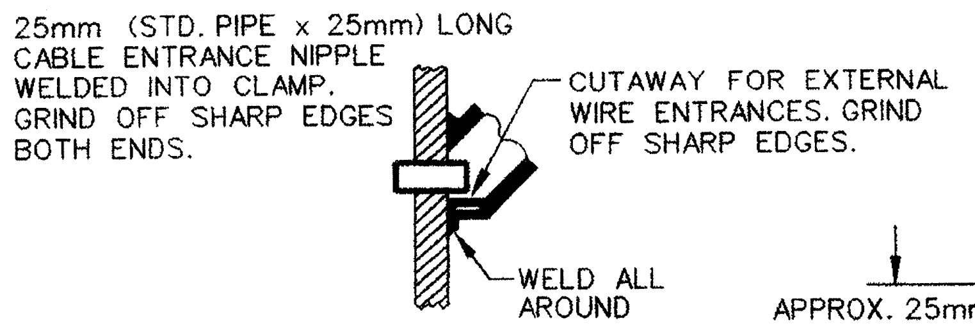
P.L.D. UNIVERSAL STEEL TRANSFORMER BASE

N.T.S.


610mm(24")
533mm(21")
457mm(18")
243mm(9.5625)
343mm(13.5") DIA. BOLT CIRCLE 25mm(1") x 1016mm(40") FOUNDATION BOLT. (4-REQUIRED)
A
A
B
B

FDN. PLAN

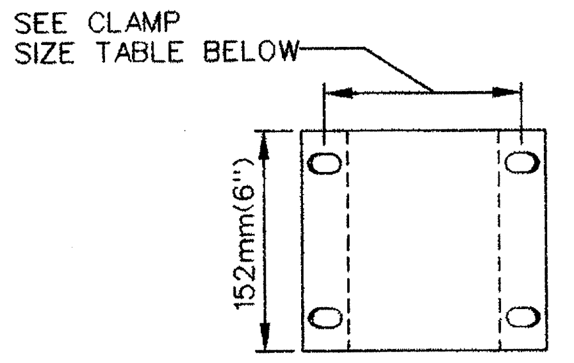

CONTINUOUS WELD
F
F
G
G
(2) 16mm(5/8") DIA. "U" BOLTS CADMIUM OR ZINC PHOSPHATE PLANTING WITH LOCKWASHER & NUTS


25mm (STD. PIPE x 25mm) LONG CABLE ENTRANCE NIPPLE WELDED INTO CLAMP. GRIND OFF SHARP EDGES BOTH ENDS.
CUTAWAY FOR EXTERNAL WIRE ENTRANCES. GRIND OFF SHARP EDGES.
WELD ALL AROUND

SECTION "G-G"

TYPE	POLE DIAMETER
A	91mm(-114mm(3.6")-(4.5")
B	155mm(-175mm(6.1")-(6.9")
C	191mm(-216mm(7.5")-(8.5")

CLAMP SIZE TABLE


SEE CLAMP SIZE TABLE BELOW
152mm(6")

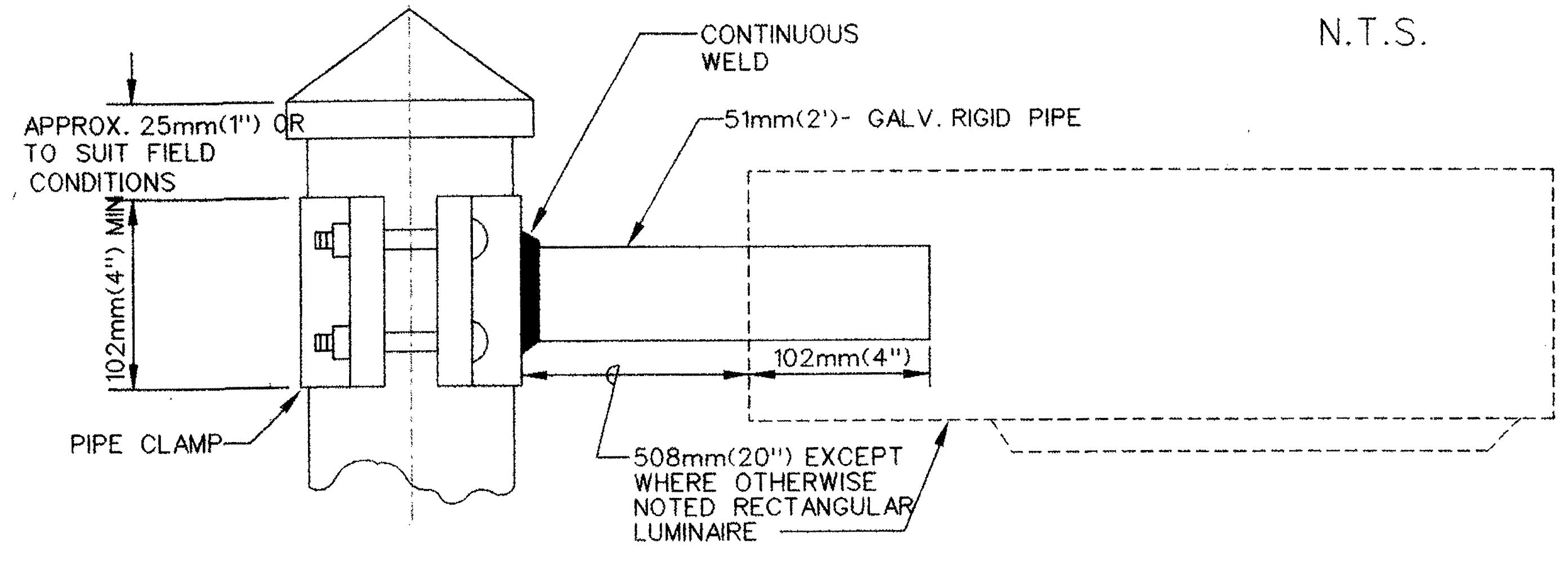
SECTION "F-F"

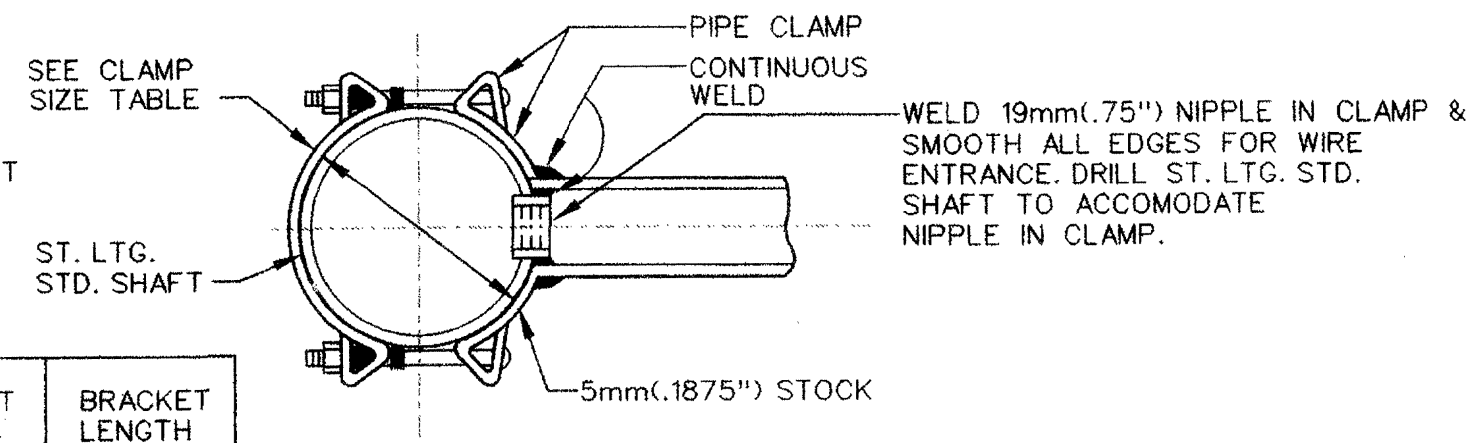
PIPE CLAMP DETAILS

N.T.S.

NOTE:

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


CONTINUOUS WELD
51mm(2")- GALV. RIGID PIPE
APPROX. 25mm(1") OR TO SUIT FIELD CONDITIONS
102mm(4") MIN.
102mm(4")
PIPE CLAMP
508mm(20") EXCEPT WHERE OTHERWISE NOTED RECTANGULAR LUMINAIRE


SEE CLAMP SIZE TABLE
PIPE CLAMP
CONTINUOUS WELD
WELD 19mm(.75") NIPPLE IN CLAMP & SMOOTH ALL EDGES FOR WIRE ENTRANCE. DRILL ST. LTG. STD. SHAFT TO ACCOMODATE NIPPLE IN CLAMP.
ST. LTG. STD. SHAFT
5mm(.1875") STOCK

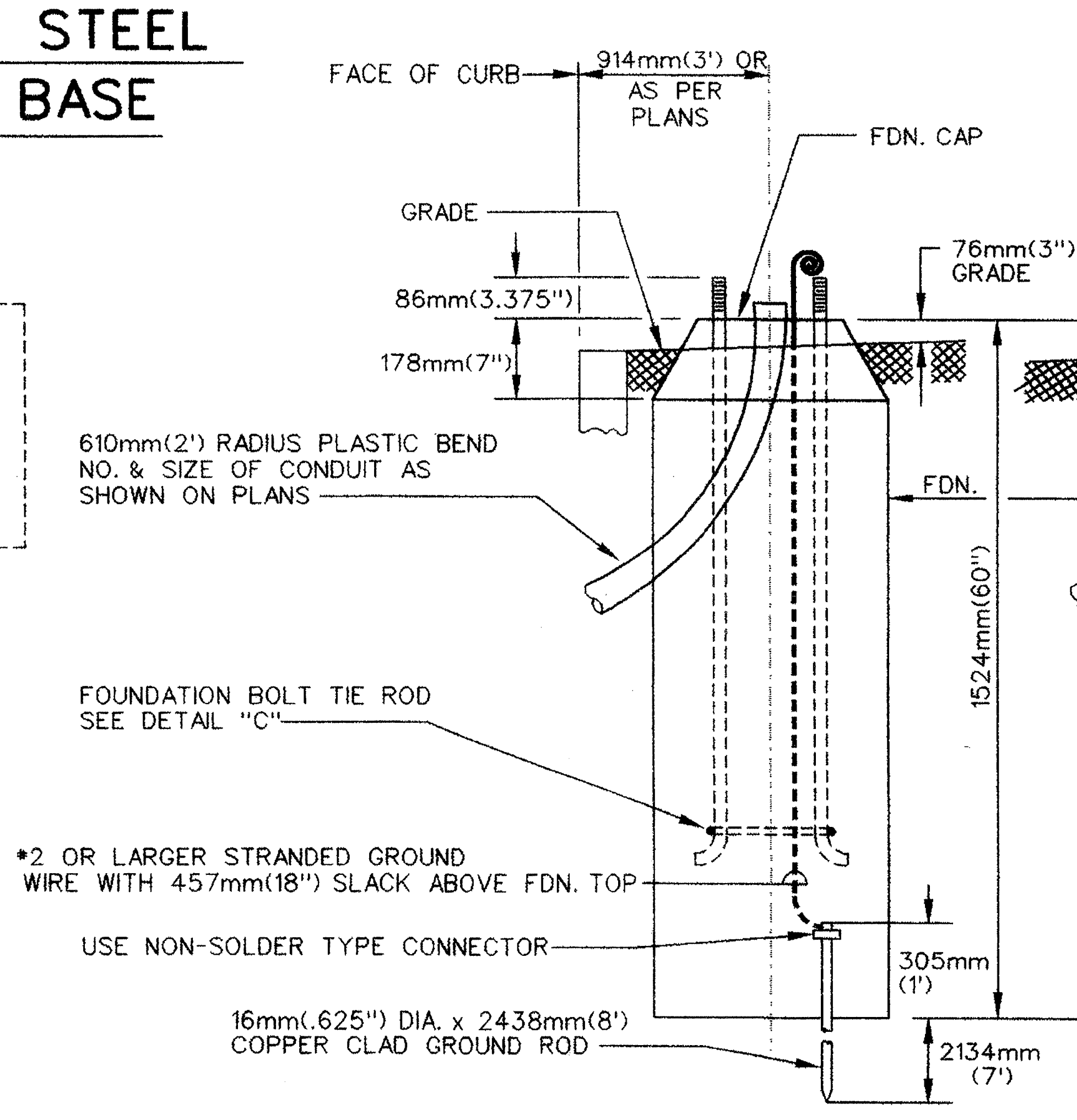
CLAMP-ON BRACKET & RECTANGULAR LUMINAIRE

N.T.S.

STD. CODE NO.	SHAFT LENGTH	SHAFT DEFLECTION *	MINIMUM LOAD * *	ANCHOR BOLT CIRCLE Ø	ANCHOR BOLT Ø & O.A.	HANDHOLE	LUMINAIRE MOUNTING HEIGHT	BRACKET FITTERS REQ'D	BRACKET LENGTH
009-00	8687mm (28.5')	74mm (2.9")	880#	343mm (13.5")	25mm(1") x 1016mm(40")	102mm(4") x 165mm(6.5")	9.14m(30')	—	1.83m(6')

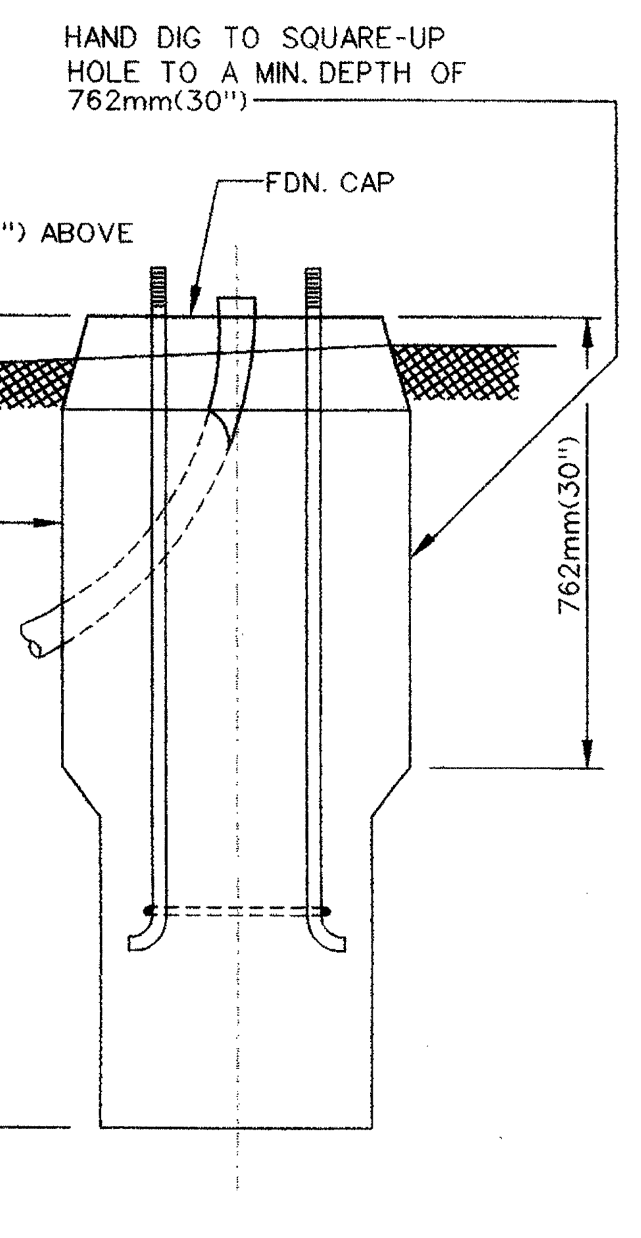
* SHAFT DEFLECTION: SHAFT DEFLECTION MEASURED IN INCHES AT TOP, SHALL NOT BE GREATER THAN THAT SHOWN, FOR A HORIZONTAL LOAD OF 100 LBS. APPLIED 18 INCHES BELOW TOP OF SHAFT.

* * 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.


FACE OF CURB
914mm(3') OR AS PER PLANS
FDN. CAP
GRADE
86mm(3.375")
178mm(7")
610mm(2') RADIUS PLASTIC BEND NO. & SIZE OF CONDUIT AS SHOWN ON PLANS
FDN.
1524mm(60")
FOUNDATION BOLT TIE ROD SEE DETAIL "C"
*2 OR LARGER STRANDED GROUND WIRE WITH 457mm(18") SLACK ABOVE FDN. TOP
USE NON-SOLDER TYPE CONNECTOR
305mm (1')
16mm(.625") DIA. x 2438mm(8') COPPER CLAD GROUND ROD
2134mm (7')

SECTION A-A

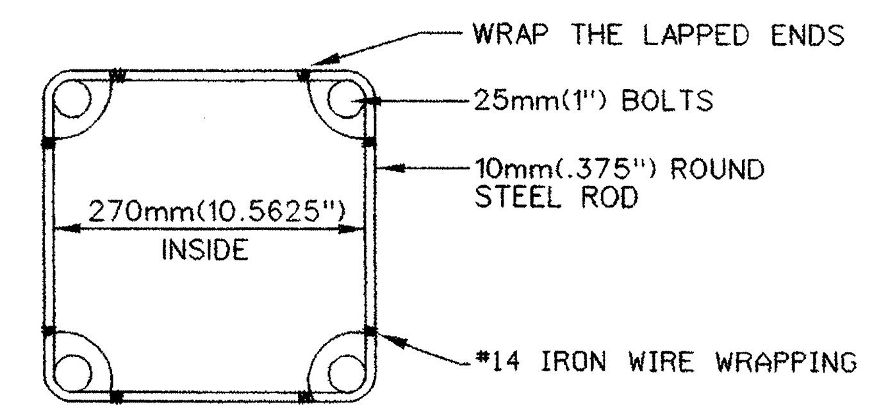
N.T.S.


HAND DIG TO SQUARE-UP HOLE TO A MIN. DEPTH OF 762mm(30")
FDN. CAP
76mm(3") ABOVE GRADE
762mm(30")

SECTION B-B

N.T.S.

ANCHOR BASE STD. FOUNDATION


WRAP THE LAPPED ENDS
25mm(1") BOLTS
10mm(.375") ROUND STEEL ROD
270mm(10.5625") INSIDE
#14 IRON WIRE WRAPPING

DETAIL "C"

FDN. BOLT TIE ROD

N.T.S.

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.

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REVISIONS	Date	Description	Chkd. by

IMPROVEMENT OF TRAFFIC SIGNALS
ST. LTG. AT CLARK TECH PARK 2

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

Designed by CEA
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TELEPHONE: (313) 341-5797 FAX: 341-0205

Disk File Name: 115PLDM
File No. CEA 132400

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CITY OF DETROIT

File No. ---------
Sheet No. 40 of 44
Date 4-26-00

DISK FILE: 115PLDM.MTR

DISK FILE: 205PLDM.MTR

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													1.2mm(.047") BLACK NEOPRENE
	——	2	#4/0-#2/0AWG. M.H.D.,UNCOATED 7/STR. COPPER A.S.T.M. B1													1.6mm(.063") BLACK NEOPRENE
	——	3	#2- AWG.H.D., UNCOATED SOLID COPPER A.S.T.M. B1													.8mm(.032") BLACK POLYETHYLENE
	——	4	#2-AWG.,H.D., UNCOATED SOLID COPPER A.S.T.M. B1													1.2mm(.047") BLACK POLYETHYLENE
	——	5	#4/0-#2/0AWG. M.H.D.,UNCOATED 7/STR. COPPER A.S.T.M. B8													1.6mm(.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				1.6mm(.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				1.6mm(.062") 75°C,BLACK, (167 F) FIGURE 8 CONSTRUCTION									
DISTRIBU-TION CABLES	5000V. BELTED	11	3/C 350 MCM SECTOR, SOFT UNCOATED COPPER AEIC		2.2mm(.085") PER CONDUCTOR OIL VISCOSITY 1,000 SUS AT 100°C (212°F)					11.4mm(.45") OVERALL OIL VISCOSITY 1,000 SUS AT 100° (212°F)		2.4mm(.095") COPPER BEARING LEAD	2.3mm(.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		2.2mm(.085") PER CONDUCTOR OIL VISCOSITY 1,000 SUS AT 100°C (212°F)					11.4mm(.45") OVERALL OIL VISCOSITY 1,000 SUS AT 100° (212°F)		2.2mm(.085") COPPER BEARING LEAD	2mm(.08") HEAT & LIGHT STABILIZED BLACK HIGH MOLE-CULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH			
	5000V. BELTED	13	3/C#2AWG. ROUND, SOFT UNCOATED COPPER AEIC		2.2mm(.085") PER CONDUCTOR OIL VISCOSITY 1,000 SUS AT 100°C (212°F)					11.4mm(.45") OVERALL OIL VISCOSITY 1,000 SUS AT 100° (212°F)		2mm(.08") COPPER BEARING LEAD	2mm(.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		2.54mm(.10") PER CONDUCTOR OIL VISCOSITY 1,000 SUS AT 100°C (212°F)					11.4mm(.45") OVERALL OIL VISCOSITY 1,000 SUS AT 100° (212°F)		2.4mm(.095") COPPER BEARING LEAD	2.3mm(.090") HEAT & LIGHT STABILIZED BLACK HIGH MOLE-CULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH			
	7000V. BELTED	15	3/C#2AWG. SECTOR, SOFT UNCOATED COPPER AEIC		2.54mm(.10") PER CONDUCTOR OIL VISCOSITY 1,000 SUS AT 100°C (212°F)					11.4mm(.45") OVERALL OIL VISCOSITY 1,000 SUS AT 100° (212°F)		2.2mm(.085") COPPER BEARING LEAD	2.3mm(.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		2.54mm(.10") PER CONDUCTOR OIL VISCOSITY 1,000 SUS AT 100°C (212°F)					11.4mm(.45") OVERALL OIL VISCOSITY 1,000 SUS AT 100° (212°F)		2.2mm(.085") COPPER BEARING LEAD	2mm(.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			4.8mm(.188") HIGH MOLE-CULAR NAT-URAL OVER CONDUCTOR	1.2mm(.047") 60°C BLACK					1.6mm(.063") COMMERCIALLY PURE				
SERIES ST. LTG. CABLE, DIRECT BURIAL	7500V.	18	1/C#8 AWG. SOLID, SOFT UNCOATED COPPER ASTM B3			4.8mm(.188") HIGH MOLE-CULAR NAT-URAL OVER CONDUCTOR	1.2mm(.047") 60°C BLACK OVER INSULATED CONDUCTOR					1.6mm(.063") COMMERCIALLY PURE	1.2mm(.047") ASPHALTUM SATURATED JUTE OVER LEAD	TWO LAYER .51mm(.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		5.8mm(.230") PER CONDUCTOR OIL VISCOSITY 1,000 SUS AT 100°C (212°F)			COPPER TAPE INTERCALATED WITH SEMI-CONDUCTING OF OR METALIZED PAPER TAPE	* *			2.8mm(.11") COPPER BEARING LEAD	2.8mm(.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		5.8mm(.230") PER CONDUCTOR OIL VISCOSITY 1,000 SUS AT 100°C (212°F)			COPPER TAPE INTERCALATED WITH SEMI-CONDUCTING OF OR METALIZED PAPER TAPE	* *			2.7mm(.105") COPPER BEARING LEAD	2.8mm(.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		6.2mm(.245") PER CONDUCTOR OIL VISCOSITY 1,000 SUS AT 100°C (212°F)			COPPER TAPE INTERCALATED WITH SEMI-CONDUCTING OF OR METALIZED PAPER TAPE	* *			2.5mm(.10") COPPER BEARING LEAD	2.3mm(.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 1.6mm(.063") OF 30% HEAVEA RUBBER AND ONE LAYER OF LAPPED FILLED COTTON TAPE OVER EACH CONDUCTOR CENTRAL CONDUCTOR HAS ADDITIONAL 4.3mm(.17") VARNISHED CAMBRIC TAPE REMAINING 7 CONDUCTORS EACH HAVE ADDITIONAL 2.4mm(.094") VARNISHED CAMBRIC TAPE ONE OF 7 OUTSIDE CONDUCTORS WRAPPED WITH WHITE PAPER FOR IDENTIFICATION ALL CONDUCTORS CABLED WITH PARAFFINED JUTE (OUTSIDE FILLER). 2.4mm(.094") BELT OF OIL SATURATED PAPER OVERALL (2.9mm)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							1.6mm(.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

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REVISIONS	Date	Description	Chkd. by

IMPROVEMENT OF TRAFFIC SIGNALS
ST. LTG. AT CLARK TECH PARK 2

CABLE & WIRE SPECIFICATIONS, DETAILS

Designed by CEA
Drawn by
Checked by --------

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CITY OF DETROIT

File No. --------
Sheet No. 41 of 44
Date 4-26-00

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:

			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.	————
		% 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.
		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. 25.4mm(1") MAX.	10 MILLIGRAMS PER SQ. 25.4mm(1") MAX.	————	20 MILLIGRAMS PER SQ. 25.4mm(1") MAX.	15 MILLIGRAMS PER SQ. 25.4mm(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.

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:

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

DISK FILE: 206PLDM.MTR

REVISIONS	Date	Description	Chkd. by

IMPROVEMENT OF TRAFFIC SIGNALS
ST. LTG. AT CLARK TECH PARK 2

CABLE & WIRE SPECIFICATIONS

Designed by CEA
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16580 WYOMING AVE. DETROIT MICHIGAN 48221
TELEPHONE: (313) 341-5797 FAX: 341-0205

Disk File Name: 206PLDM
File No. CEA 132400

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Approved by

PUBLIC LIGHTING DEPARTMENT
CITY OF DETROIT

206
File No. --------
Sheet No. 42 of 44
Date 4-26-00

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 1.83m SAMPLE OF THE COMPLETED 2 CONDUCTOR WIRE WITH CLEANLY CUT ENDS SHALL BE SUBJECTED TO A TEMPERATURE OF-(-23.3° C). -10° F FOR ONE HOUR, WHILE STILL COLD, THE TWO INSULATED CONDUCTORS SHALL BE SEPARATED AT ONE END FOR A DISTANCE OF APPROXIMATELY (76.mm) 3 INCHES AND THEN SHALL BE TORN APART WITH STEADY PULL AT A RATE OF (838mm) 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 (3.05m)(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) 7.62m (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 OR #19 AWG, SOLID, UNCOATED COPPER (ASTM B3)-NUMBER OF PAIRS AS REQUIRED	.635mm(.025")(c) CLASS B POLYETHYLENE (ASTM D 1351)	12.5 PERCENT MINIMUM LAP, POLYETHYLENE TEREPHTHALATE		CORRUGATED, LONGITUDINAL, ANNEALED, .1mm (.004")(c) 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) .254mm(.010") MIN. .76mm(.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.	#6 OR #19 AWG, SOLID, TINNED COPPER (ASTM B 33)-NUMBER OF PAIRS AS REQUIRED	.79mm(.031")(c) DIOCTYL PHTHALATE PLASTICIZED PVC (ASTM D 2219)				LEAD-ANTIMONY THICKNESS PER ITEM 26 EXCEPT 1.6mm (.063") MIN. THICKNESS (c)	
30	DIRECT BURIAL 600V.						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 304.80m (1000')
2. CERTIFICATION OF MUTUAL CAPACITANCE OF ALL CABLES AND OF NON-INJURIOUS EFFECT OF FLOODING COMPOUND ON ITEM 27.

(a) "FIGURE .203m (8") CONSTRUCTION. MESSENGER SHALL BE 7 STRAND EHS GALVANIZED, CLASS A, 6mm (.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).

REVISIONS	Date	Description	Chkd. by

IMPROVEMENT OF TRAFFIC SIGNALS
ST. LTG. AT CLARK TECH PARK 2

CABLE & WIRE SPECIFICATIONS

207

Designed by CEA
Drawn by
Checked by ---------

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16580 WYOMING AVE. DETROIT MICHIGAN 48221
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Disk File Name: 207PLDM
File No. CEA 132400

Scale No Scale
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PUBLIC LIGHTING DEPARTMENT
CITY OF DETROIT

File No. ---------
Sheet No. 43 of 44
Date 4-26-00

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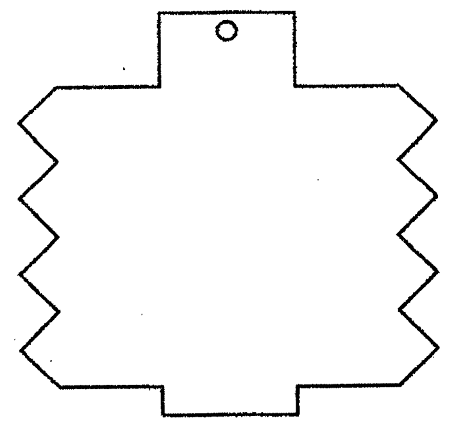
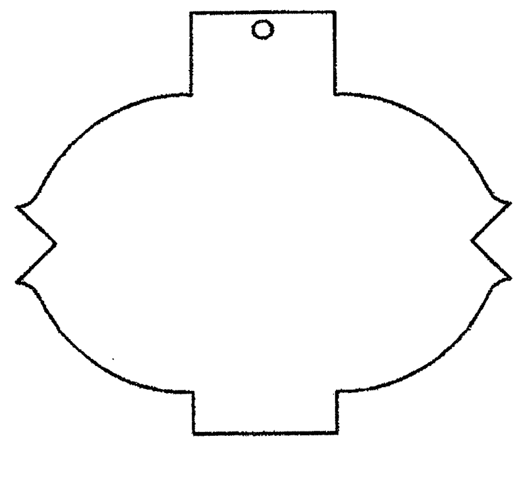
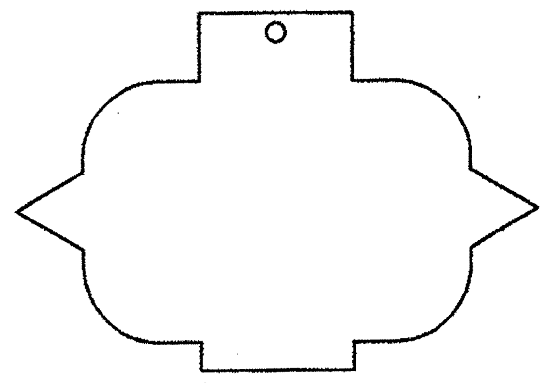


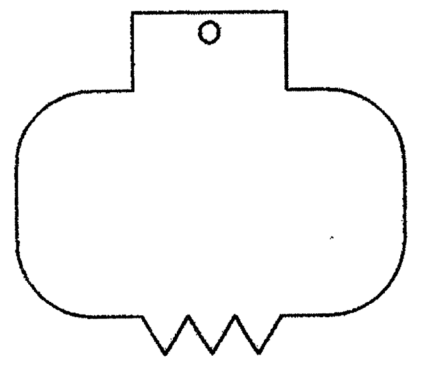
24,000 VOLT TRUNK LINE



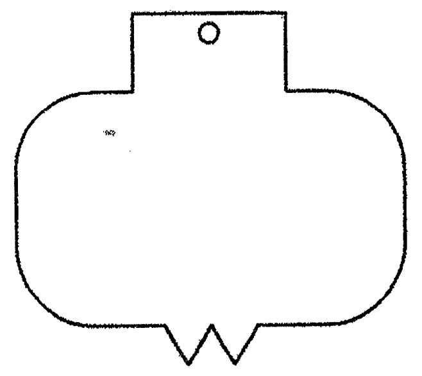
24,000 VOLT FEEDER



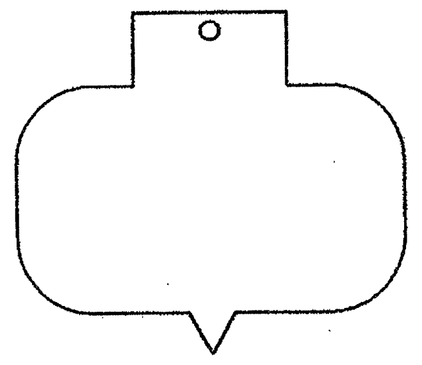
13200 VOLT FEEDER



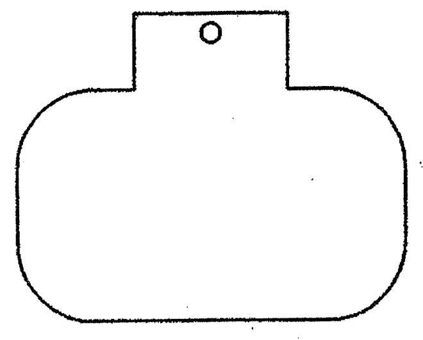
7200 VOLT FEEDER



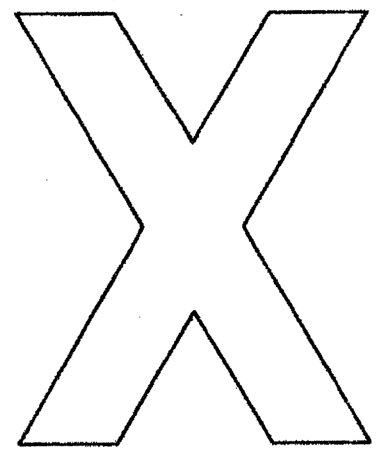
4800 & 5500 VOLT FEEDER



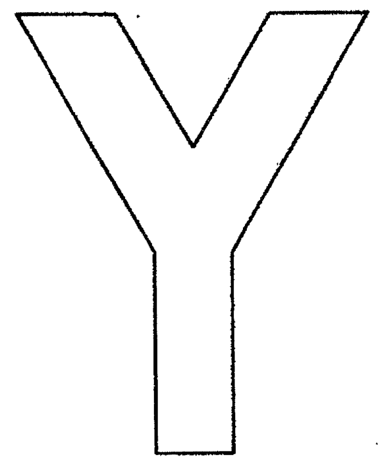
2400 VOLT FEEDER



MISCELLANEOUS



O.H. LINE PHASE TAG



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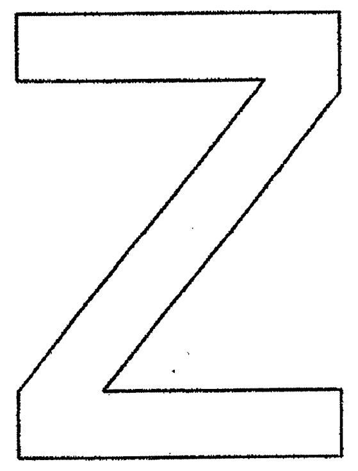

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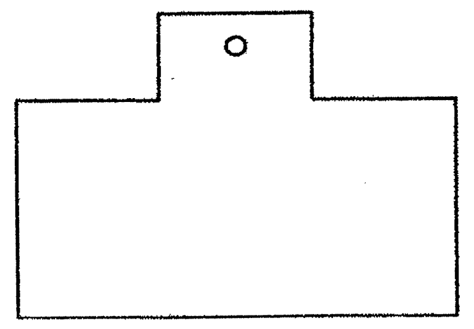
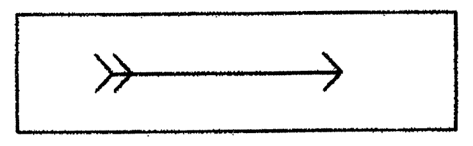
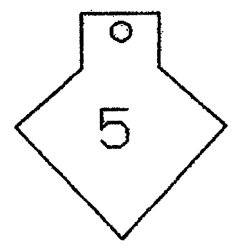


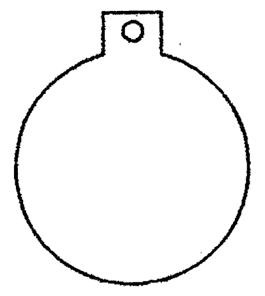
SUPERVISORY CONTROL



CIRCUIT DIRECTION



ST. LTG. COND. NO.(FROM 8/C CABLE)



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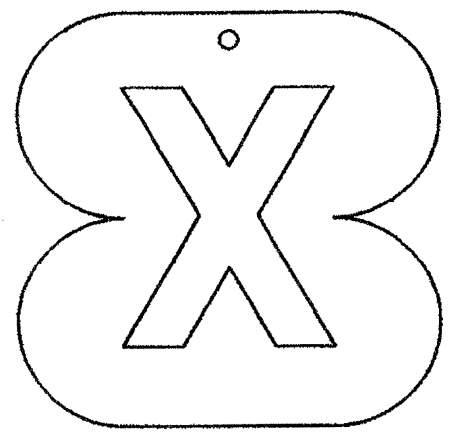
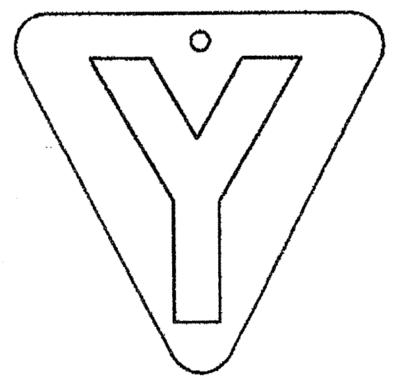


O.H. LINE OR POTHEAD PHASE TAG



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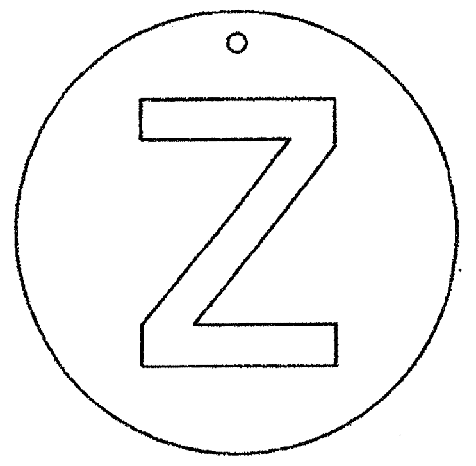

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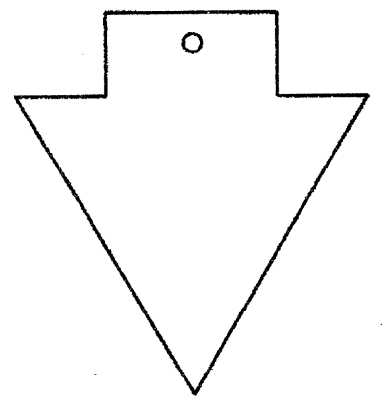
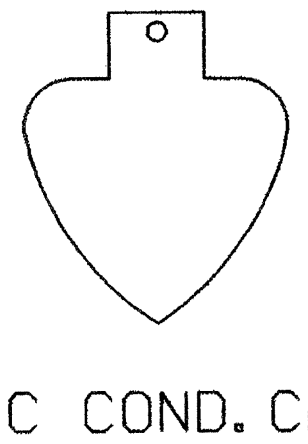
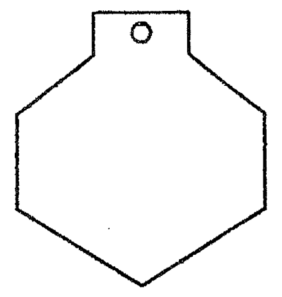


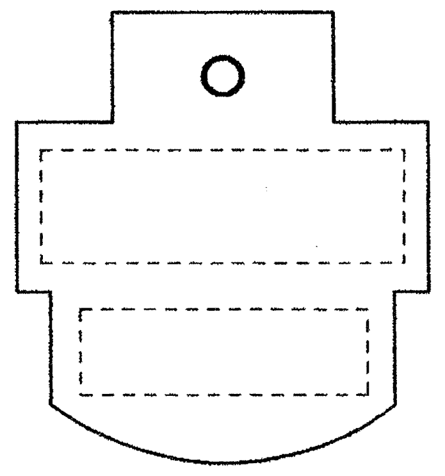
DEAD CABLE



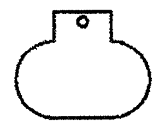
8/C COND. CABLE



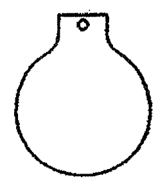
MULTIPLE LTG. CONTROL



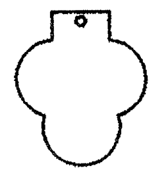
MULTIPLE STREET LIGHTING
ALL VOLTAGES



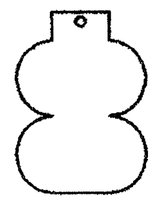
MULTIPLE INC. LTG.



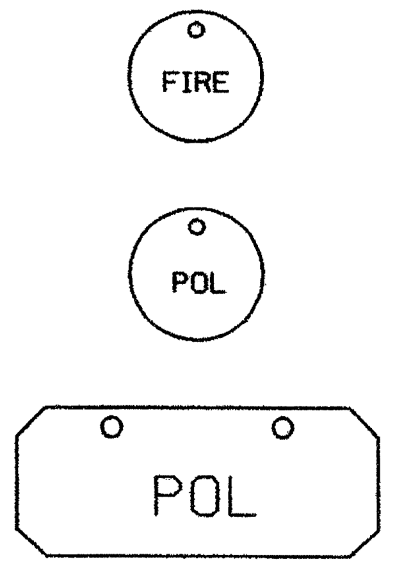
TRAFFIC SIGNALS



SECONDARY POWER TO SAFETY
ISLANDS & TRAFFIC SIGNALS



TRAFFIC SIGNAL CHRONOLIZER



COMMUNICATION

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

BEL.
BUT.
CAN.
COB.
CON.
CUS.
GRF.
HUD.
JSC.
JOY.

KSG.
LAB.
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LUD.
MAP.
MCC.
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STO.
TOW.
TRI.
TUR.
WAL.
WSU.
JEF.

NOTE:

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

IDENTIFICATION TAGS

MATERIAL : LEAD

208

REVISIONS	Date	Description	Chkd. by

IMPROVEMENT OF TRAFFIC SIGNALS
ST. LTG. AT CLARK TECH PARK 2

CABLE TAGS DETAILS

Designed by: CEA
Drawn by:
Checked by: --------

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

Disk File Name: 208PLDM
File No. CEA 132400

Scale: No Scale
Checked by:
Approved by:

PUBLIC LIGHTING DEPARTMENT
CITY OF DETROIT

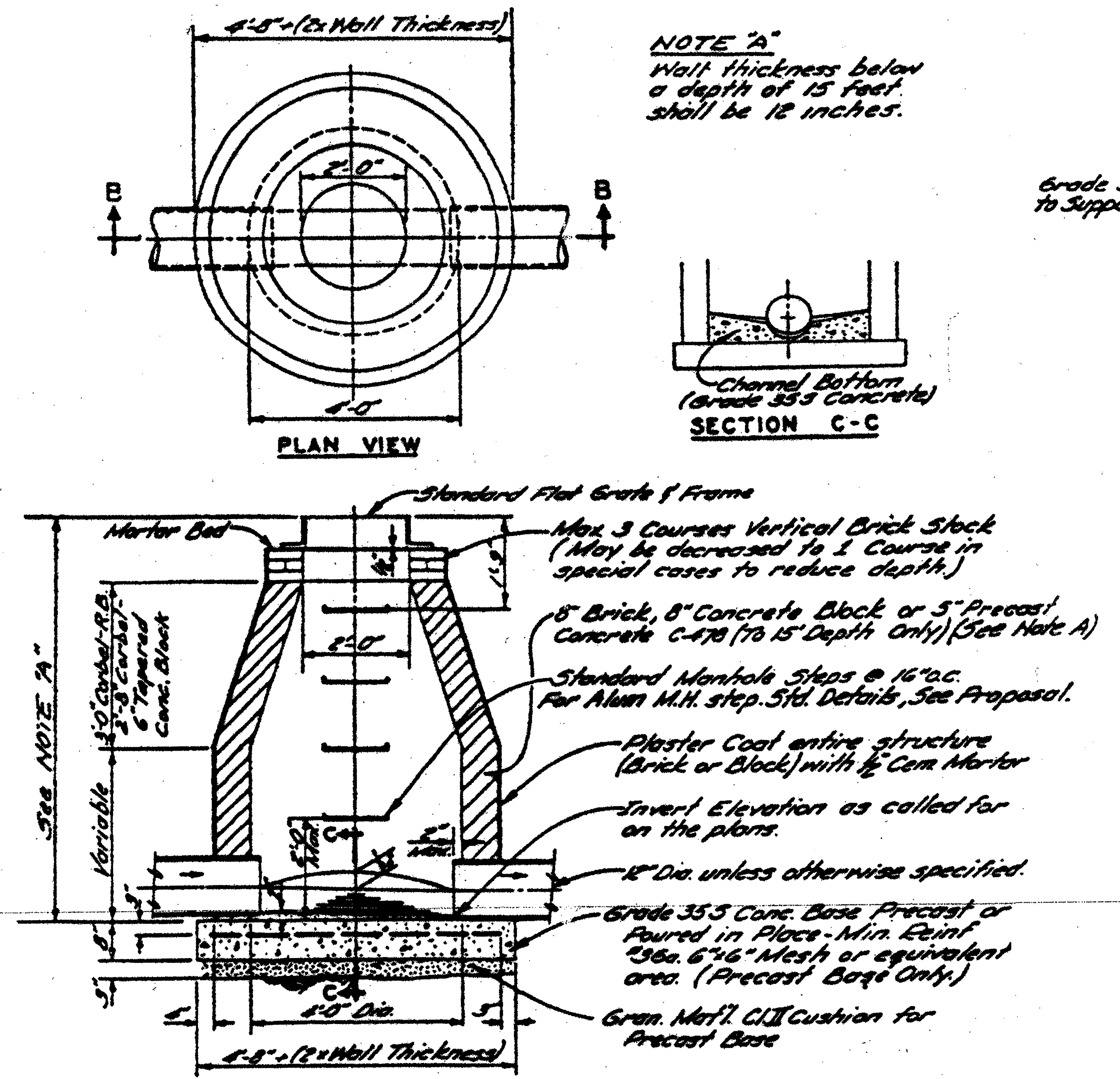
File No. --------
Sheet No. 44 of 44
Date 4-26-00

DISK FILE: 208PLDM.MTR

SCALE		BOOK NO.	PG.	LEVEL	
	HORIZONTAL			DATE	
	VERTICAL	PAVING COMPLETED			

BEFORE STARTING CONSTRUCTION CONTRACTOR MUST CHECK WITH UTILITIES FOR LOCATIONS OF EXISTING STRUCTURES WHETHER OR NOT INDICATED ON PLANS.

BENCH	MARKS	ELEV


4'-8"+(2×Wall Thickness)
2'-0"
4'-0"
B
B
Standard Flat Grate & Frame
Mortar Bed
Max 3 Courses Vertical Brick Stack (May be decreased to 1 Course in special cases to reduce depth.)
8" Brick, 8" Concrete Block or 5" Precast Concrete C-478 (To 15' Depth Only) (See Note A)
Standard Manhole Steps @ 16" o.c. For Alum M.H. step Std. Details, See Proposal.
Plaster Coat entire structure (Brick or Block) with ½" Cem Mortar
Invert Elevation as called for on the plans.
12" Dia. unless otherwise specified.
Grade 35S Conc. Base Precast or Poured in Place-Min. Reinf #3Ga. 6"×6" Mesh or equivalent area. (Precast Base Only)
Gran. Mat'l. Cl.II Cushion for Precast Base
See NOTE "A"
Variable
3'-0" Corbel-R.B. 3'-8" Corbel 6" Tapered Conc. Block
4'-0" Dia.
4'-8"+(2×Wall Thickness)
Channel Bottom (Grade 35S Concrete)

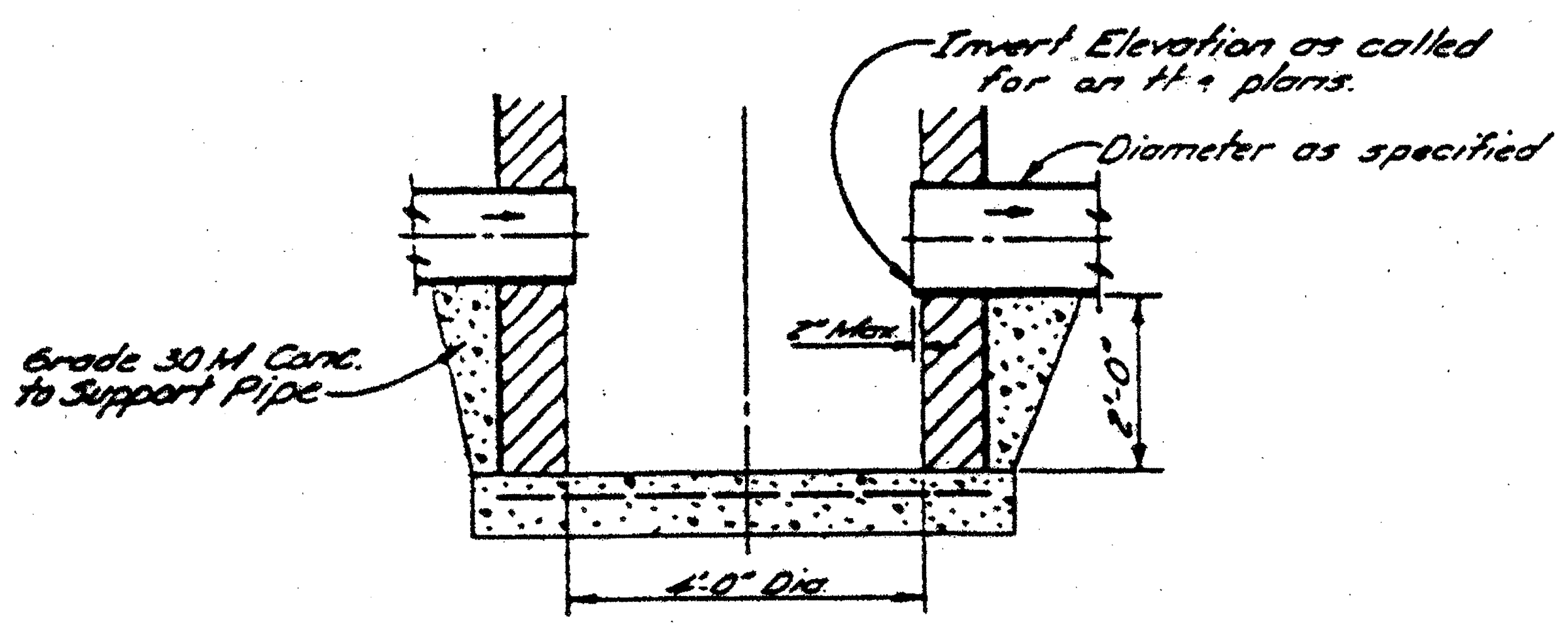
NOTE "A"
Wall thickness below a depth of 15 feet shall be 12 inches.

PLAN VIEW

SECTION C-C

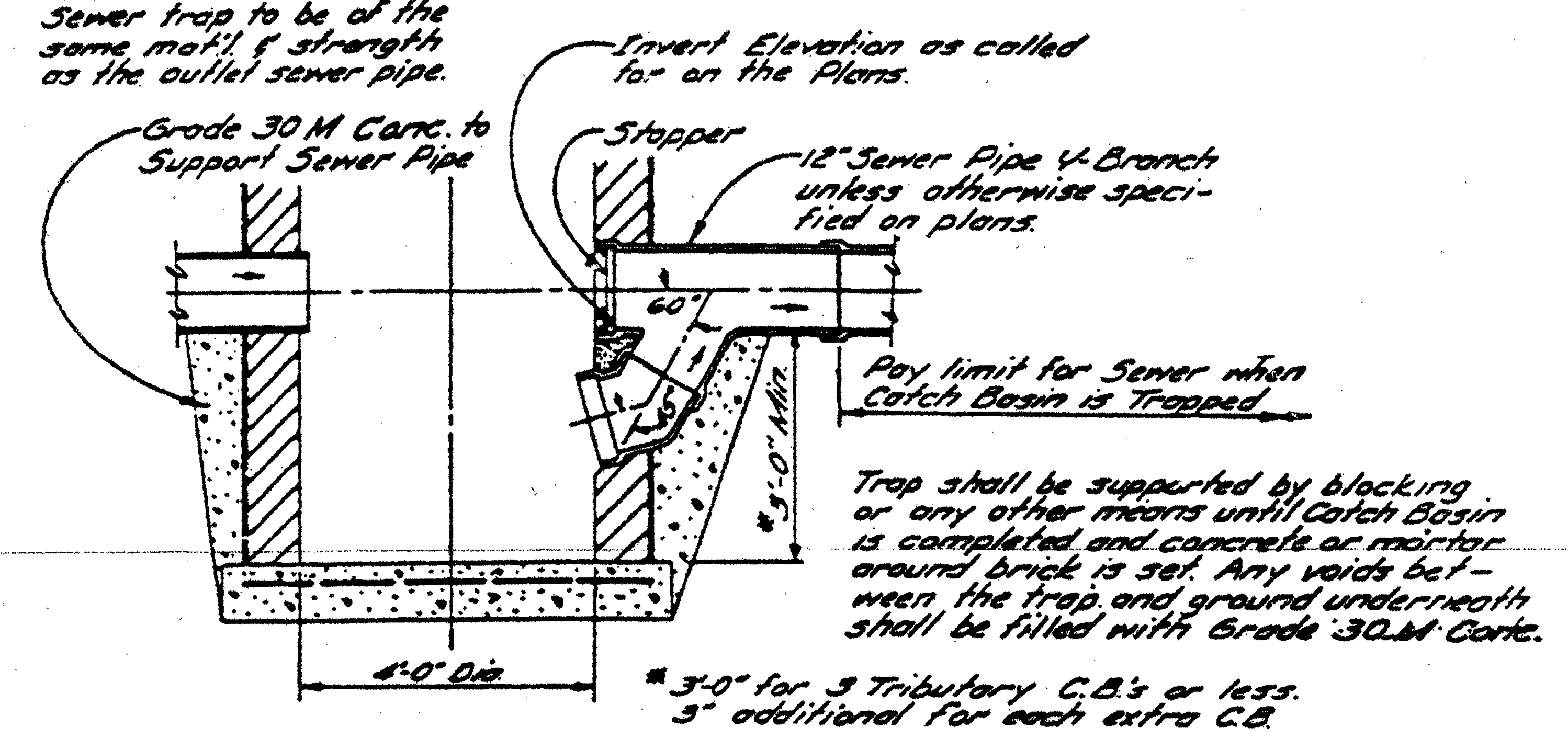
SECTION B-B

CATCH BASIN "B"
NO SCALE


Invert Elevation as called for on the plans.
Diameter as specified
Grade 30 M Conc. to Support Pipe
2" Max.
2'-0"
4'-0" Dia.

DETAIL OF SUMP FOR CATCH BASIN "B"
NO SCALE

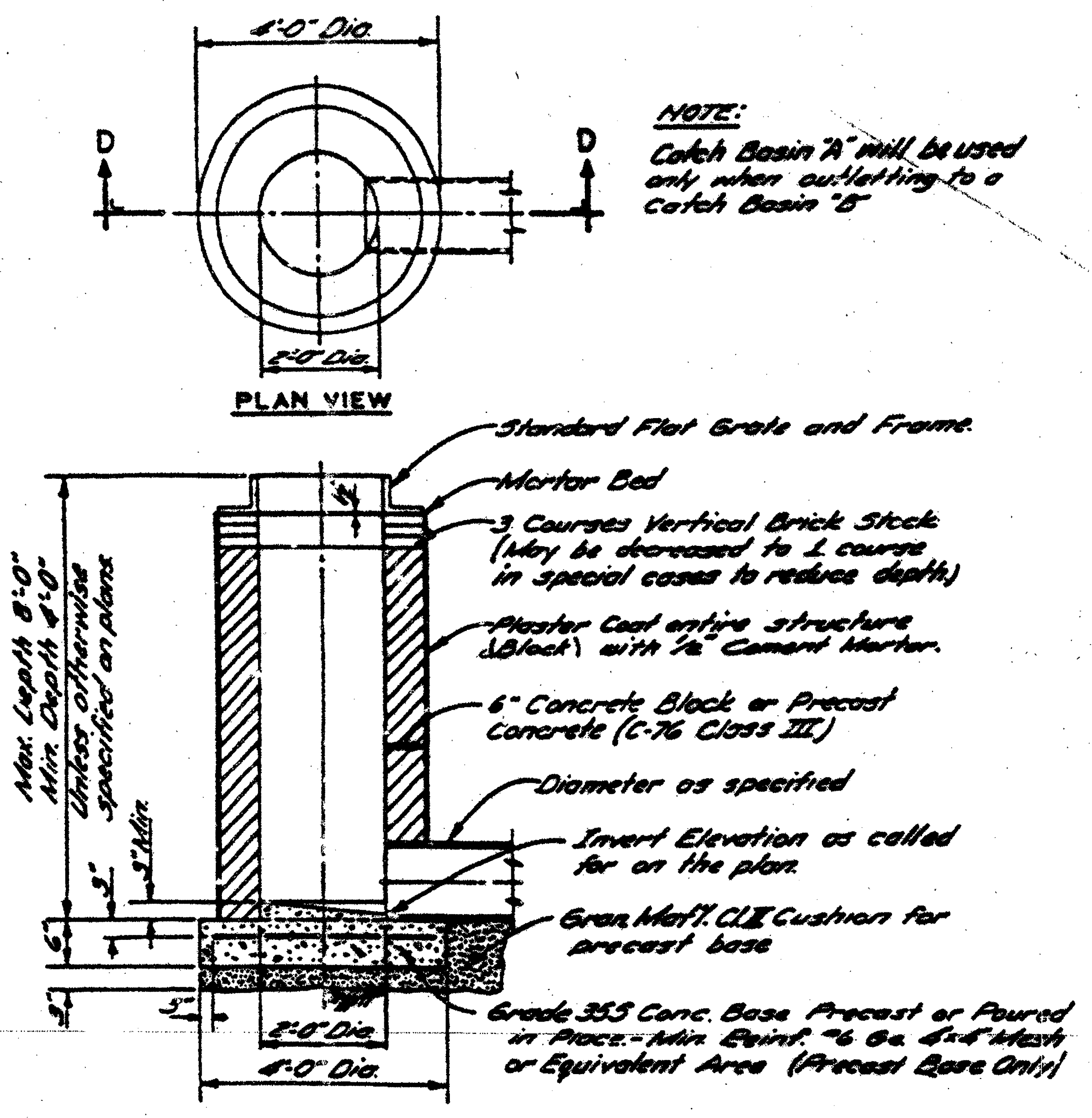
NOTE:
Sewer trap to be of the same mat'l. & strength as the outlet sewer pipe.


Grade 30 M Conc. to Support Sewer Pipe
Invert Elevation as called for on the Plans.
Stopper
12" Sewer Pipe Y-Branch unless otherwise specified on plans.
60°
Pay limit for Sewer when Catch Basin is Trapped
*3'-0" Min.
4'-0" Dia.

Trap shall be supported by blocking or any other means until Catch Basin is completed and concrete or mortar around brick is set. Any voids between the trap and ground underneath shall be filled with Grade 30 M Conc.

*3'-0" for 3 Tributary C.B.'s or less. 3" additional for each extra C.B.

DETAIL OF TRAP FOR CATCH BASIN "B"
NO SCALE

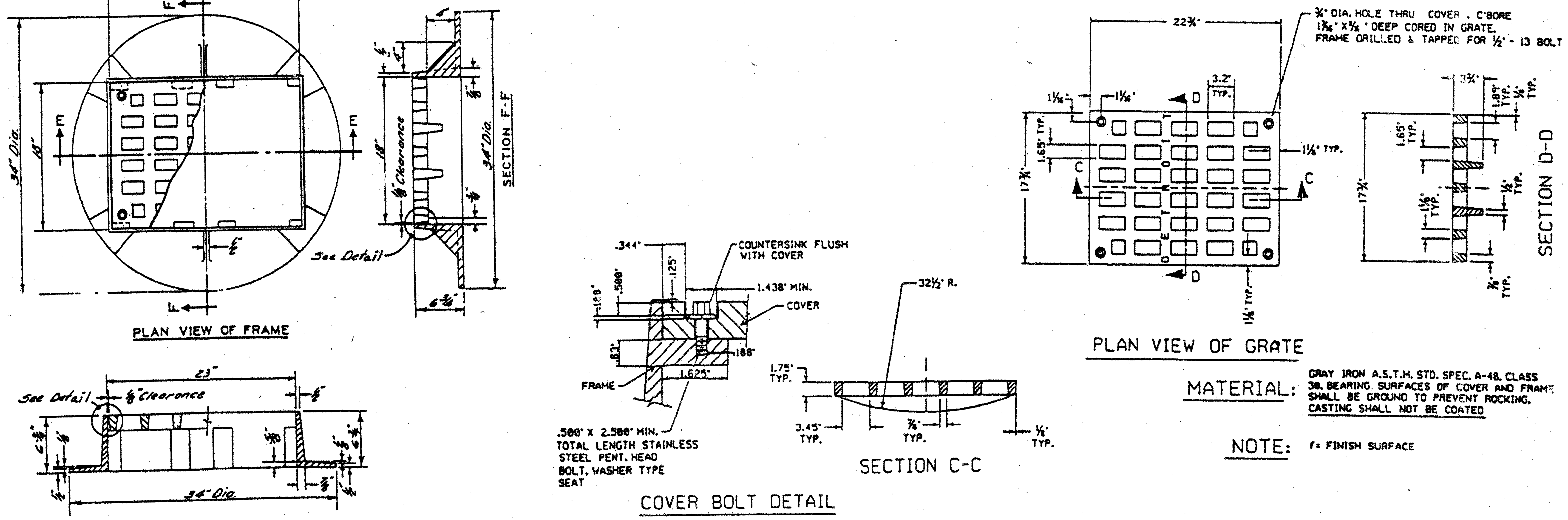

4'-0" Dia.
D
D
2'-0" Dia.
Standard Flat Grate and Frame.
Mortar Bed
3 Courses Vertical Brick Stack (May be decreased to 1 course in special cases to reduce depth.)
Plaster Coat entire structure (Block) with ½" Cement Mortar.
6" Concrete Block or Precast Concrete (C-76 Class III)
Diameter as specified
Invert Elevation as called for on the plan.
Gran. Mat'l. Cl.II Cushion for precast base
Grade 35S Conc. Base Precast or Poured in Place.-Min. Reinf. #6 Ga. 4×4 Mesh or Equivalent Area (Precast Base Only)
Max. Depth 8'-0" Min. Depth 4'-0" Unless otherwise specified on plans
3" Min.
2'-0" Dia.
4'-0" Dia.

NOTE:
Catch Basin "A" will be used only when outletting to a Catch Basin "B"

PLAN VIEW

SECTION D-D

CATCH BASIN "A"
NO SCALE


23"
F
F
E
E
34" Dia.
18"
See Detail
½" Clearance
SECTION F-F
6¾"
23"
34" Dia.
.344"
.500"
.125"
.188"
COUNTERSINK FLUSH WITH COVER
1.438" MIN.
COVER
.188"
.63"
1.625"
FRAME
.500" X 2.500" MIN. TOTAL LENGTH STAINLESS STEEL PENT. HEAD BOLT, WASHER TYPE SEAT
32½" R.
1.75" TYP.
3.45" TYP.
⅞" TYP.
⅛" TYP.
22¾"
¾" DIA. HOLE THRU COVER. C'BORE 1³⁄₁₆" X ⁵⁄₁₆" DEEP CORED IN GRATE. FRAME DRILLED & TAPPED FOR ½" - 13 BOLT
3.2" TYP.
1¹⁄₁₆"
1¹⁄₁₆"
1.65" TYP.
1⅛" TYP.
17¾"
C
C
D
D
DETROIT
3¾"
1.89" TYP.
⅛" TYP.
½" TYP.
⅞" TYP.

PLAN VIEW OF FRAME

SECTION E-E

COVER BOLT DETAIL

SECTION C-C

PLAN VIEW OF GRATE

SECTION D-D

MATERIAL: GRAY IRON A.S.T.M. STD. SPEC. A-48, CLASS 30. BEARING SURFACES OF COVER AND FRAME SHALL BE GROUND TO PREVENT ROCKING. CASTING SHALL NOT BE COATED

NOTE: f = FINISH SURFACE

STANDARD FLAT GRATE AND FRAME
NO SCALE

GENERAL NOTES

1. The materials & workmanship shall be in accordance with the current Standard Specifications.
2. Center of Catch Basin shall be 20 inches from back of curb.
3. All sizes & flow lines of pipe, and elevations for top & bottom of structures shall be determined from the plans or construction requirements.
   The bell shall be removed from the first length of outlet pipe projecting through the wall of the structures.
   When any structure is constructed of precast concrete or concrete block, the top of the masonry shall be left sufficiently low to permit proper adjustment of cover to grade by the use of mortar or bricks as directed by the Engineer.
4. A Trap, as detailed on this sheet, shall be placed where called for in the outlet sewer line of Catch Basins "B".
   This trap shall be set into the masonry wall as shown on the detail. The space between the faces of the wall & the trap shall be completely filled with cement, mortar or concrete, so as to hold Trap securely in place.
   Tile Traps will be paid for separately at the Contract Unit Price each, which price shall include the extra catch basin construction required and for furnishing and installing the trap.
5. A plaster coat of mortar ½ inch in thickness shall be applied to the outer surface of the structure as shown. A ½ inch cement plaster coat shall be placed on the inside of all sumps.
6. Contractor shall verify elevations of existing utilities to enable construction to indicated elevations shown on drawings. If necessary, invert elevations shown on the drawings may be altered in the field to clear existing utilities. Such alterations, upward or downward, shall be at no change in contract price.
7. When precast concrete pipe sections are used for catch basins, either a section of the inlet and outlet pipes or an opening or eye for the inlet & outlet pipes shall be cast into the wall of the catch basin pipe when it is being manufactured. Eyes in precast pipe sections shall be furnished to accommodate a flexible joint connection such as Press-Wedge by Press Seal Gasket Corp or Res-Seal by Scales Mfg. Corp.
8. Pay limit for sewers shall be inside faces of structures unless otherwise noted.

DESCRIPTION	BR	CK	APVD	DATE
REVISIONS				

	BY	CHECKED BY
PLAN	M. POLITO	D. MILZ
GRADE		
ESTIMATE		
FINAL	CHECK	REVIEW

APPROVED: John Erickson
ENGINEER OF STREETS
Allen E. Fenger
ENGINEER OF SURVEYS
W. B. Bernard
CITY ENGINEER

CITY OF DETROIT
CITY ENGINEERING DIVISION - D.P.W.
BUREAU OF STREETS AND HIGHWAYS

DETAILS OF STANDARD CATCH BASINS "A & B",
FLAT GRATE & FRAME AND COVER BOLT.

SHEET 1 OF 5 SHEETS
CONTRACT NO.
ASSIGNMENT NO. 99-22-28
DATE JULY, 1999