

Livernois Davison to McNichols
 Received 7/25/07, Sent as Final Plans to MDOT 7/25/07

THE IMPROVEMENTS COVERED BY THESE PLANS SHALL BE IN ACCORDANCE WITH THE MICHIGAN DEPARTMENT OF TRANSPORTATION 2003 STANDARD SPECIFICATIONS FOR CONSTRUCTION; SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS.

**CITY OF DETROIT
 DEPARTMENT OF PUBLIC WORKS**

IN CO-OPERATION WITH
 MICHIGAN DEPARTMENT OF TRANSPORTATION

FEDERAL HIGHWAY ADMINISTRATION

CONTROL SECTION NO. EDCF 82163

JOB NO. 86170A

FEDERAL PROJECT NO.

FEDERAL ITEM NO.

DESIGNED TO MEET THE STANDARDS OF THE 2004 AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) "A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS", AND THE 2005 MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

ROAD IMPROVEMENTS

LOCATION
 LIVERNOIS AVE FROM POB STA 395+10.00 TO POE STA 491+62.95

TRAFFIC SIGNAL MODERNIZATION

- LOCATION
- LIVERNOIS AVE AT OAKMAN BLVD
 - LIVERNOIS AVE AT EWALD CIR
 - LIVERNOIS AVE AT LYNDON AVE (REMOVAL)
 - LIVERNOIS AVE AT CHALFONTE AVE (REMOVAL)
 - LIVERNOIS AVE AT FENKELL RD
 - LIVERNOIS AVE AT M-10 (LODGE FWY) SERVICE DRS
 - LIVERNOIS AVE AT PURITAN RD
 - LIVERNOIS AVE AT FLORENCE AVE (REMOVAL)

MDOT STANDARD PLANS

R-28-F	SPECIAL DETAIL
R-44-E	10/27/04
R-100-D	11/14/03
WZD-125-D	11/16/06

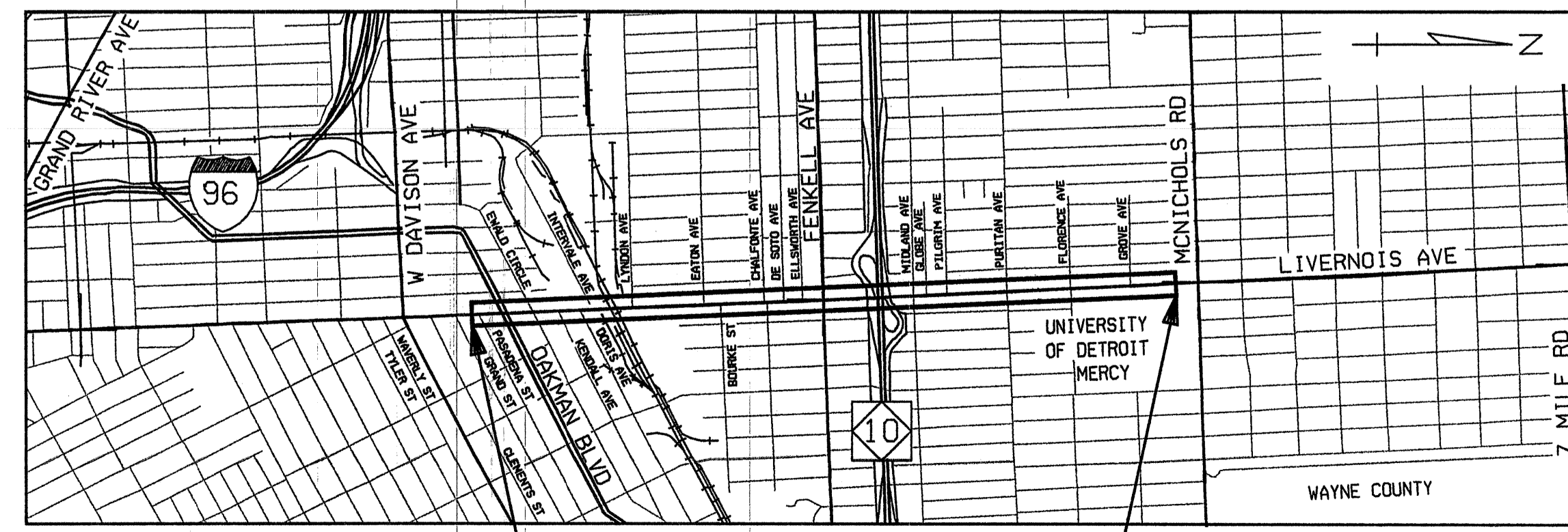
CALL MISS DIG
 3 WORKING DAYS PRIOR TO CONSTRUCTION
 1-800-482-7171

SEE PROJECT DETAIL

LIVERNOIS AVE	YEAR 2007	YEAR 2027
A.D.T. AT OAKMAN BLVD	22,211	24,540
A.D.T. AT FENKELL	26,090	28,827
A.D.T. AT M-10 SOUTH SERVICE DR	28,010	30,948
A.D.T. AT M-10 NORTH SERVICE DR	29,929	33,068
A.D.T. AT PURITAN AVE	31,848	35,189

D.H.V. 1,837 2,030

POSTED SPEED 30 mph
 DESIGN SPEED 35 mph



INDEX TO PROJECT SHEETS

- TITLE
- 3 TYPICAL CROSS SECTIONS
- 6 MISCELLANEOUS DETAILS
- LEGEND SHEET
- ALIGNMENT
- 9-28 REMOVAL, UTILITY, PLAN & PROFILE SHEETS
- 29 MAINTENANCE OF TRAFFIC
- 30-35 PERMANENT SIGNING & PAVEMENT MARKINGS
- 36-37 QUANTITY SHEETS
- 38-62 SIGNAL PLANS

PLANS PREPARED BY:
HNTB

CONTRACT FOR: Construction of median from south of Pasadena Street northerly to south of McNichols Road, construction of concrete pavement and HMA resurfacing for U-turn slots, construction of integral curb and sidewalk along the side of the median, ADA curb ramp construction, traffic signal removal and modernization, and miscellaneous construction in the City of Detroit, Wayne County. The project length is 1.83 miles.

LOCAL AUTHORITY APPROVAL
 CITY OF DETROIT

APPROVED BY: Sunny Jacob 07/24/07
 DETROIT TRAFFIC ENGINEERING DIVISION, DPW DATE

APPROVED BY: [Signature] 7/24/2007
 DETROIT PUBLIC LIGHTING DEPARTMENT DATE

PREPARED UNDER THE SUPERVISION OF:
Sunny Jacob 38198
 REGISTERED PROFESSIONAL ENGINEER REGISTRATION

City of Detroit ORGANIZATION


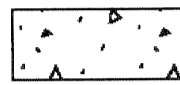
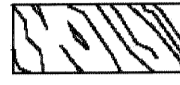

65 Cadillac Square, Suite 900, Detroit, Michigan 48226 ADDRESS

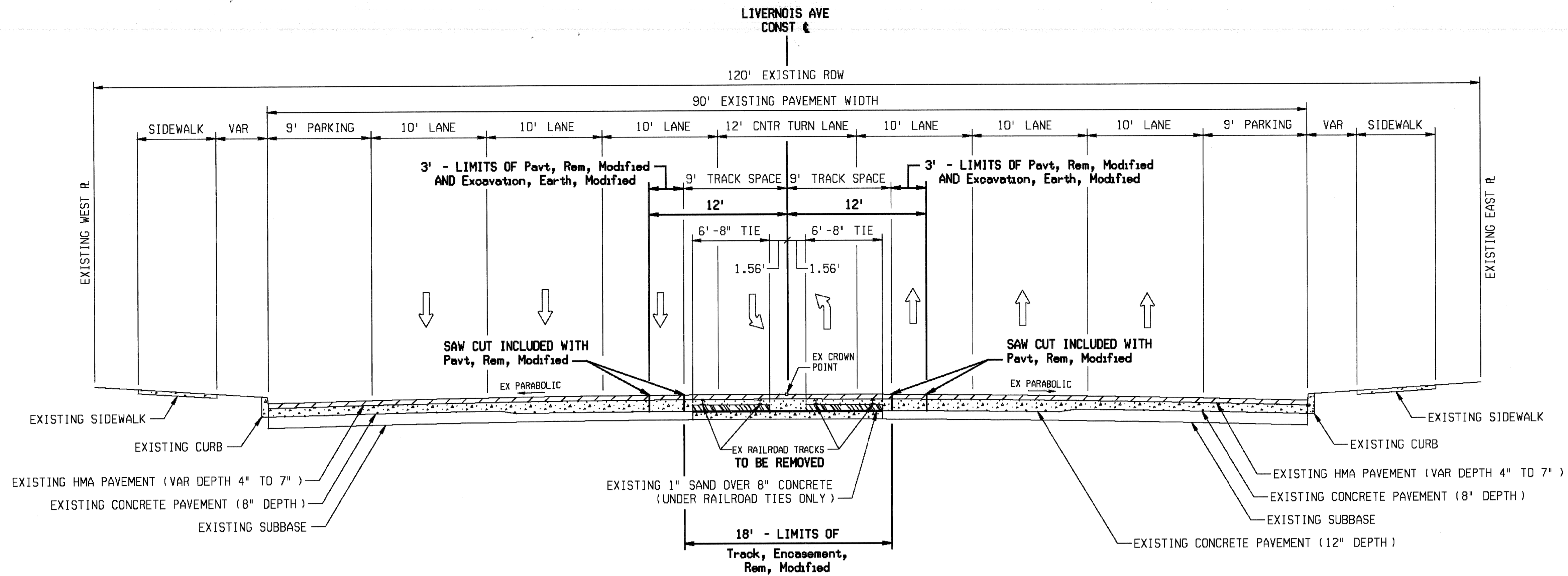
STATE OF MICHIGAN
 JESSY S. JACOB
 ENGINEER
 No. 38198
 LICENSED PROFESSIONAL ENGINEER

SHEET 1 OF 62 SHEETS
 DATE: JULY 11, 2007

FEDERAL PROJECT NO. 86170A CONTROL SECTION EDCF 82163 FEDERAL ITEM NO.

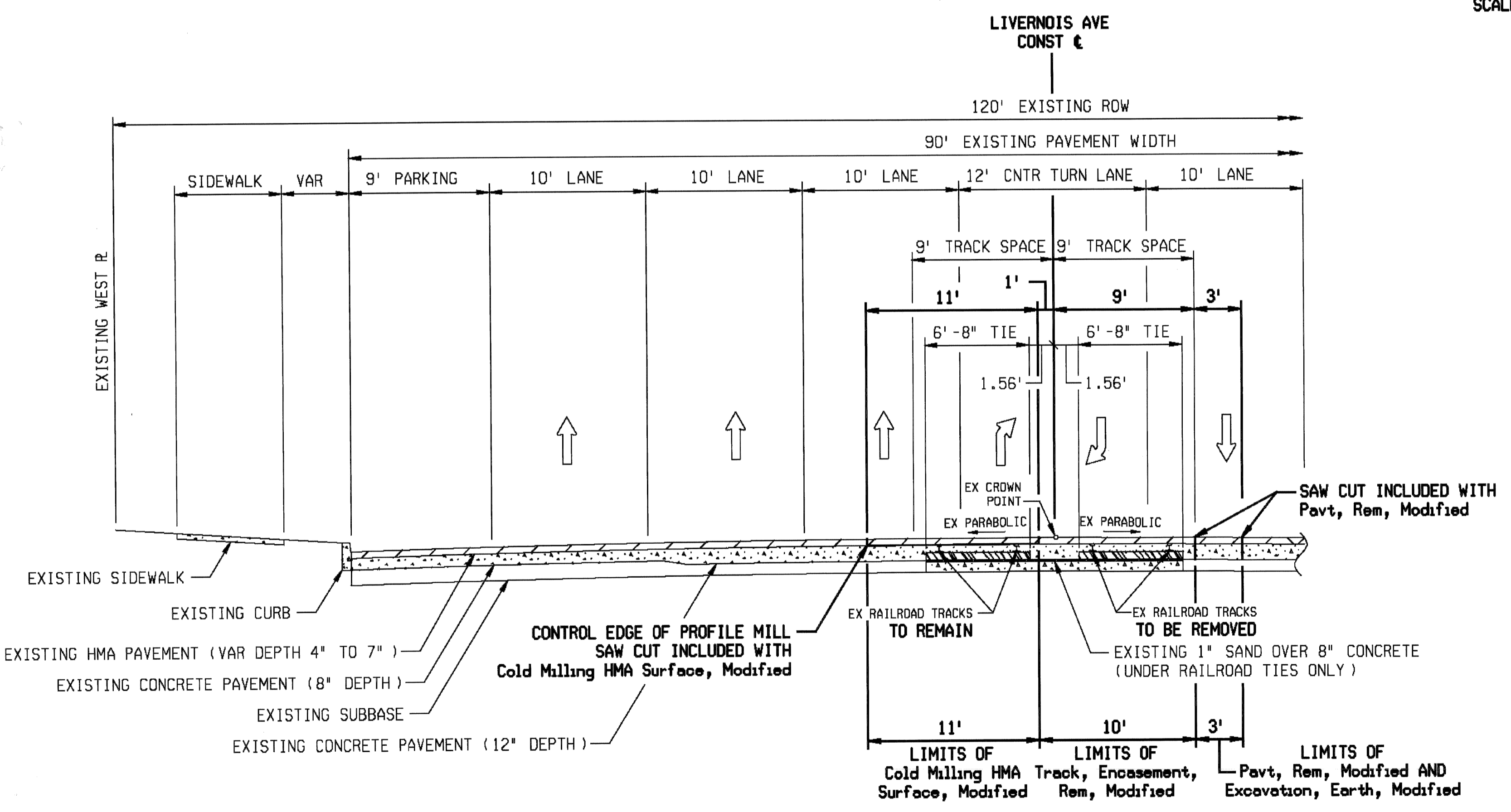
TYPICAL SECTIONS LEGEND

- HMA 
- CONCRETE 
- WOOD OR STEEL 
- SAND 



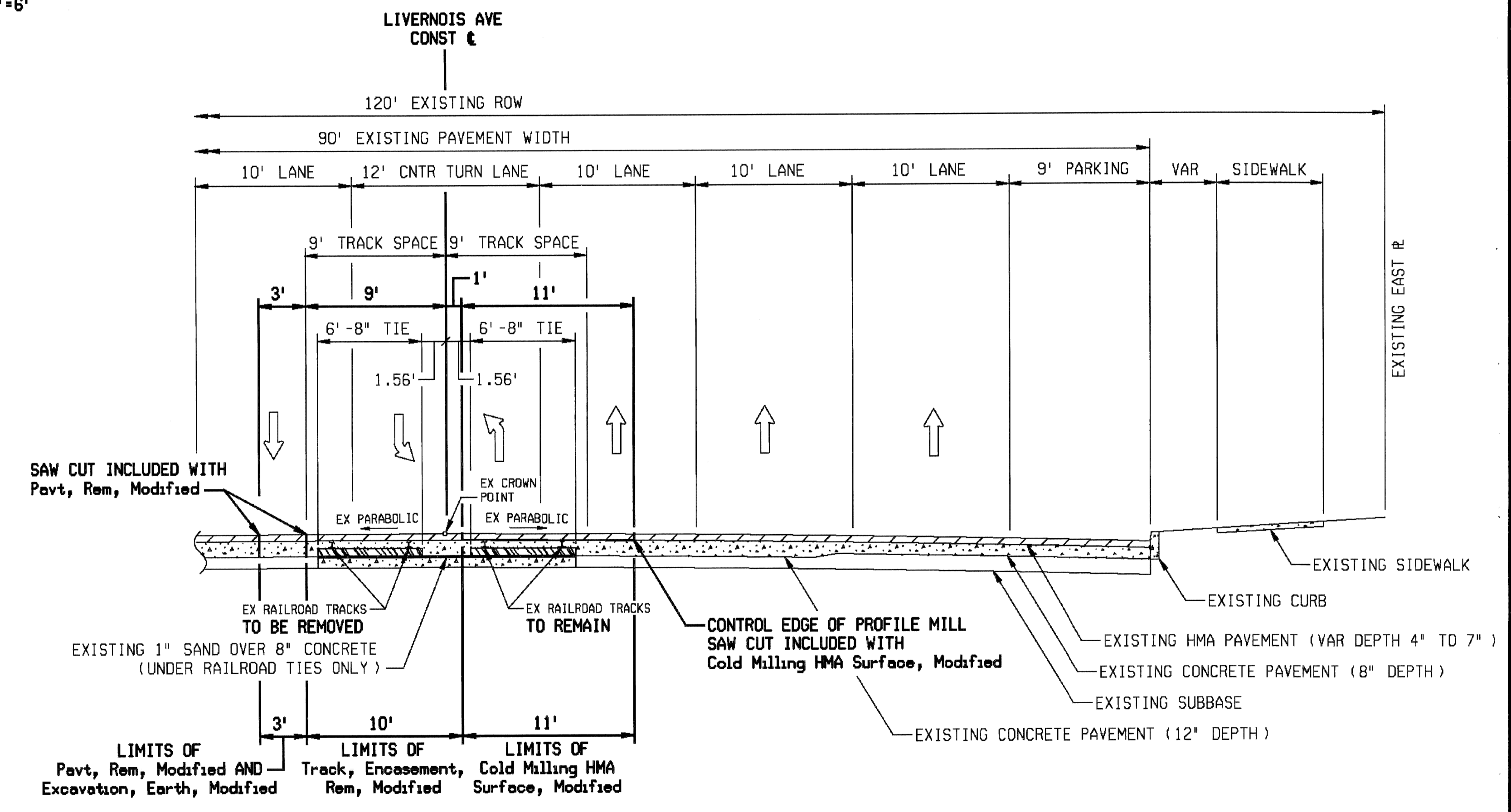
EXISTING SECTION (FULL WIDTH MEDIAN)

SCALE 1"=6'



EXISTING SECTION (SB LEFT TURN LANE)

SCALE 1"=6'



EXISTING SECTION (NB LEFT TURN LANE)

SCALE 1"=6'

PLAN	BY	CHECKED BY	APPROVED:
GRADE			FEDERAL PROJECT NO.
ESTIMATE			FEDERAL ITEM NO.
DESCRIPTION	DEN	CKD	APVD
REVISIONS	DATE	FINAL	CHECK
			REVIEW

HNTB

CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

LIVEROIS AVE MEDIAN IMPROVEMENTS FROM
SOUTH OF PASADENA ST TO McNICHOLS RD

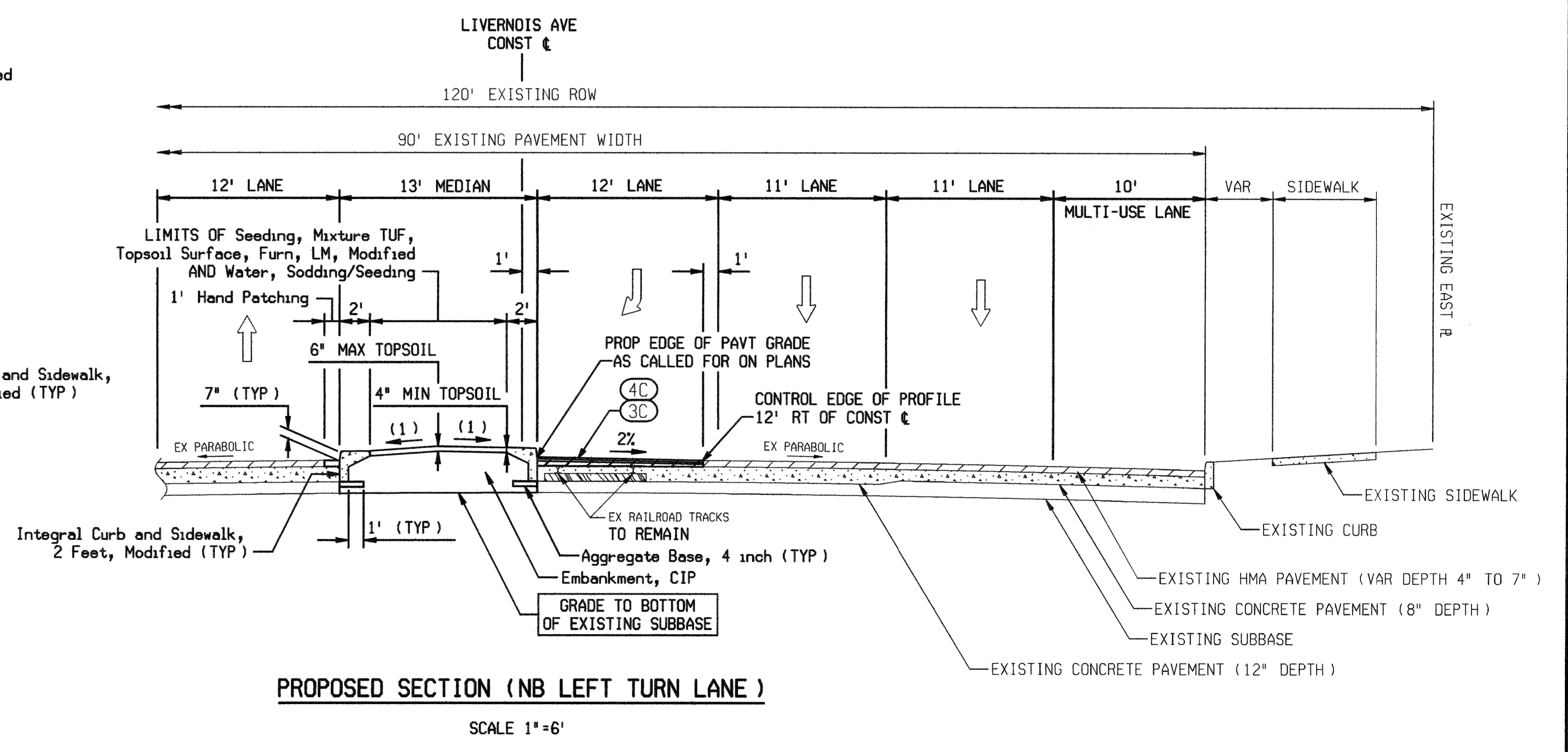
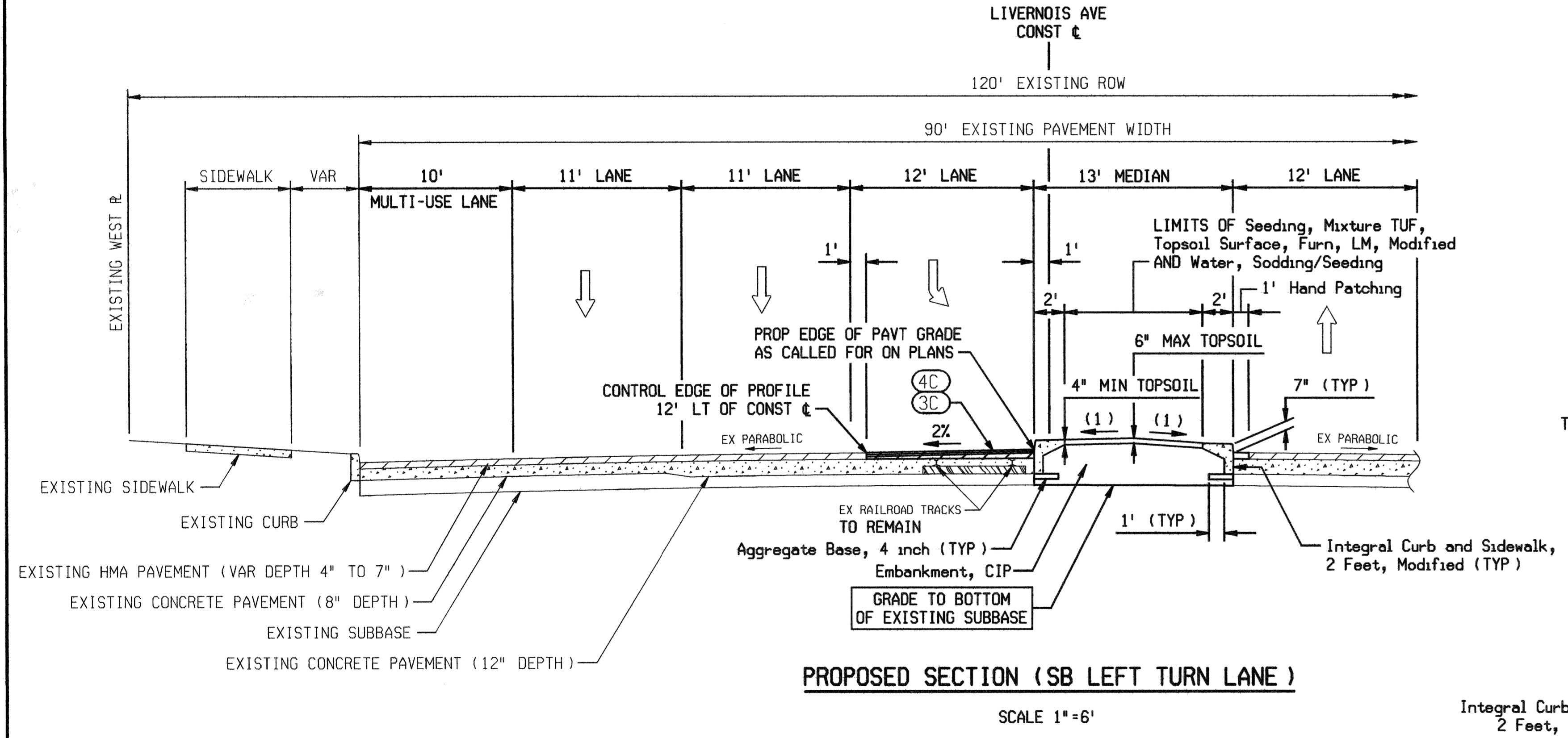
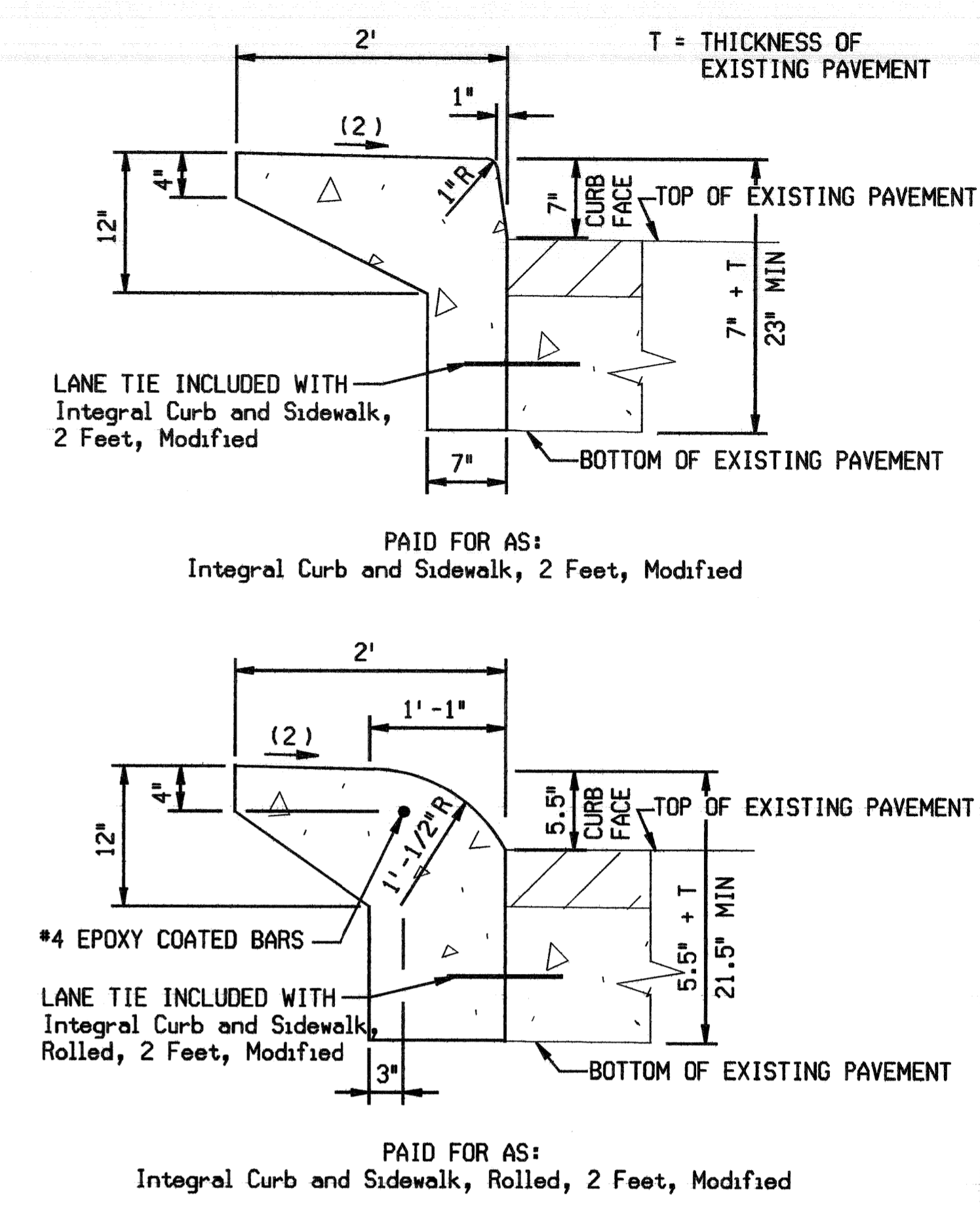
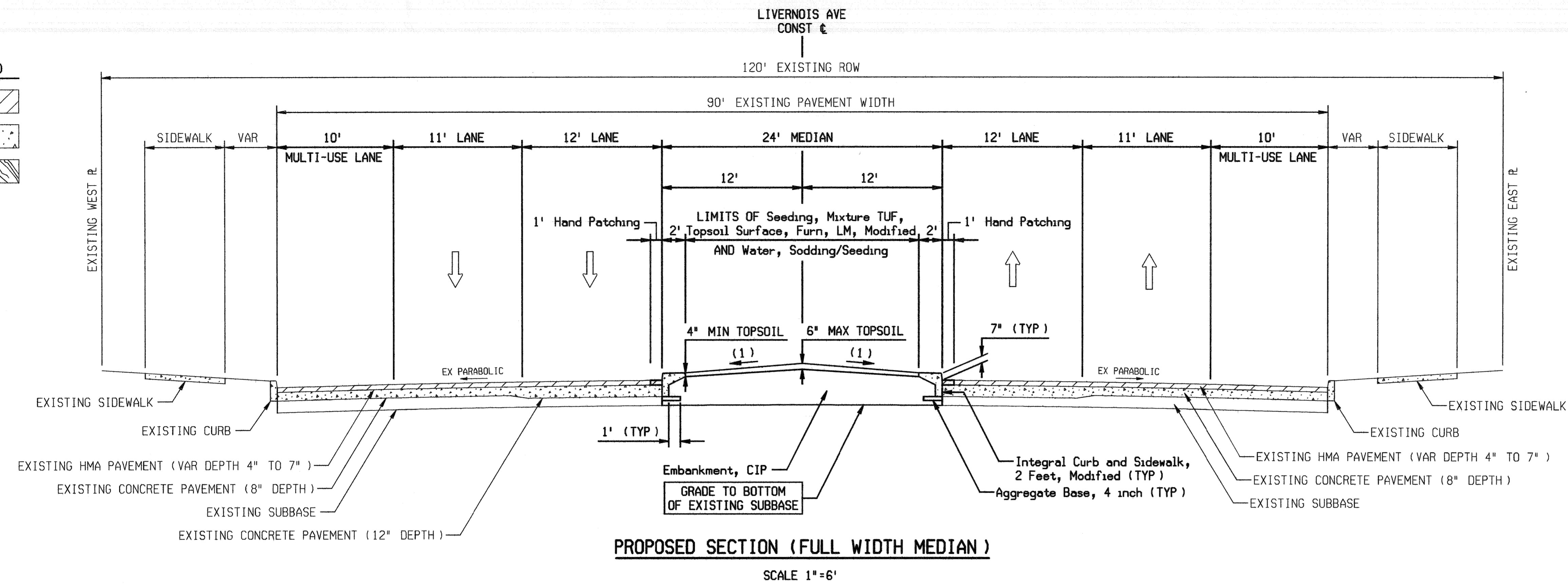
EXISTING TYPICAL CROSS SECTIONS

SHEET 2 OF 82 SHEETS
CONTROL SECTION EDCF 82163
JOB NUMBER 86170A
DATE: JULY 11, 2007

DATE: WORKED ON BY: CHECKED BY: FILE NAME: 130d3p001.dgn

TYPICAL SECTIONS LEGEND

- HMA
- CONCRETE
- WOOD OR STEEL



HMA APPLICATION CHART				
IDENT NO.	ITEM	RATE OF APPLICATION	PERFORMANCE GRADE	COMMENTS
4C	HMA, 4C	165 LB/SYD	64-22	TOP COURSE (AWI=260 MIN)
3C	HMA, 3C	220 LB/SYD	64-22	LEVELING COURSE
HP	Hand Patching	385 LB/SYD	64-22	STRIP ALONG PROP CURB EDGE AS DIRECTED BY ENGINEER
HMA BOND COAT 0-0.10 GAL/SYD TO RIGID BASES AND 0-0.05 GAL/SYD TACK COAT BETWEEN LAYERS				

- NOTES**
- (1) SLOPE MAY VARY BETWEEN 4% & 8%
 - (2) 1/4" / FT OR AS DIRECTED BY ENGINEER
 - (3) FOR PLACEMENT OF ROLLED AND STRAIGHT FACE CURB, SEE MISCELLANEOUS DETAILS SHEETS

BY	CHECKED BY	APPROVED:
PLAN		
GRADE		FEDERAL PROJECT NO.
ESTIMATE		FEDERAL ITEM NO.
DESCRIPTION	DRN	CHKD
REVISIONS	DATE	REVIEW

HNTB

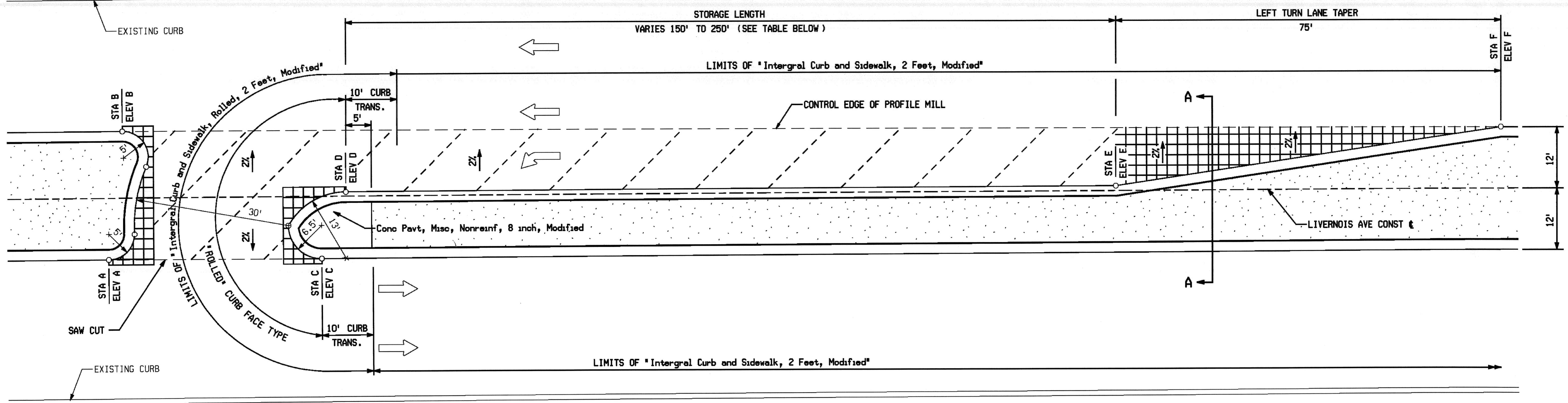
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

LIVERNOIS AVE MEDIAN IMPROVEMENTS FROM
SOUTH OF PASADENA ST TO McNICHOLS RD

PROPOSED TYPICAL CROSS SECTIONS

SHEET 3 OF 62 SHEETS
CONTROL SECTION EDCF 82163
JOB NUMBER 86170A
DATE: JULY 11, 2007

FILE NAME: 13CDtp001.dgn
WORKED ON BY:
DATE:
CHECKED BY:



TYPICAL LEFT TURN LANE

LOCATION/DESCRIPTION	STORAGE LENGTH	STA A	ELEV A	STA B	ELEV B	STA C	ELEV C	STA D	ELEV D	STA E	ELEV E	STA F	ELEV F
OAKMAN BLVD	250'	395+58.09	162.81	395+60.66	162.83	395+99.54	162.94	396+04.50	163.16	396+54.50	163.19	399+29.50	162.98
EWALD CIRCLE	250'	409+98.90	163.58	409+96.34	163.66	409+57.44	163.64	409+52.37	163.92	407+02.37	163.02	406+27.37	162.91
DORIS AVE	150'	410+97.01	163.30	410+99.28	163.23	411+38.48	163.17	411+43.24	164.29	412+93.24	163.66	413+68.24	163.72
PENN RAILROAD	150'	417+47.80	167.13	417+50.08	167.08	417+89.41	166.80	417+94.03	167.09	419+44.03	165.18	420+19.03	164.54
LYNDON AVE	150'	425+20.99	164.38	425+18.71	164.33	424+79.52	164.54	424+74.16	164.71	423+24.16	164.85	422+49.16	164.38
BOURKE ST	150'	426+54.13	164.42	426+56.41	164.47	426+95.60	164.56	427+00.36	164.85	428+50.36	165.39	429+25.36	165.50
CHALFONTE AVE	150'	438+24.70	166.54	438+22.42	166.57	437+83.23	166.44	437+78.47	166.55	436+28.47	166.99	435+53.47	167.09
FENKELL AVE	250'	439+57.71	167.62	439+61.16	167.58	439+97.90	168.06	440+04.21	168.30	442+54.21	170.58	443+29.21	170.43
FENKELL AVE	250'	450+68.95	172.15	450+66.67	172.12	450+27.48	172.10	450+22.72	172.28	447+72.72	171.58	446+97.72	171.37
MIDLAND AVE	150'	457+32.40	172.72	457+34.10	172.71	457+75.40	172.95	457+80.16	173.11	459+30.16	172.93	460+05.16	171.79
PILGRIM AVE	150'	465+14.26	172.39	465+12.56	172.38	464+71.26	172.51	464+66.50	172.78	463+16.50	173.17	462+41.50	172.89
PURITAN AVE	250'	466+48.86	171.91	466+50.56	171.87	466+91.86	171.74	466+96.62	171.89	469+46.62	171.25	470+21.62	170.93
PURITAN AVE	250'	479+52.00	169.72	479+49.72	169.66	479+10.53	169.64	479+05.77	169.80	476+55.77	169.40	475+80.77	169.36
FLORENCE AVE	150'	481+24.35	169.56	481+26.05	169.55	481+67.35	169.51	481+72.11	169.74	483+22.11	170.13	483+97.11	170.24
GROVE AVE	150'	490+37.22	173.34	490+34.94	173.33	489+95.75	173.22	489+90.99	173.42	488+40.99	172.57	487+65.99	173.64

LEGEND

TOPSOIL SURFACE, FURN, LM, MODIFIED & SEEDING, MIXTURE TUF

HMA, 4C

HMA, 3C

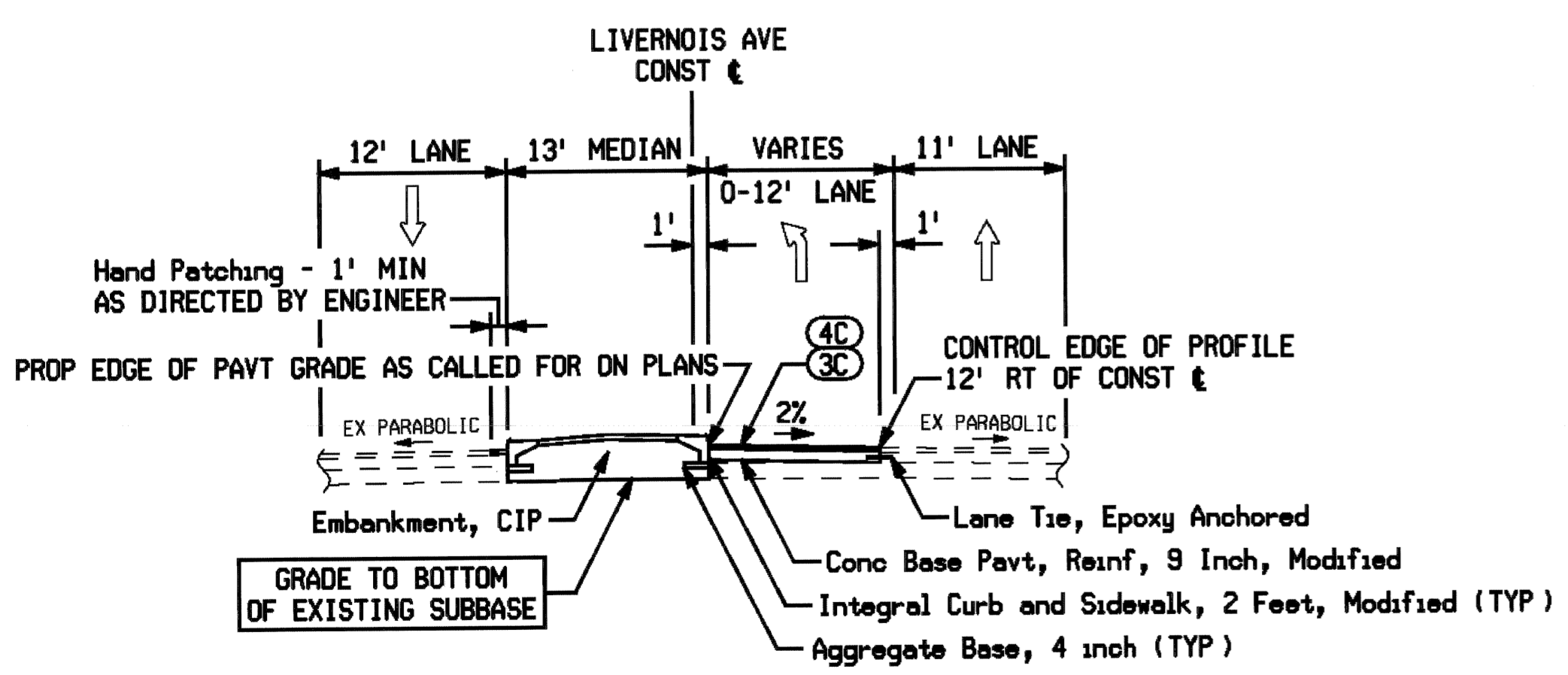
HMA ON CONC BASE PAVT, REINF, 9 INCH, MODIFIED

MAINTAINING TRAFFIC QUANTITIES	
Barricade, Type III, High Intensity, Lighted, Furn	12 Ea
Barricade, Type III, High Intensity, Lighted, Oper	12 Ea
Flag Control	1 LS
Lighted Arrow, Type C, Furn	2 Ea
Lighted Arrow, Type C, Oper	2 Ea
Minor Traf Devices	1 LS
Plastic Drum, High Intensity, Lighted, Furn	300 Ea
Plastic Drum, High Intensity, Lighted, Oper	200 Ea
Sign, Type B, Temp, Furn	1,000 Sft
Sign, Type B, Temp, Oper	1,000 Sft

LANDSCAPING QUANTITIES	
Conduit, Directional Bore, 6 inch	1,200 Ft

THESE ITEMS OF WORK SHALL BE USED AS THEY APPLY THROUGHOUT THE PROJECT AS APPROVED BY THE ENGINEER

Subbase, CIP	200 Cyd
Excavation, Earth, Modified	100 Cyd
Embankment, CIP	100 Cyd
Aggregate Base, 4 inch	100 Syd
Conc Base Pavt, Reinf, 9 Inch, Modified	100 Syd
Lane Tie, Epoxy Anchored	100 Ea
Sewer Cleanout, Modified	125 Ft
Dr Structure Cover, Modified	12,250 Lb
Dr Structure Cleaning, Modified	5 Ea
Conditioning Existing Pavement, Modified	25 Ton
HMA Quality Control Testing, Modified	1,531 Ton
Cement, Modified	20 Ton
Conc Quality Control, Modified	2,172 Cyd



SECTION A-A

TO APPLY:
LEFT TURN LANE TAPERS

NOTE:
1) FULL DEPTH SECTION REQUIRED WHEN CONDUIT INSTALLATION UTILIZES AN OPEN CUT TRENCH
2) REFER TO TYPICAL CROSS SECTION SHEETS FOR DIMENSIONS OF CURB, AGGREGATE BASE, ETC

NO SCALE

DESCRIPTION	BY	CHECKED BY	APPROVED:
PLAN			FEDERAL PROJECT NO.
GRADE			FEDERAL ITEM NO.
ESTIMATE			
REVISIONS	DATE	BY	REVISION

HNTB

CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

LIVERNOIS AVE MEDIAN IMPROVEMENTS FROM SOUTH OF PASADENA ST TO McNICHOLS RD

MISCELLANEOUS DETAILS

SHEET 4 OF 62 SHEETS
CONTROL SECTION EDCP 82163
JOB NUMBER 86170A
DATE: JULY 11, 2007

FILE NAME: 130dmscale001.dgn

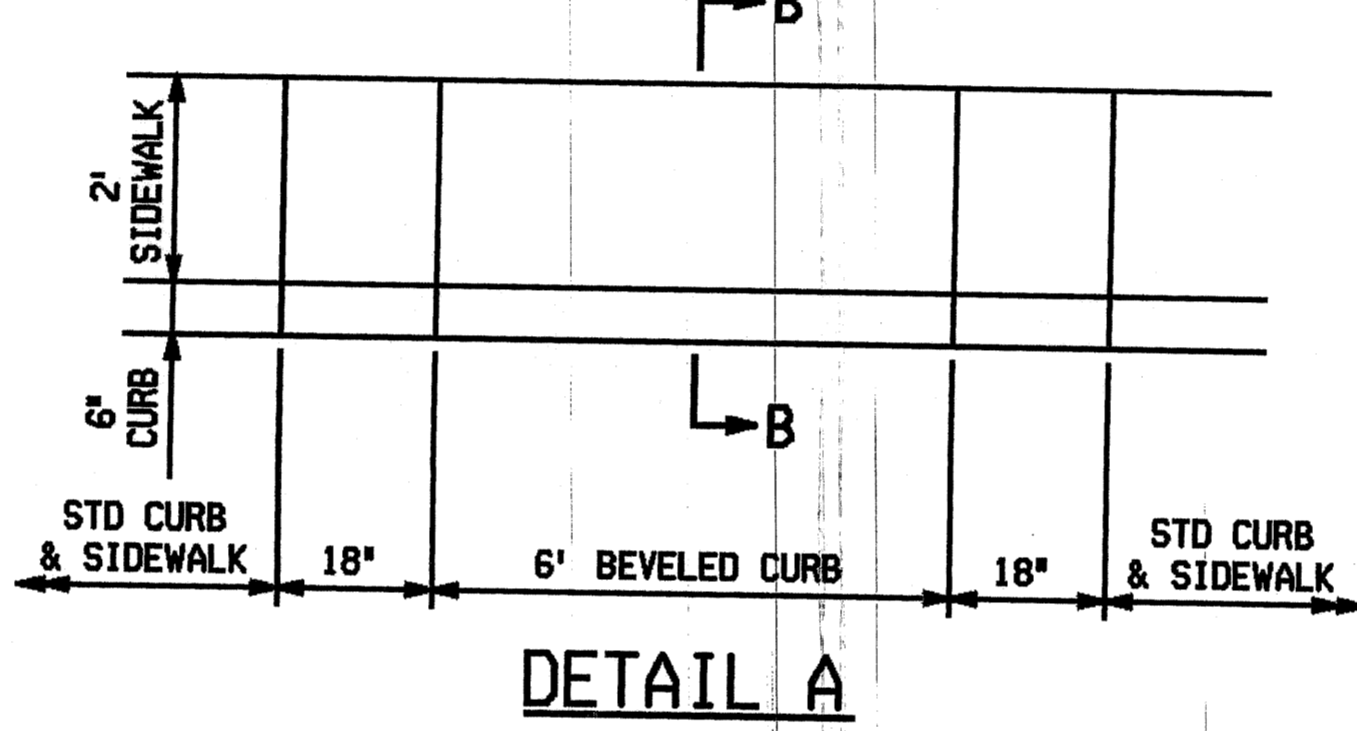
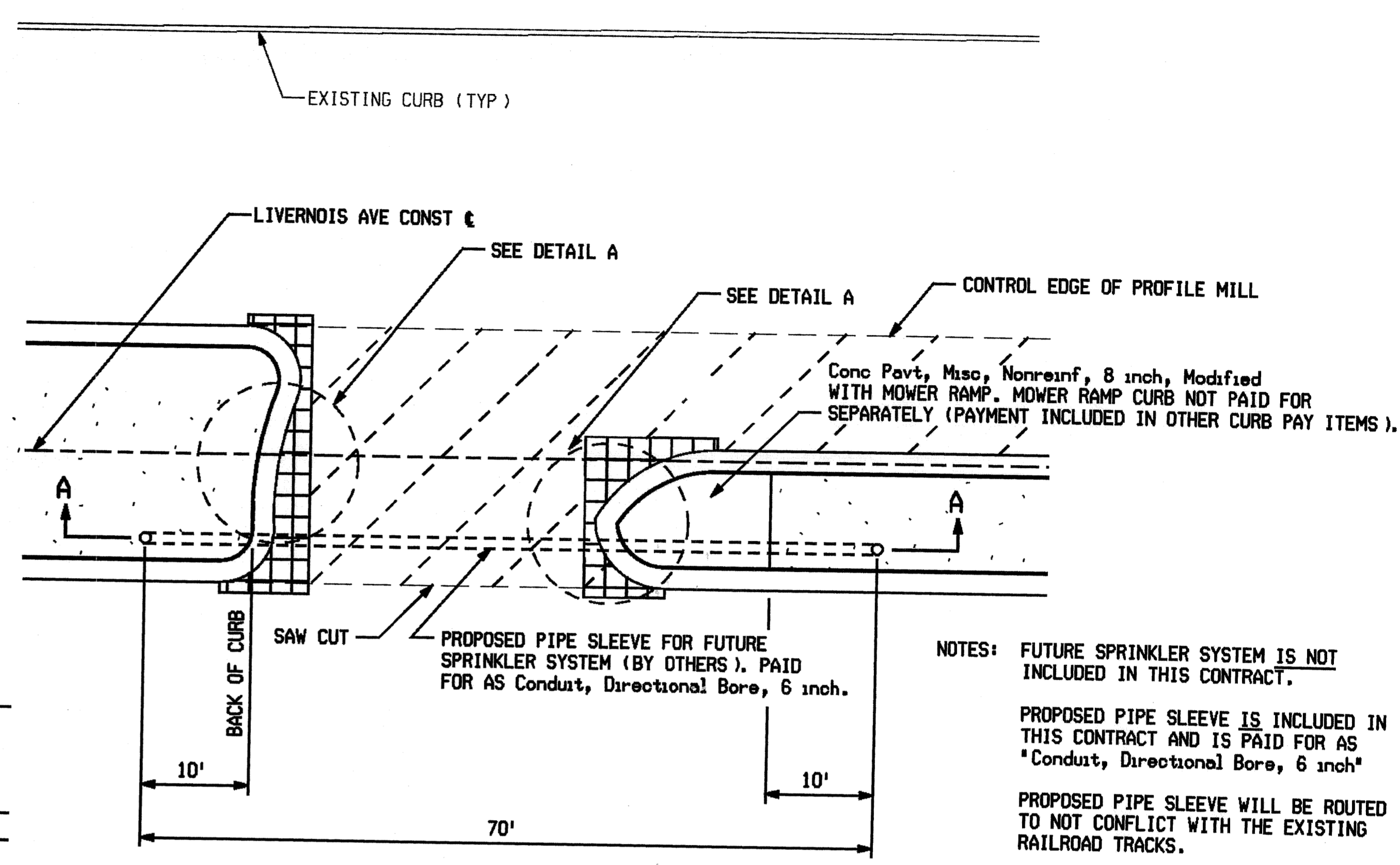
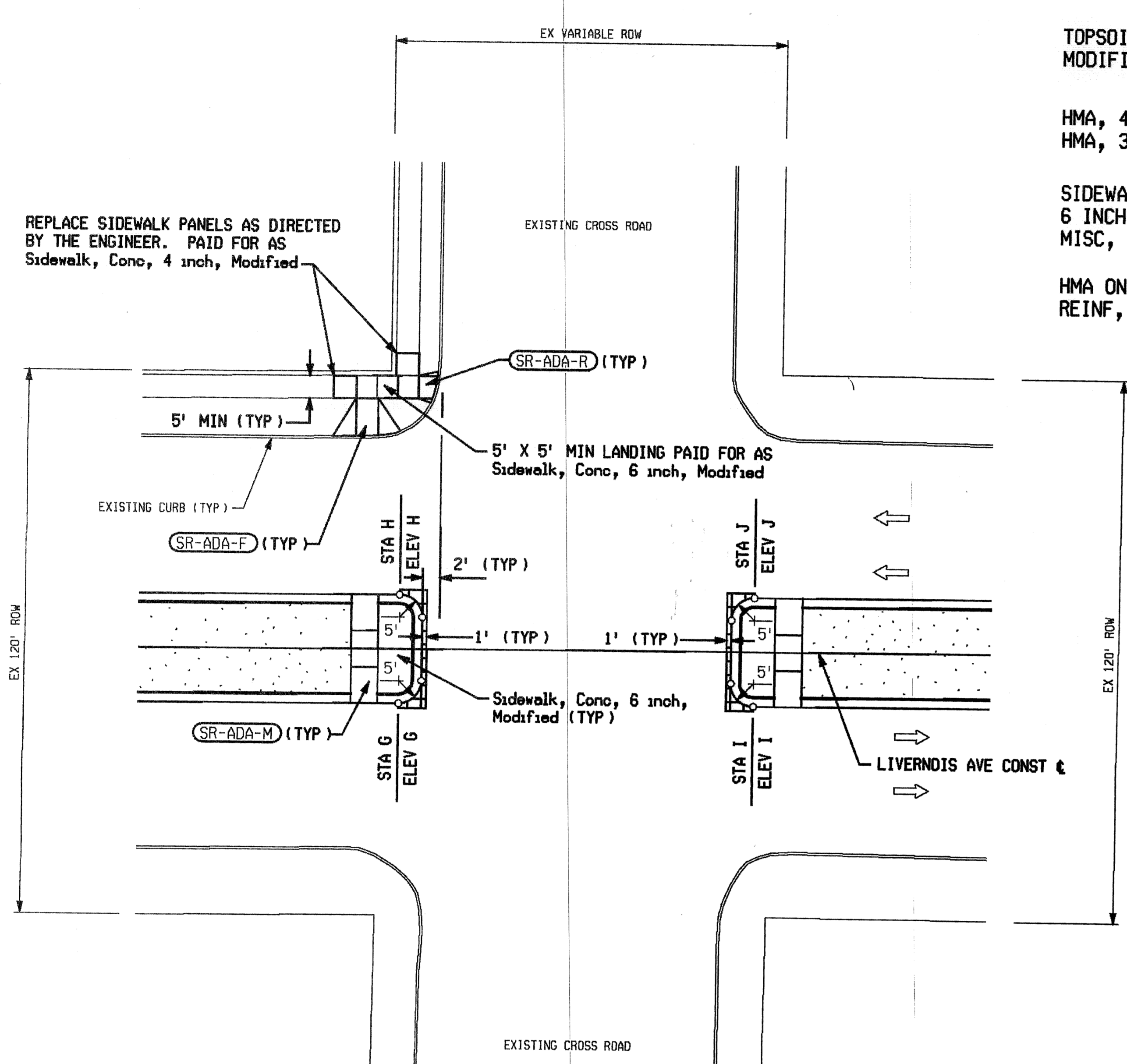
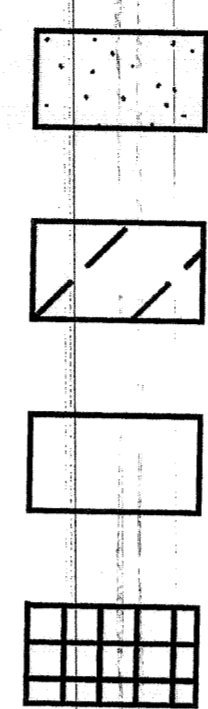
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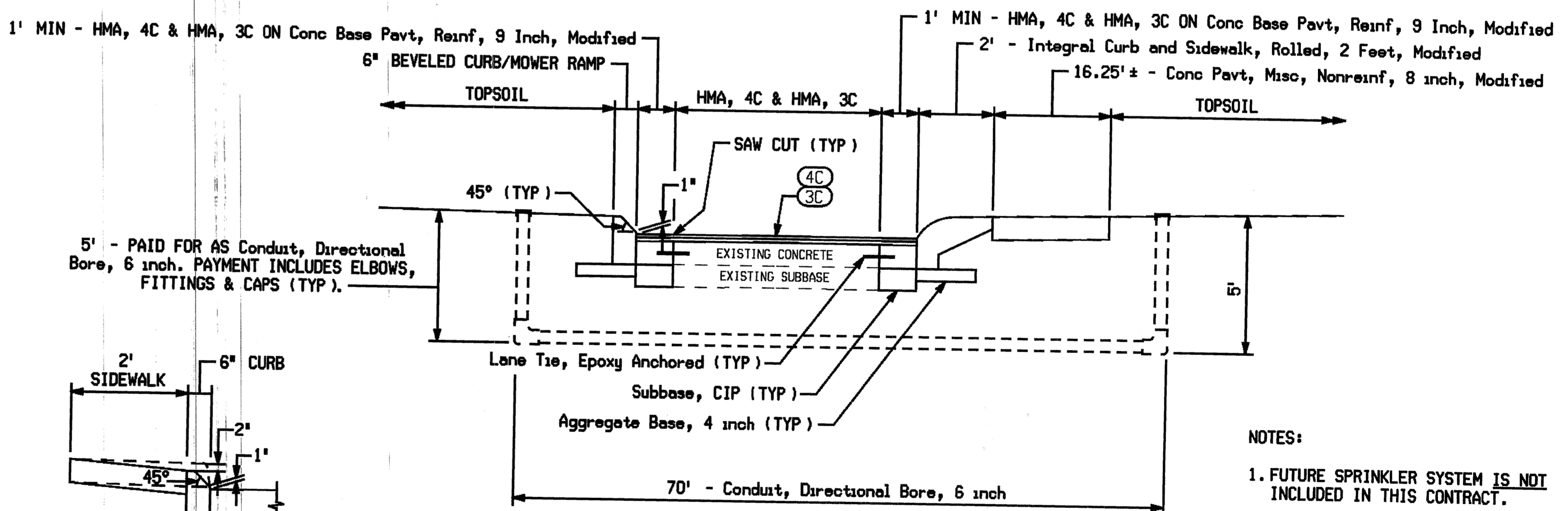
DATE:

LEGEND

- TOPSOIL SURFACE, FURN, LM, MODIFIED & SEEDING, MIXTURE TUF
- HMA, 4C
- HMA, 3C
- SIDEWALK, CONC, 4 INCH OR 6 INCH, MODIFIED OR CONC PAVT, MISC, NONREINF, 8 INCH, MODIFIED
- HMA ON CONC BASE PAVT, REINF, 9 INCH, MODIFIED



DETAIL A



SECTION B-B

SECTION A-A

TO APPLY:
MEDIAN ISLAND TURNAROUNDS
MOWER RAMP & PIPE SLEEVE DETAIL

- NOTES:
1. FUTURE SPRINKLER SYSTEM IS NOT INCLUDED IN THIS CONTRACT.
 2. PROPOSED PIPE SLEEVE IS INCLUDED IN THIS CONTRACT AND IS PAID FOR AS "Conduit, Directional Bore, 6 inch"
 3. MOWER RAMPS TO BE LOCATED AT ISLAND TURNAROUNDS, OTHERWISE AS SHOWN ON THE PLANS. EXACT LOCATION WILL VARY.
 4. ALL DIMENSIONS ARE IN INCHES (") UNLESS OTHERWISE NOTED.

LOCATION	STA G	OFFSET G	ELEV G	STA H	OFFSET H	ELEV H	STA I	OFFSET I	ELEV I	STA J	OFFSET J	ELEV J
OAKMAN BLVD	400+83.91	12.00' RT	162.91	400+77.28	12.00' LT	162.89	402+20.12	12.00' RT	162.56	402+13.58	12.00' LT	162.59
EWALD CIRCLE	405+02.52	12.00' RT	163.12	404+95.92	12.00' LT	163.09	405+76.93	12.00' RT	163.10	405+70.51	12.00' LT	163.08
PENNSYLVANIA RR	416+09.09	12.00' RT	166.20	416+02.51	12.00' LT	166.19	417+35.32	12.00' RT	167.11	417+35.31	12.00' LT	167.11
FRANKELL AVE	445+88.92	12.00' RT	171.21	445+88.92	12.00' LT	171.17	446+47.46	12.00' RT	171.36	446+47.46	12.00' LT	171.29
PURITAN AVE	472+28.18	12.00' RT	170.44	472+28.63	12.00' LT	170.43	472+87.56	12.00' RT	170.30	472+87.56	12.00' LT	170.33

MAJOR ROAD CROSSING - NO TURNS

NO SCALE

PLAN	BY	CHECKED BY	APPROVED:
GRADE			FEDERAL PROJECT NO.
ESTIMATE			FEDERAL ITEM NO.
DESCRIPTION	DATE	CHECK	REVIEW



CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

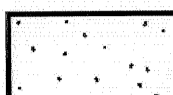
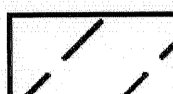
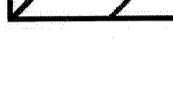
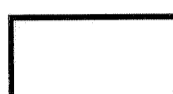

LIVERNOIS AVE MEDIAN IMPROVEMENTS FROM
SOUTH OF PASADENA ST TO McNICHOLS RD

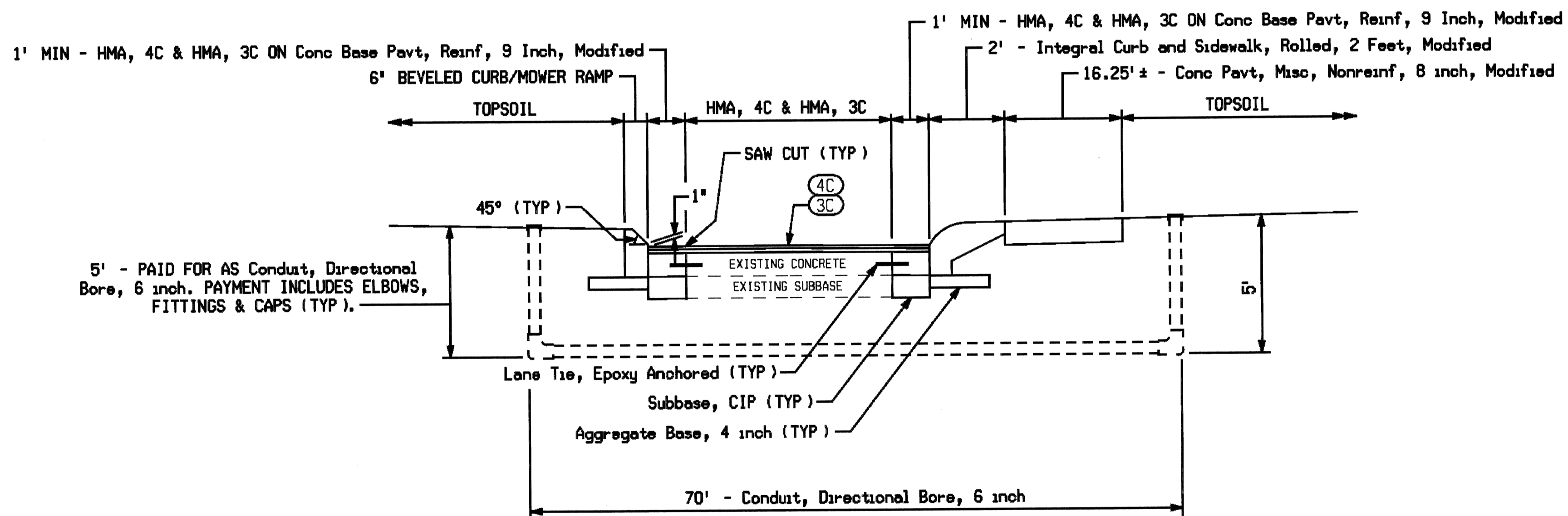
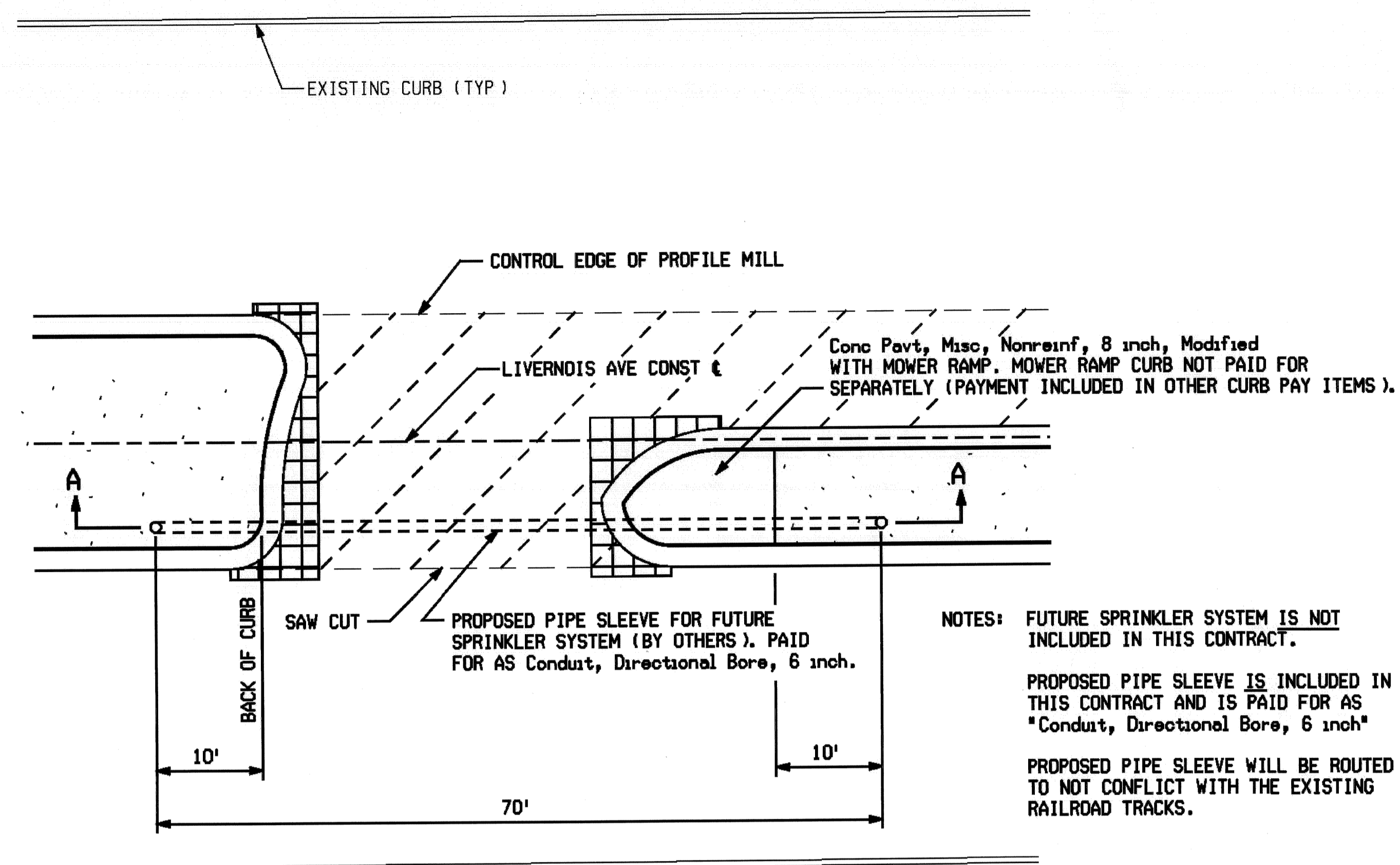
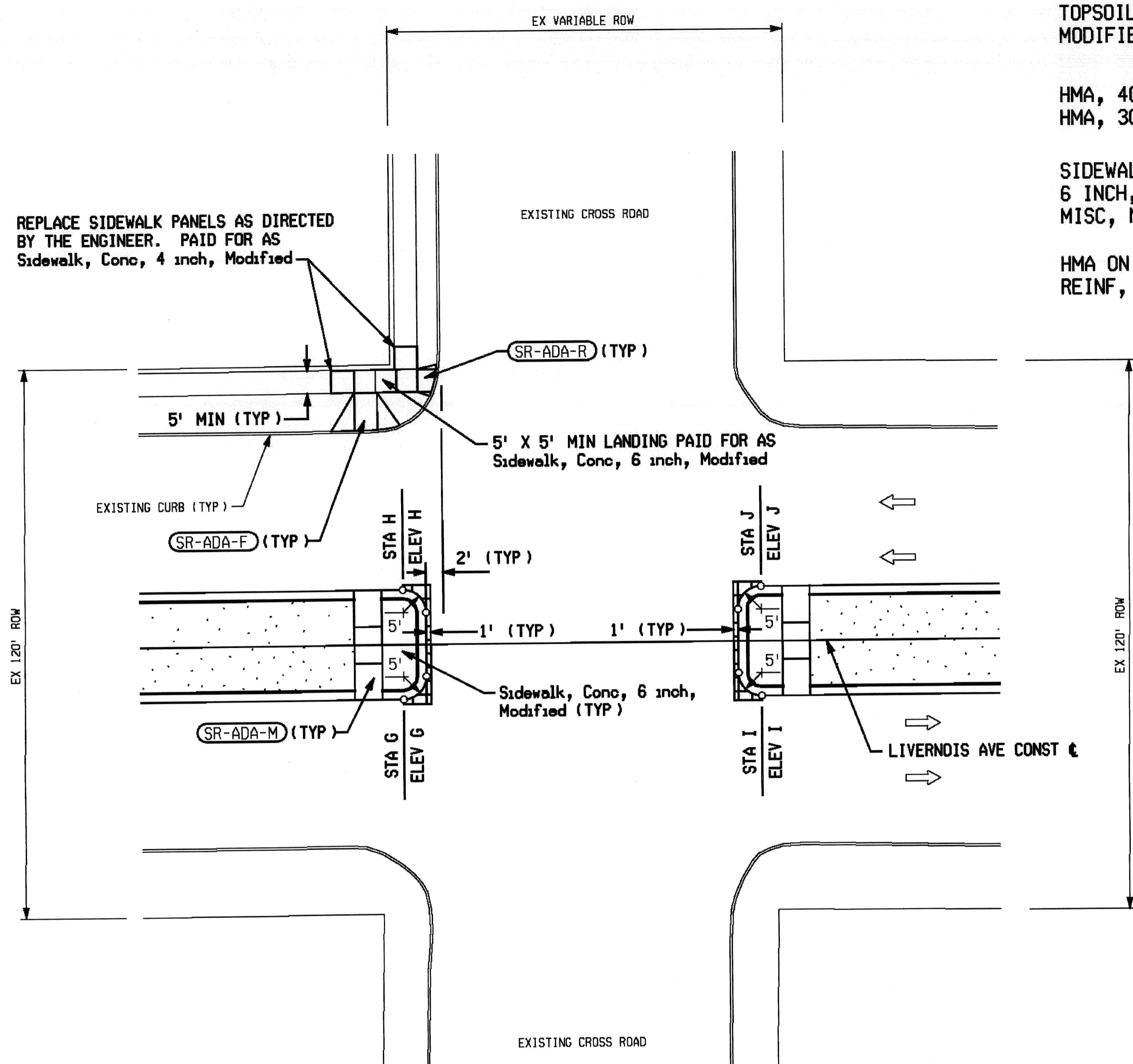
MISCELLANEOUS DETAILS

SHEET 5 OF 62 SHEETS
CONTROL SECTION EDCF 82163
JOB NUMBER 86170A
DATE: JULY 11, 2007

FILE NAME: I:\3CDm\scdb\002.dgn

LEGEND

- TOPSOIL SURFACE, FURN, LM, MODIFIED & SEEDING, MIXTURE TUF 
- HMA, 4C 
- HMA, 3C 
- SIDEWALK, CONC, 4 INCH OR 6 INCH, MODIFIED OR CONC PAVT, MISC, NONREINF, 8 INCH, MODIFIED 
- HMA ON CONC BASE PAVT, REINF, 9 INCH, MODIFIED 



SECTION A-A

TO APPLY:
MEDIAN ISLAND TURNAROUNDS
MOWER RAMP & PIPE SLEEVE DETAIL

NOTE: FUTURE SPRINKLER SYSTEM IS NOT INCLUDED IN THIS CONTRACT.
PROPOSED PIPE SLEEVE IS INCLUDED IN THIS CONTRACT AND IS PAID FOR AS Conduit, Directional Bore, 6 inch

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MAJOR ROAD CROSSING - NO TURNS

NO SCALE

PLAN	BY	CREATED BY	APPROVED:
GRADE			FEDERAL PROJECT NO.
ESTIMATE			FEDERAL ITEM NO.
DESCRIPTION	DRN	CKD	APVD
REVISIONS	FINAL	CHKD	REVIEW

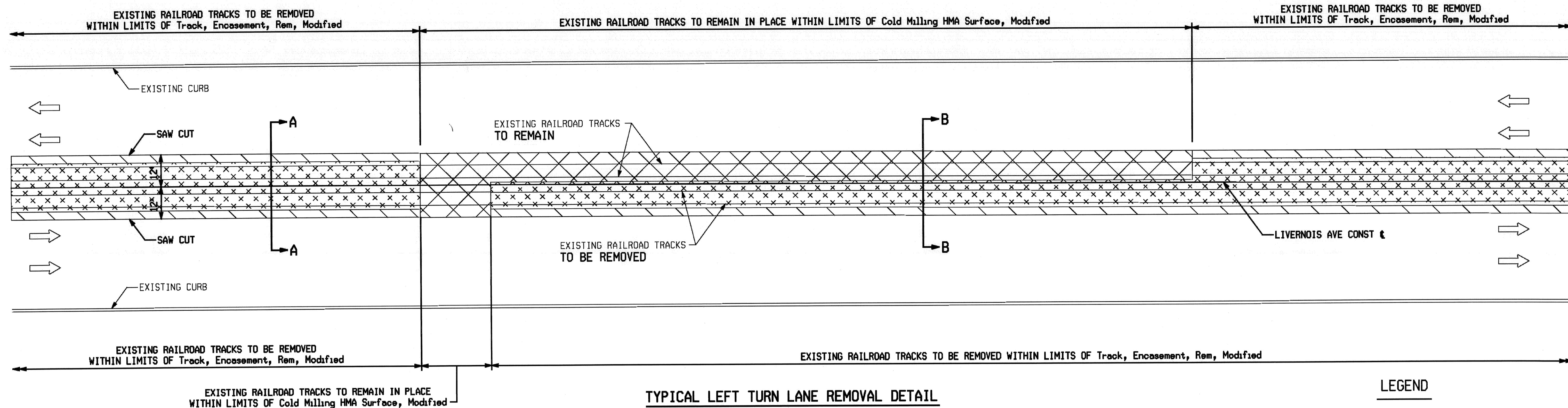


CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

LIVERNOIS AVE MEDIAN IMPROVEMENTS FROM
SOUTH OF PASADENA ST TO McNICHOLS RD
MISCELLANEOUS DETAILS

SHEET 5 OF 82 SHEETS
CONTROL SECTION EDCF 82163
JOB NUMBER 86170A
DATE: JULY 11, 2007

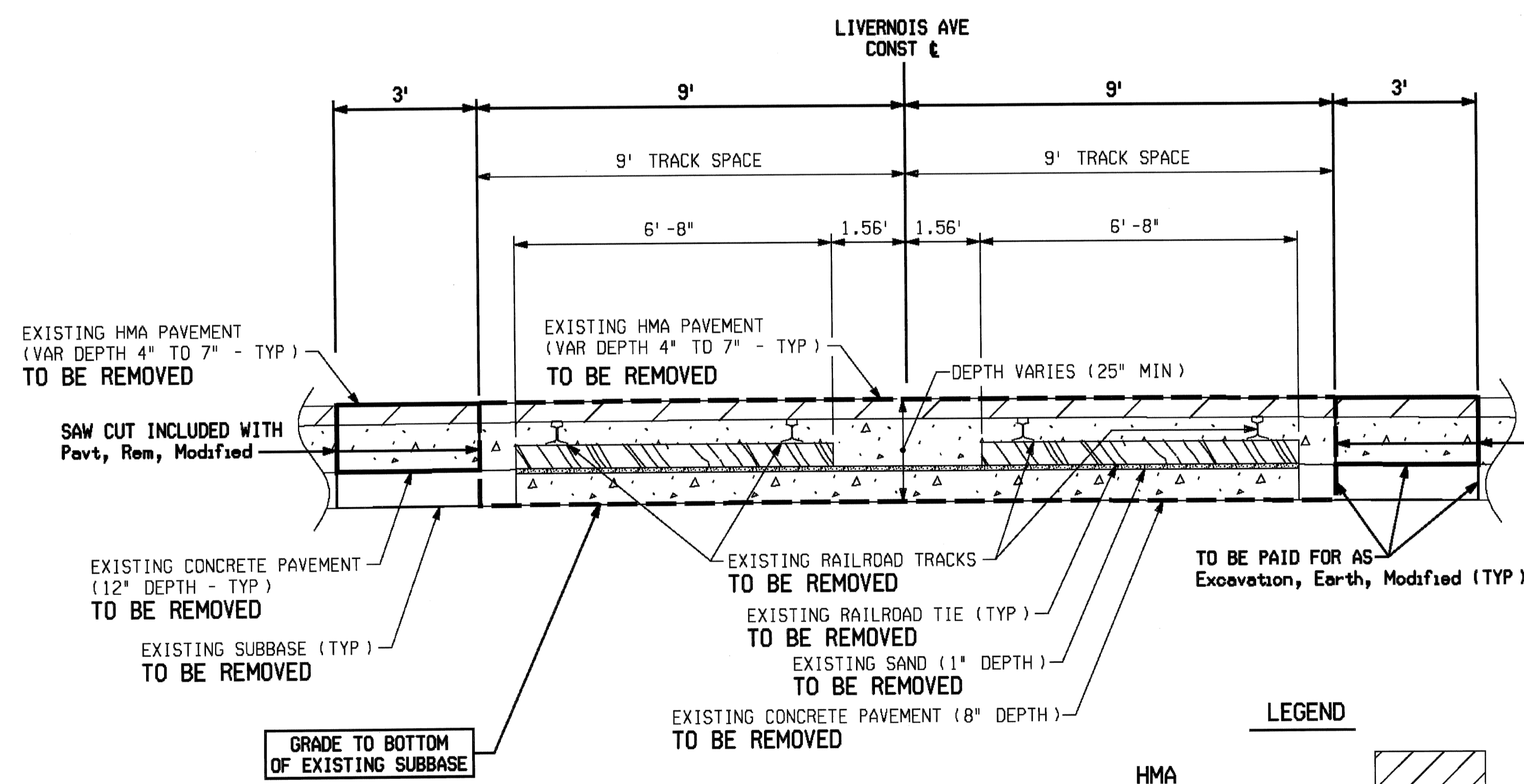
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TYPICAL LEFT TURN LANE REMOVAL DETAIL

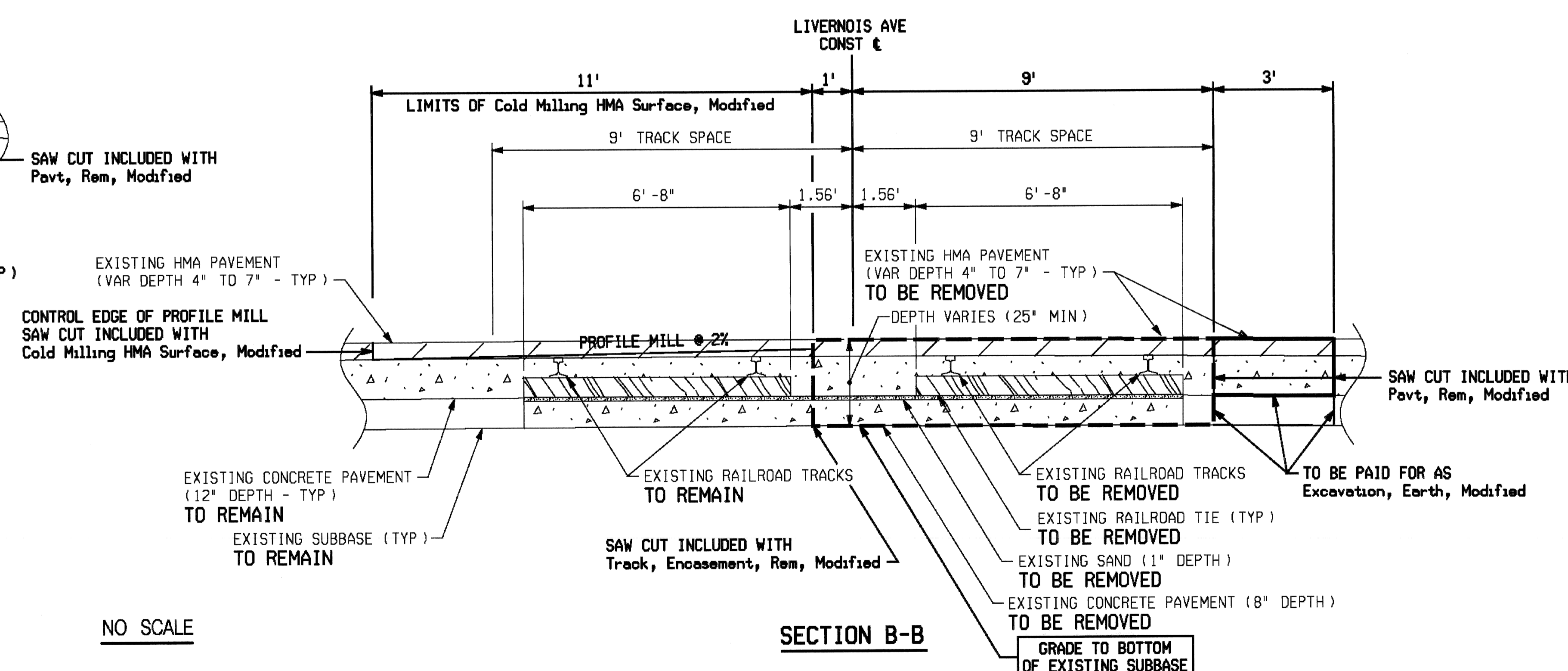
LEGEND

- PAVT, REM, MODIFIED
- COLD MILLING HMA SURFACE, MODIFIED
- TRACK, ENCASEMENT, REM, MODIFIED



SECTION A-A

- LEGEND
- HMA
 - CONCRETE
 - WOOD OR STEEL



SECTION B-B

NO SCALE

NOTES:
FOR REMOVAL LEGEND, SEE LEGEND SHEET 7.

DESCRIPTION	DATE	BY	CHECKED BY	APPROVED:
PLAN				
GRADE				FEDERAL PROJECT NO.
ESTIMATE				FEDERAL ITEM NO.
REVISIONS	DATE	BY	CHECKED BY	

HNTB

CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

LIVERNOIS AVE MEDIAN IMPROVEMENTS FROM
SOUTH OF PASADENA ST TO McNICHOLS RD

MISCELLANEOUS DETAILS

SHEET	8 OF 62 SHEETS
CONTROL SECTION	EDCF 82163
JOB NUMBER	86170A
DATE:	JULY 11, 2007

FILE NAME: 13COMiscdet005.dgn
CHECKED BY: DATE:
WORKED ON BY: DATE:

WATER & DRAINAGE SYMBOLS

- EXISTING CATCH BASIN
- PROPOSED CATCH BASIN
- EXISTING SEWER MANHOLE
- PROPOSED MANHOLE
- EXISTING CULVERT END SECTION
- PROPOSED CULVERT END SECTION
- EXISTING HEADWALL
- PROPOSED HEADWALL
- WATER SHUTOFF (Service Valve)
- GATE VALVE
- GATE WELL & VALVE
- WATER STOP BOX
- WATER METER
- WATER MANHOLE
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- ADJ-HYD** ADJUST FIRE HYDRANT
- AG** DR STRUCTURE COVER, ADJ, CASE 1, MODIFIED
- AG** DR STRUCTURE COVER, ADJ, CASE 2, MODIFIED
- RM** RECONSTRUCTING DR STRUCTURE, CASE 1, MODIFIED
- RM** RECONSTRUCTING DR STRUCTURE, CASE 2, MODIFIED
- WS-ADJ** WATER SHUTOFF, ADJ, MODIFIED
- CHECK DAM (PROFILES)
- DIKE (PROFILES)
- WATER TABLE (PROFILES)
- GUARD POST
- WATER WELL

UTILITIES SYMBOLS

- POWER POLE
- TELEPHONE POLE
- GUY POLE
- LIGHT POLE
- POWER LIGHT POLE
- UTILITY POLE
- TELEPHONE MANHOLE
- PLD MANHOLE
- GAS VALVE
- WALK/NO-WALK
- DEADMAN FOR GUYWIRE
- RAILROAD SIGNAL
- ELECTRICAL MANHOLE
- ELECTRICAL HANDHOLE
- TELEPHONE PEDESTAL/RISER

MISCELLANEOUS SYMBOLS

- RIPRAP
- SIGN
- STUMP
- SWAMP
- MAIL BOX
- QUARTER CORNER
- SECTION CORNER
- HALF QUARTER SECTION
- TEST HOLE NO.
- BEAM G. R. RUN NUMBER (EXISTING)
- BEAM G. R. RUN NUMBER (PROPOSED)
- DECIDUOUS TREE
- CONIFEROUS TREE
- EXISTING BOLLARD
- SR-ADA-P** PROPOSED SIDEWALK RAMP, ADA, MODIFIED (INCLUDES DETECTABLE WARNING TILES)
- PROPOSED TRAFFIC SIGNAL
- BENCH MARK

MISCELLANEOUS SYMBOLS (CONTINUED)

- HAZARDOUS OR FLAMMABLE MATERIAL USED WITH UNDERGROUND GAS & ELECTRICAL LINES
- CAUTION - CRITICAL UNDERGROUND UTILITY USED WITH FIBER OPTICS LINES
- PROPOSED SEWER
- EXISTING SEWER

TOPO PATTERNS

- HEDGE LINE
- TREE LINE
- EXISTING FENCE
- PROPOSED FENCE
- EXISTING GUARD RAIL
- PROPOSED GUARD RAIL
- DRAINAGE CRS/EDGE OF WATER
- WETLANDS AREA
- ABANDON ANY UTILITY
- CITY LIMITS
- RAILROAD
- SOUND ABATEMENT WALL
- CONCRETE MEDIAN BARRIER
- SLOPE STAKE LINE

UTILITY PATTERNS

- ELECTRICAL LINE
- GAS LINE
- TELEPHONE LINE
- WATER LINE
- CABLE TV
- FIBER OPTICS
- POWER TRANSMISSION LINE

PROPOSED LEGEND

- TOPSOIL SURFACE, FURN, LM, MODIFIED & SEEDING, MIXTURE TUF
- HMA, 4C
HMA, 3C
- SIDEWALK, CONC, 4 INCH OR 6 INCH, MODIFIED OR CONC PAVT, MISC, NONREINF, 8 INCH, MODIFIED
- HMA ON CONC BASE PAVT, REINF, 9 INCH, MODIFIED

REMOVAL LEGEND

- PAVT, REM, MODIFIED
- COLD MILLING HMA SURFACE, MODIFIED
- TRACK, ENCASEMENT, REM, MODIFIED
- HMA SURFACE, REM, MODIFIED
- SIDEWALK, REM
- CURB, REM, MODIFIED
- REMOVING
- ABANDONING
- SAVE
- BULKHEAD
- CLEARING

PLAN	BY	CHECKED BY	APPROVED:
GRADE			FEDERAL PROJECT NO.
ESTIMATE			FEDERAL ITEM NO.
DESCRIPTION	DRN	CKD	APVD
REVISIONS	DATE	CHECK	REVIEW

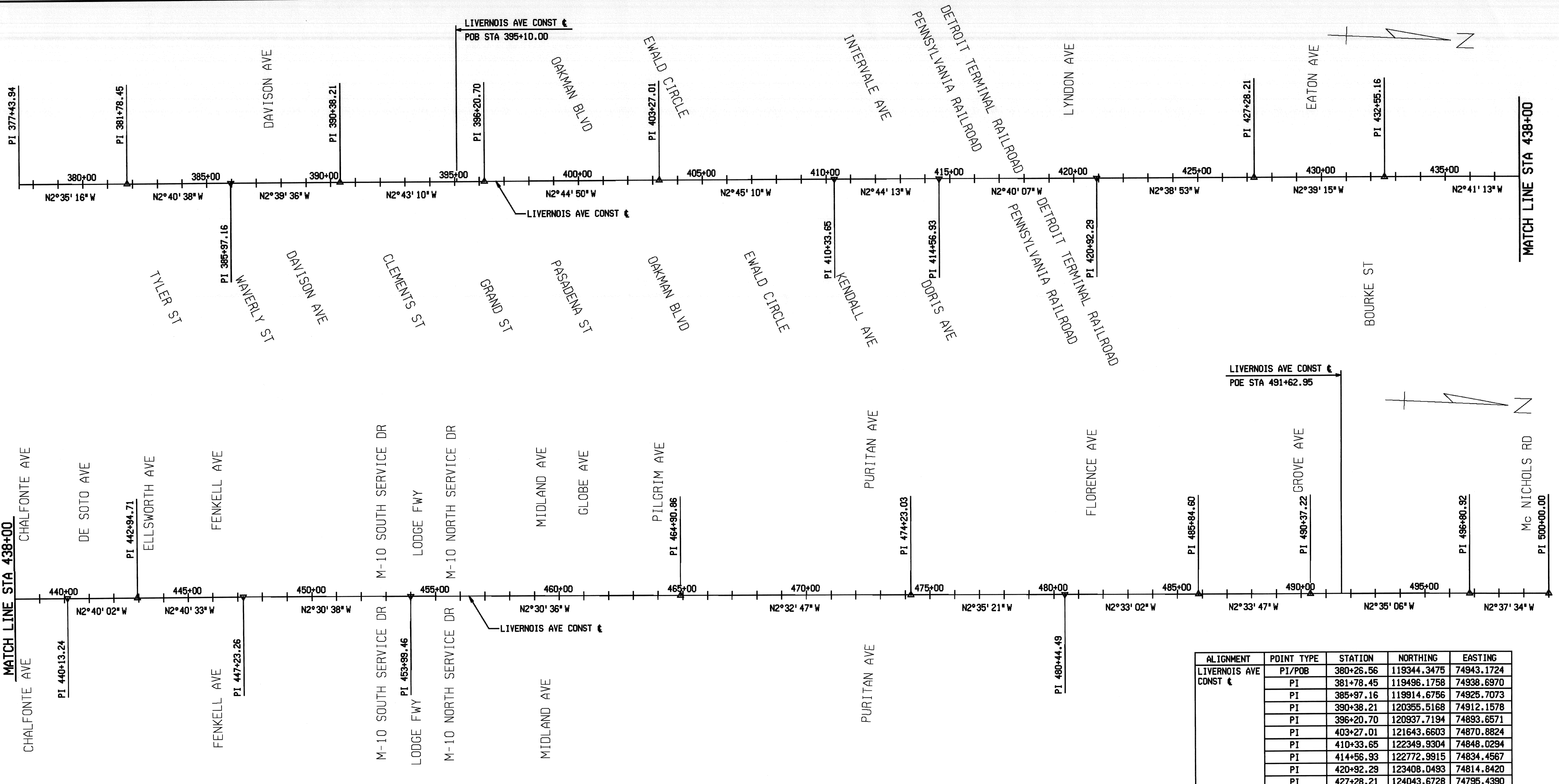
HNTB

CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

LIVERNOIS AVE MEDIAN IMPROVEMENTS FROM
SOUTH OF PASADENA ST TO McNICHOLS RD
LEGEND SHEET

SHEET 7 OF 82 SHEETS
CONTROL SECTION EDCF 82163
JOB NUMBER 86170A
DATE: JULY 11, 2007

FILE NAME: I:\3CD\legend.dgn
CHECKED BY:
WORKED ON BY:
DATE:



ALIGNMENT	POINT TYPE	STATION	NORTHING	EASTING
LIVERNOIS AVE CONST &	PI/POB	380+26.56	119344.3475	74943.1724
	PI	381+78.45	119496.1758	74938.6970
	PI	385+97.16	119914.6756	74925.7073
	PI	390+38.21	120355.5168	74912.1578
	PI	396+20.70	120937.7194	74893.6571
	PI	403+27.01	121643.6603	74870.8824
	PI	410+33.65	122349.9304	74848.0294
	PI	414+56.93	122772.9915	74834.4567
	PI	420+92.29	123408.0493	74814.8420
	PI	427+28.21	124043.6728	74795.4390
	PI	432+55.16	124570.3812	74779.3021
	PI	440+13.24	125328.0923	74755.6569
	PI	442+94.71	125609.4248	74746.9740
	PI	447+23.26	126037.7651	74733.6883
	PI	453+99.46	126713.6996	74714.6767
	PI	464+90.86	127804.6695	74683.9997
	PI	474+23.03	128736.4576	74657.2107
	PI	480+44.49	129357.6466	74638.8848
	PI	485+84.60	129897.5305	74623.3222
	PI	490+37.22	130349.9639	130349.963
PI	496+80.92	130993.3822	74591.2498	
PI	500+00.00	131312.3163	74581.6352	

SCALE
1" = 200'

DESCRIPTION	DATE	BY	CHECKED BY	APPROVED:
PLAN				
GRADE				FEDERAL PROJECT NO.
ESTIMATE				FEDERAL ITEM NO.
REVISIONS	DATE	BY	CHECKED BY	



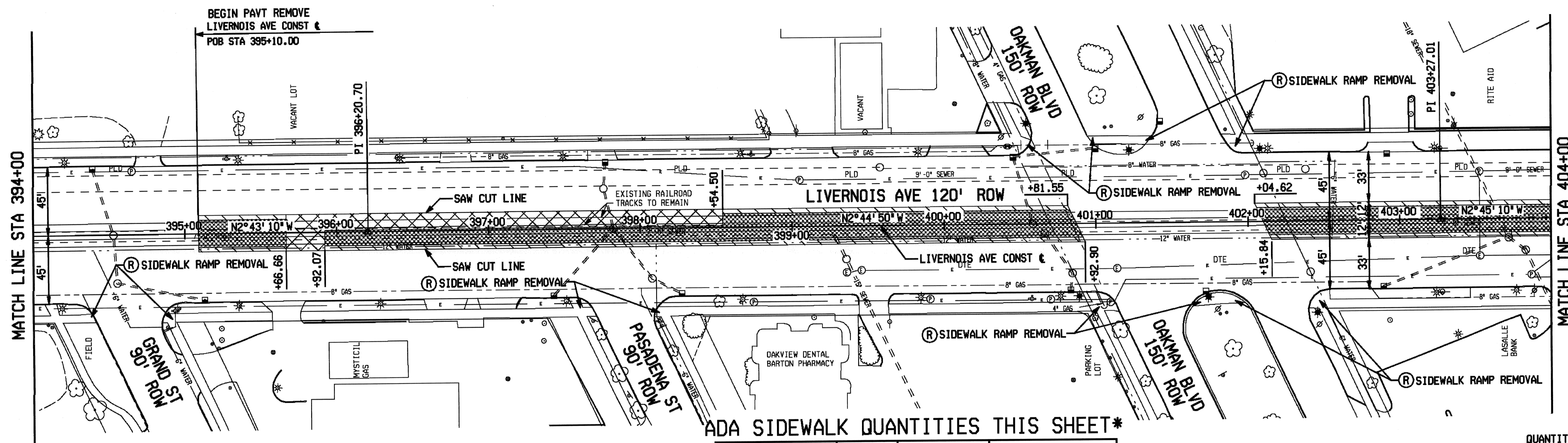
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

LIVERNOIS AVE MEDIAN IMPROVEMENTS FROM
SOUTH OF PASADENA ST TO McNICHOLS RD

ALIGNMENT SHEET

SHEET 8 OF 82 SHEETS
CONTROL SECTION EDCF 82163
JOB NUMBER 86170A
DATE: JULY 11, 2007

FILE NAME: 13CDaLign001.dgn CHECKED BY: WORKED ON BY: DATE:

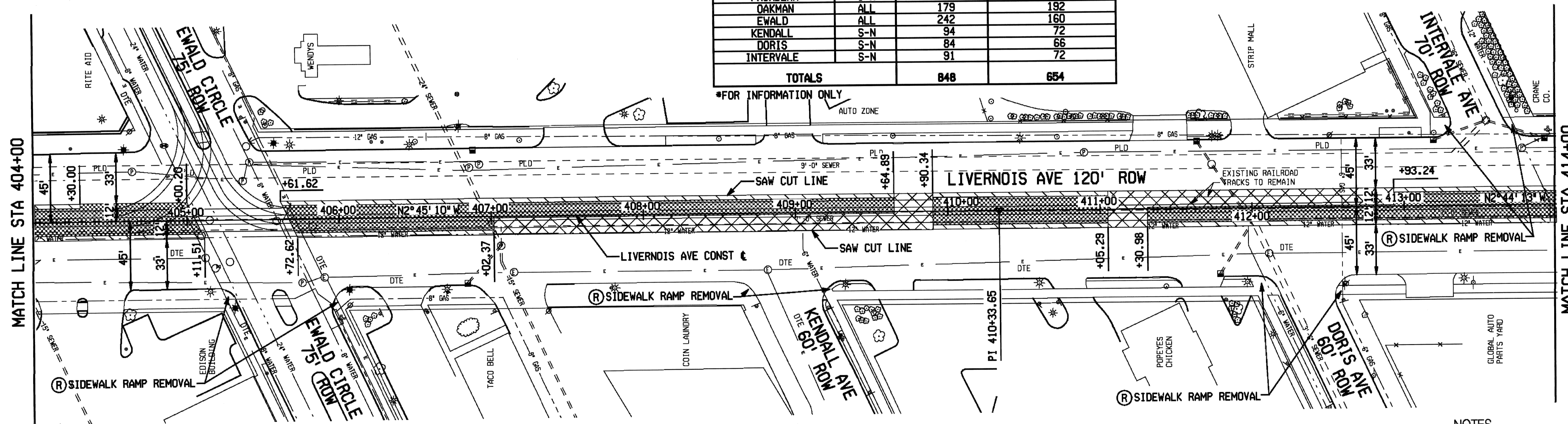


ADA SIDEWALK QUANTITIES THIS SHEET*

LOCATION LIVERNOIS AT	QUADRANT	Sidewalk, Rem	Curb, Rem, Modified
		Syd	Ft
GRAND	S-N	86	44
PASADENA	S-N	72	48
OAKMAN	ALL	179	192
EWALD	ALL	242	160
KENDALL	S-N	94	72
DORIS	S-N	84	66
INTERVALE	S-N	91	72
TOTALS		848	654

QUANTITIES THIS SHEET

Pavt, Rem, Modified	845 Syd
Cold Milling HMA Surface, Modified	1,045 Syd
Track, Encasement, Rem, Modified	2,791 Syd
Excavation, Earth, Modified	423 Syd
Sidewalk, Rem	848 Syd
Curb, Rem, Modified	654 Ft



SCALE
1" = 40'

- NOTES
- ALL DIMENSIONS ARE IN FEET
 - FOR REMOVAL LEGEND, SEE LEGEND SHEET
 - FOR UTILITY INFORMATION, SEE UTILITY PLANS
 - FOR PROPERTY LINES AND RIGHT-OF-WAY INFORMATION, SEE UTILITY PLANS

DESCRIPTION	DATE	BY	CHECKED BY	APPROVED:
PLAN				
GRADE				
ESTIMATE				
REVISIONS				

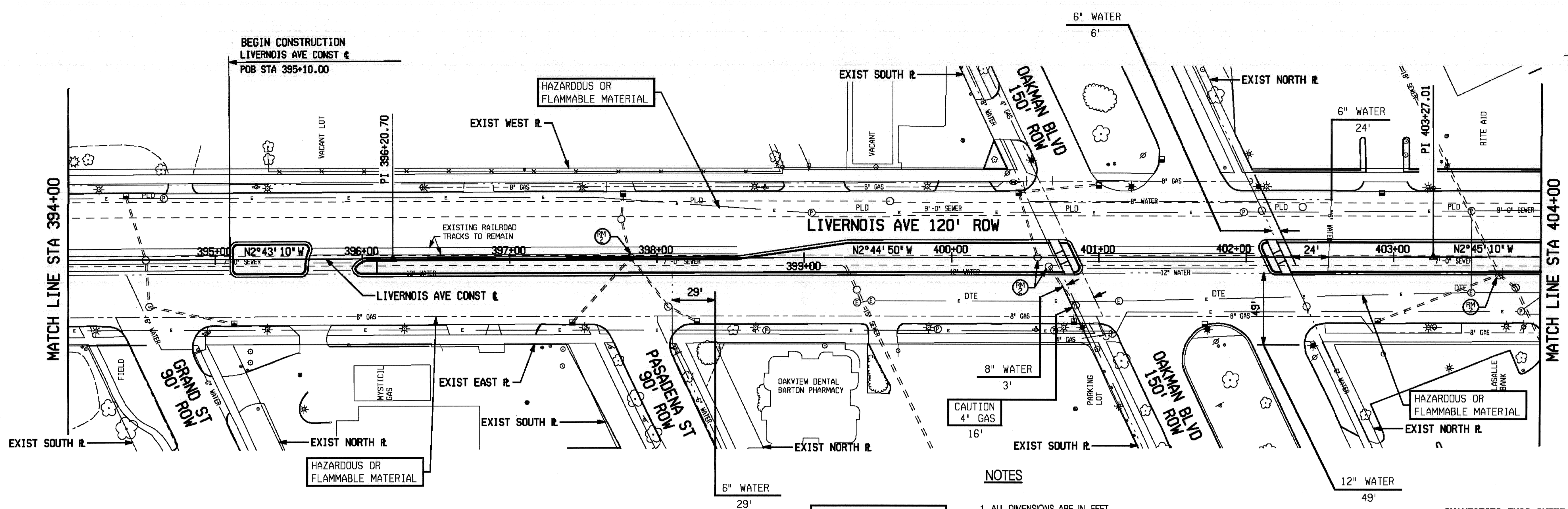


CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

LIVERNOIS AVE MEDIAN IMPROVEMENTS FROM
SOUTH OF PASADENA ST TO McNICHOLS RD
REMOVAL SHEET POB STA 395+10 TO STA 414+00

SHEET	9 OF 82 SHEETS
CONTROL SECTION	EDCF 82163
JOB NUMBER	86170A
DATE	JULY 11, 2007

FILE NAME: 13CD-03394.dgn CHECKED BY: DATE: WORKED ON BY: DATE:



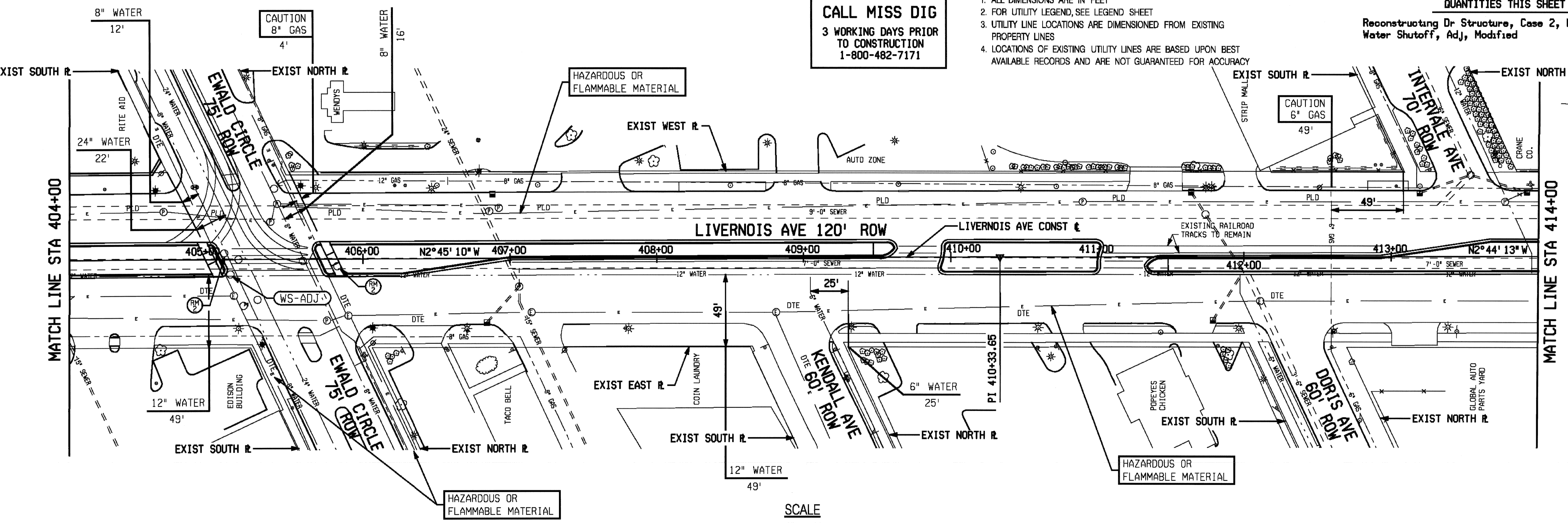
NOTES

1. ALL DIMENSIONS ARE IN FEET
2. FOR UTILITY LEGEND, SEE LEGEND SHEET
3. UTILITY LINE LOCATIONS ARE DIMENSIONED FROM EXISTING PROPERTY LINES
4. LOCATIONS OF EXISTING UTILITY LINES ARE BASED UPON BEST AVAILABLE RECORDS AND ARE NOT GUARANTEED FOR ACCURACY

QUANTITIES THIS SHEET

Reconstructing Dr Structure, Case 2, Modified 6 Ea
Water Shutoff, Adj, Modified 1 Ea

CALL MISS DIG
3 WORKING DAYS PRIOR
TO CONSTRUCTION
1-800-482-7171



SCALE
1" = 40'

DESCRIPTION	DATE	BY	CHECKED BY	APPROVED:
PLAN				
GRADE				FEDERAL PROJECT NO.
ESTIMATE				FEDERAL ITEM NO.
REVISIONS				



CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

LIVERNOIS AVE MEDIAN IMPROVEMENTS FROM
SOUTH OF PASADENA ST TO McNICHOLS RD

UTILITY SHEET POB STA 395+10 TO STA 414+00

SHEET	10 OF 82 SHEETS
CONTROL SECTION	EDCF 82163
JOB NUMBER	86170A
DATE	JULY 11, 2007

FILE NAME: 13CD04t1394.dgn
CHECKED BY:
WORKED ON BY:
DATE:

NOTES

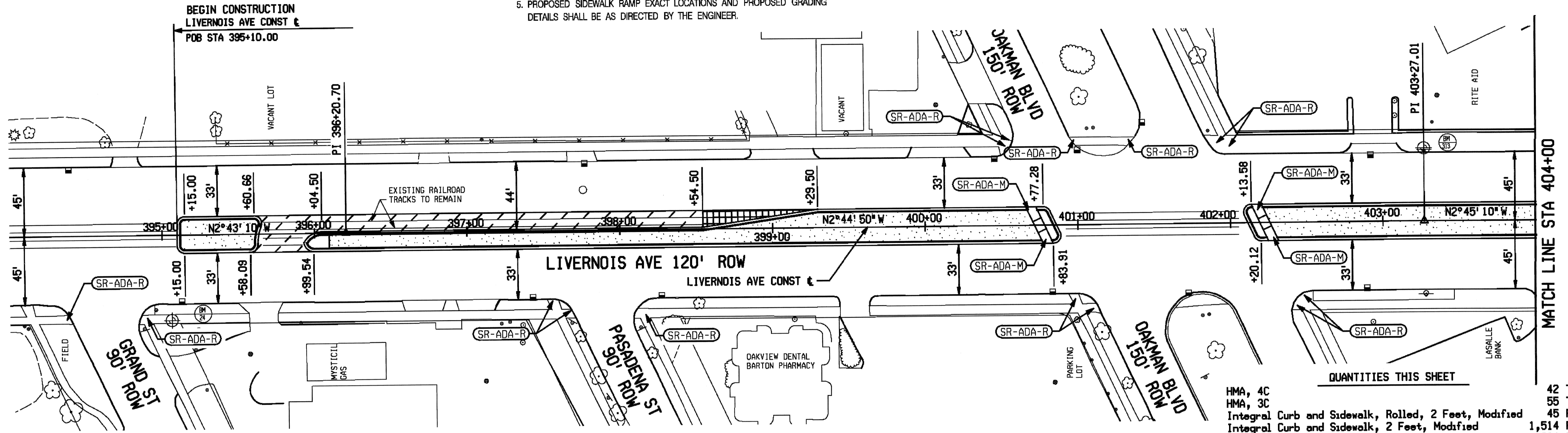
1. ALL DIMENSIONS ARE IN FEET
2. FOR UTILITY INFORMATION, SEE UTILITY PLANS
3. FOR PROPERTY LINES AND RIGHT-OF-WAY INFORMATION, SEE UTILITY PLANS
4. ALL PROPOSED RADII ARE DEFINED IN MISCELLANEOUS DETAILS SHEETS
5. PROPOSED SIDEWALK RAMP EXACT LOCATIONS AND PROPOSED GRADING DETAILS SHALL BE AS DIRECTED BY THE ENGINEER.

SCALE	HORIZONTAL	VERTICAL	BOOK NO.	PG.	LEVEL DATE
			TRAFFIC ENGINEERING		

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

PROPOSED LEGEND

- TOPSOIL SURFACE, FURN, LM, MODIFIED & SEEDING, MIXTURE TUF
- HMA, 4C
- HMA, 3C
- SIDEWALK, CONC, 4 INCH OR 6 INCH, MODIFIED OR CONC PAVT, MISC, NONREINF, 8 INCH, MODIFIED
- HMA ON CONC BASE PAVT, REINF, 9 INCH, MODIFIED



ADA SIDEWALK QUANTITIES THIS SHEET*

LOCATION LIVERNOIS AT	QUADRANT	Sidewalk Ramp, ADA, Modified	Sidewalk, Conco, 4 inch, Modified	Sidewalk, Conco, 6 inch, Modified	Curb, Conco, Detail, CD, Modified
		Sft	Sft	Sft	Ft
GRAND	S-N	144	486	144	44
PASADENA	S-N	108	432	72	48
OAKMAN	ALL	432	1060	114	192
TOTALS		684	1978	330	284

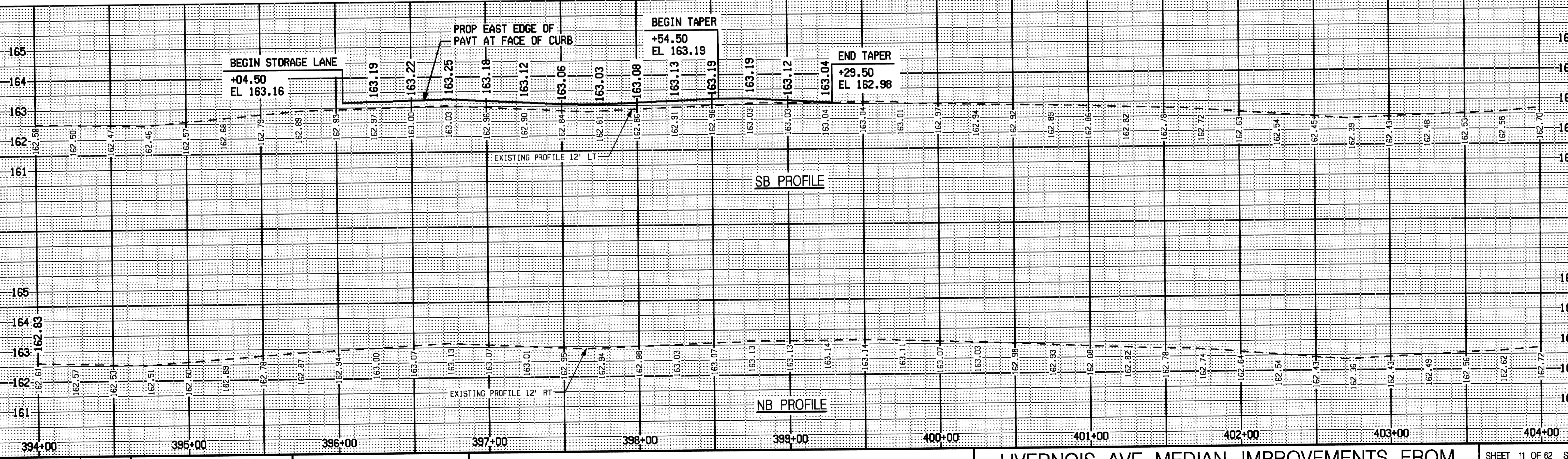
*FOR INFORMATION ONLY

QUANTITIES THIS SHEET

HMA, 4C	42 Ton
HMA, 3C	55 Ton
Integral Curb and Sidewalk, Rolled, 2 Feet, Modified	45 Ft
Integral Curb and Sidewalk, 2 Feet, Modified	1,514 Ft
Curb, Conco, Detail, CD, Modified	284 Ft
Aggregate Base, 4 inch	275 Syd
Cono Base Pavt, Reinf, 9 Inch, Modified	96 Syd
Lane Tie, Epoxy Anchored	96 Ea
Sidewalk, Conco, 4 inch, Modified	1,978 Sft
Sidewalk, Conco, 6 inch, Modified	643 Sft
Sidewalk Ramp, ADA, Modified	684 Sft
Cono Pavt, Misc, Nonreinf, 8 inch, Modified	13 Syd
Hand Patching	34 Ton
Embankment, CIP	1,699 Cyd
Topsoil Surface, Furn, LM, Modified	197 Cyd
Seeding, Mixture TUF	54 Lb
Mulch	1,179 Syd
Mulch Anchoring	1,179 Syd
Water, Sodding/Seeding	50 Unit
Fertilizer, Chemical Nutrient, CI A	56 Lb
Weed Control	0.26 Acre

BENCH MARKS	NORTHING	EASTING	ELEV	STATION	OFFSET
BM #24 CITY OF DETROIT BENCHMARK 24-250 4'SNL GRAND 4'WEL LIVERNOIS	120825.0082	74953.2450	161.90	395+06.15	55.98' RT
BM #313 TOP OF SW BOLT OF GUY POLE ON WEST SIDE LIVERNOIS 100' 35'64 NORTH OF OAKMAN NEAR SOUTH FACE BLDG #13939 RITEAID	121642.0469	74823.0902	162.68	403+26.94	47.82' LT

SCALE
1" = 40'



PROFILE
SCALE: 1" = 40' HORIZ
1" = 2' VERT

DESCRIPTION	DATE	CHECK	REVISION



CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

LIVERNOIS AVE MEDIAN IMPROVEMENTS FROM
SOUTH OF PASADENA ST TO McNICHOLS RD
CONSTRUCTION SHEET POB STA 395+10 TO STA 404+00

SHEET	11 OF 82 SHEETS
CONTROL SECTION	EDCF 82163
JOB NUMBER	86170A
DATE	JULY 11, 2007

WORKED ON BY: DATE: CHECKED BY: DATE: FILE NAME: 13CDcon394.dgn

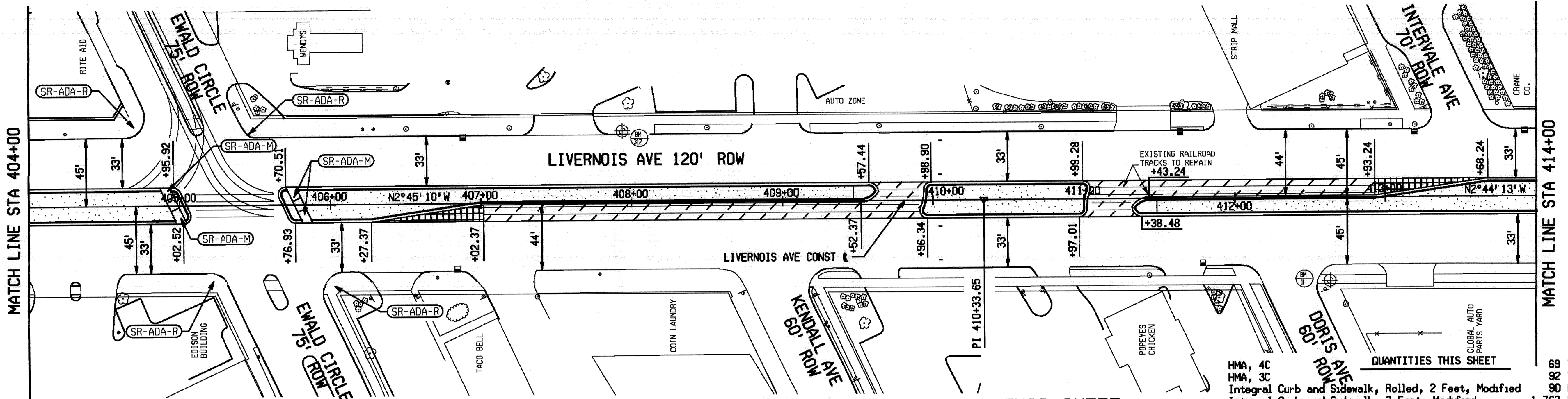
NOTES

1. ALL DIMENSIONS ARE IN FEET
2. FOR UTILITY INFORMATION, SEE UTILITY PLANS
3. FOR PROPERTY LINES AND RIGHT-OF-WAY INFORMATION, SEE UTILITY PLANS
4. ALL PROPOSED RADII ARE DEFINED IN MISCELLANEOUS DETAILS SHEETS
5. PROPOSED SIDEWALK RAMP EXACT LOCATIONS AND PROPOSED GRADING DETAILS SHALL BE AS DIRECTED BY THE ENGINEER.

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

PROPOSED LEGEND

- TOPSOIL SURFACE, FURN, LM, MODIFIED & SEEDING, MIXTURE TUF
- HMA, 4C
- HMA, 3C
- SIDEWALK, CONC, 4 INCH OR 6 INCH, MODIFIED OR CONC PAVT, MISC, NONREINF, 8 INCH, MODIFIED
- HMA ON CONC BASE PAVT, REINF, 9 INCH, MODIFIED



ADA SIDEWALK QUANTITIES THIS SHEET*

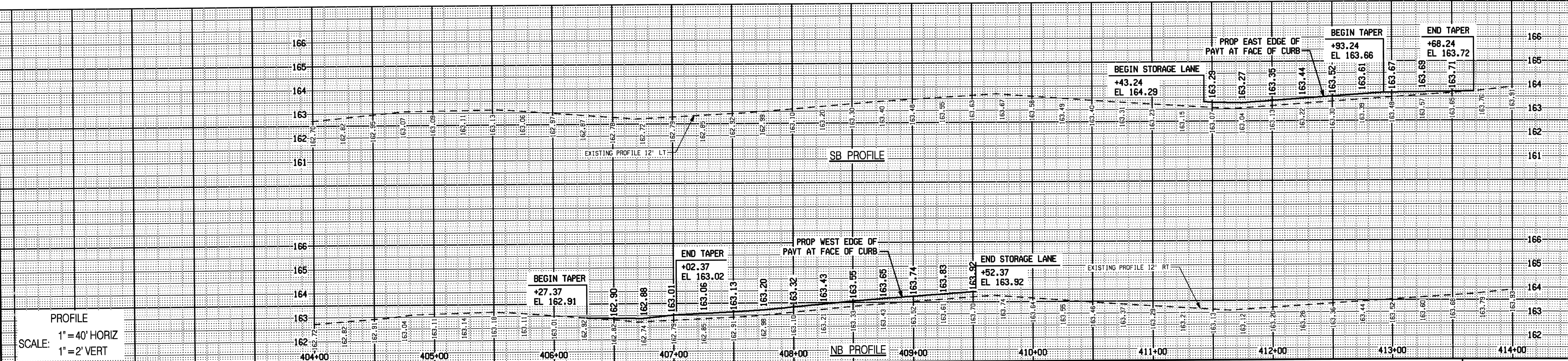
LOCATION LIVERNOIS AT	QUADRANT	Sidewalk Ramp, ADA, Modified	Sidewalk, Conc, 4 inch, Modified	Sidewalk, Conc, 6 inch, Modified	Curb, Conc, Detail, CD, Modified
		Sft	Sft	Sft	Ft
EWALD	ALL	348	1639	114	160
KENDALL	S-N	144	360	336	72
DORIS	S-N	144	480	126	66
INTERVALE	S-N	96	432	288	72
TOTALS		732	2911	864	370

- QUANTITIES THIS SHEET**
- HMA, 4C 69 Ton
 - HMA, 3C 92 Ton
 - Integral Curb and Sidewalk, Rolled, 2 Feet, Modified 90 Ft
 - Integral Curb and Sidewalk, 2 Feet, Modified 1,763 Ft
 - Curb, Conc, Detail, CD, Modified 370 Ft
 - Aggregate Base, 4 inch 326 Syd
 - Conc Base Pavt, Reinf, 9 Inch, Modified 152 Syd
 - Lane Tie, Epoxy Anchored 152 Ea
 - Sidewalk, Conc, 4 inch, Modified 2,911 Sft
 - Sidewalk, Conc, 6 inch, Modified 1,130 Sft
 - Sidewalk Ramp, ADA, Modified 732 Sft
 - Conc Pavt, Misc, Nonreinf, 8 inch, Modified 25 Syd
 - Hand Patching 40 Ton
 - Embankment, CIP 1,827 Cud
 - Topsoil Surface, Furn, LM, Modified 207 Cud
 - Seeding, Mixture TUF 57 Lb
 - Mulch 1,241 Syd
 - Mulch Anchoring 1,241 Syd
 - Water, Sodding/Seeding 53 Unit
 - Fertilizer, Chemical Nutrient, CI A 59 Lb
 - Weed Control 0.26 Acre

BENCH MARKS	NORTHING	EASTING	ELEV	STATION	OFFSET
BM #11 CITY OF DETROIT BENCHMARK 24-251 4'S/NL DORIS 4'WEL LIVERNOIS	122580.9508	74896.47	162.62	412+63.00	55.82' RT
BM #312 SE BOLT ON LIGHT POLE BASE ON WEST SIDE OF LIVERNOIS AT NORTH END OF PARKING LOT OF WENDY'S	122108.8960	74808.27	163.27	407+94.03	47.53' LT

SCALE
1" = 40'

*FOR INFORMATION ONLY



PROFILE
SCALE: 1" = 40' HORIZ
1" = 2' VERT

PLAN	NO.	CHECKED BY	APPROVED:
GRADE			FEDERAL PROJECT NO.
ESTIMATE			FEDERAL ITEM NO.
DESCRIPTION	DRN	CCO	APVD
REVISIONS	DATE	CHECK	REVISION

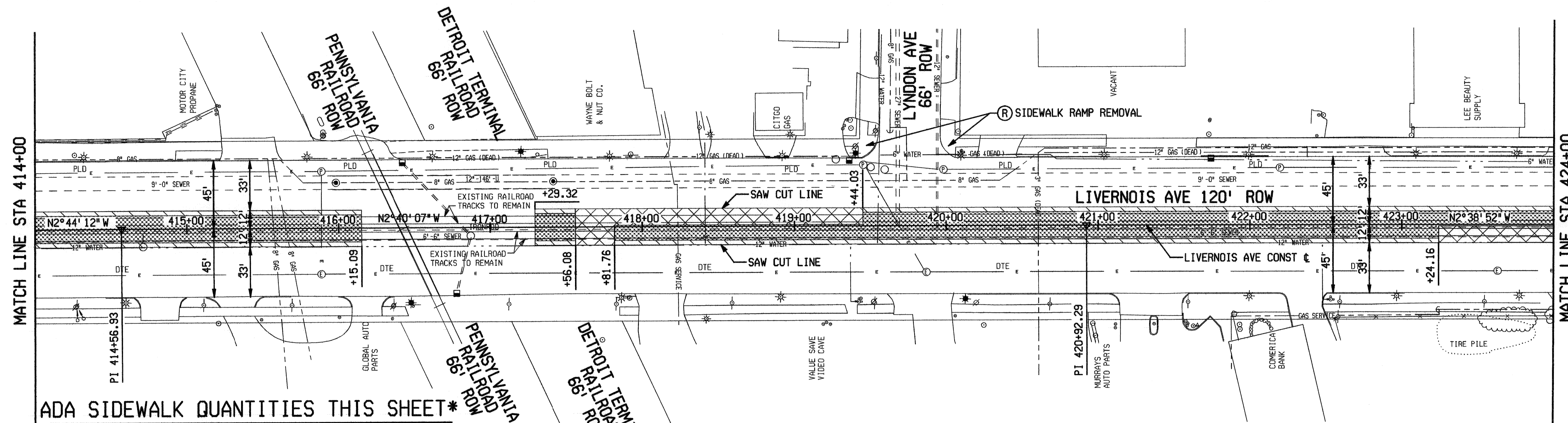


CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

LIVERNOIS AVE MEDIAN IMPROVEMENTS FROM
SOUTH OF PASADENA ST TO McNICHOLS RD
CONSTRUCTION SHEET STA 404+00 TO STA 414+00

SHEET 12 OF 82 SHEETS
CONTROL SECTION EDCF 82163
JOB NUMBER 86170A
DATE: JULY 11, 2007

WORKED ON BY: DATE: CHECKED BY: DATE: FILE NAME: I:\3CD\com404.dgn



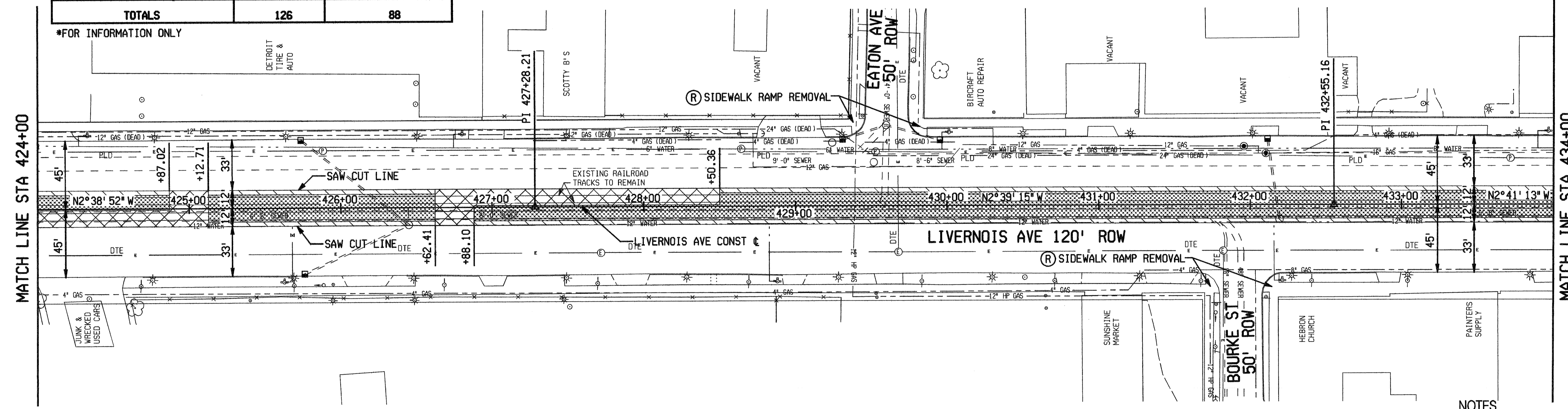
ADA SIDEWALK QUANTITIES THIS SHEET*

LOCATION LIVERNOIS AT	QUADRANT	QUANTITIES THIS SHEET	
		Sidewalk, Rem	Curb, Rem, Modified
		Syd	Ft
LYNDON	S-N	50	34
EATON	S-N	33	34
BOURKE	S-N	43	20
TOTALS		126	88

*FOR INFORMATION ONLY

QUANTITIES THIS SHEET

Pavt, Rem, Modified	1,044 Syd
Cold Milling HMA Surface, Modified	803 Syd
Track, Encasement, Rem, Modified	3,274 Syd
Excavation, Earth, Modified	522 Syd
Sidewalk, Rem	126 Syd
Curb, Rem, Modified	88 Ft



SCALE
1" = 40'

- NOTES
- ALL DIMENSIONS ARE IN FEET
 - FOR REMOVAL LEGEND, SEE LEGEND SHEET
 - FOR UTILITY INFORMATION, SEE UTILITY PLANS
 - FOR PROPERTY LINES AND RIGHT-OF-WAY INFORMATION, SEE UTILITY PLANS

DESCRIPTION	REVISIONS	DRN	CRD	APPD	DATE	CHECK	REVIEW

HNTB

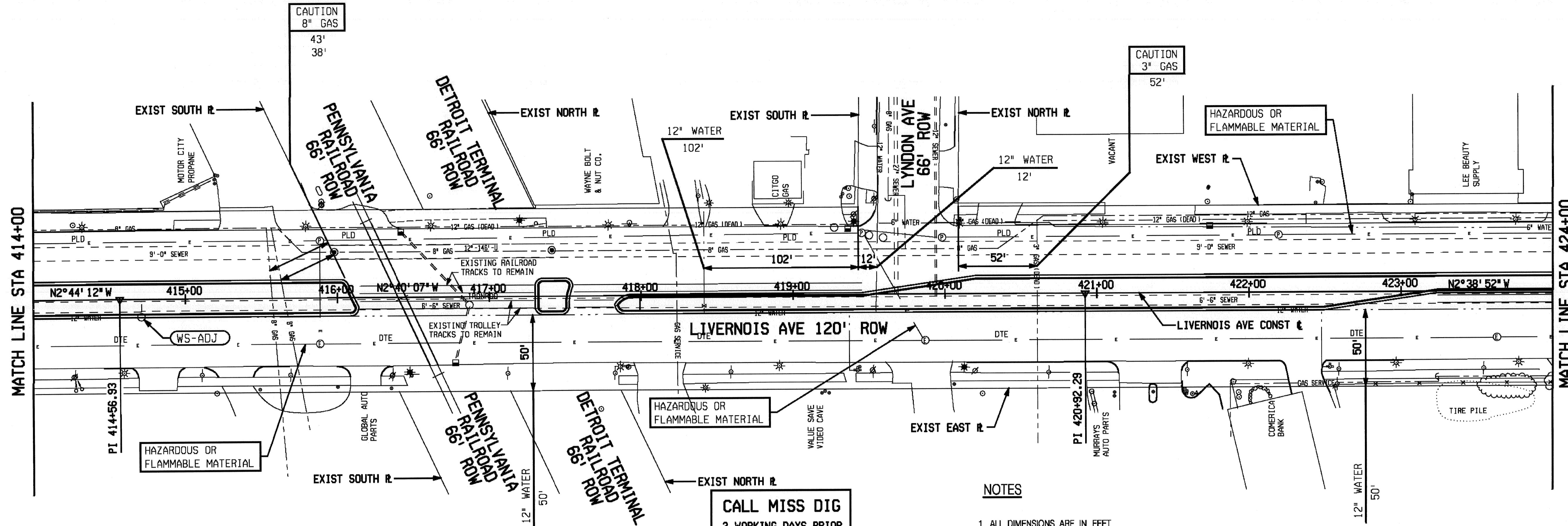
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

LIVERNOIS AVE MEDIAN IMPROVEMENTS FROM
SOUTH OF PASADENA ST TO McNICHOLS RD

REMOVAL SHEET STA 414+00 TO STA 434+00

SHEET	13 OF 62 SHEETS
CONTROL SECTION	EDCF 82163
JOB NUMBER	86170A
DATE:	JULY 11, 2007

FILE NAME: 13CD-em414.dgn
CHECKED BY:
WORKED ON BY:
DATE:

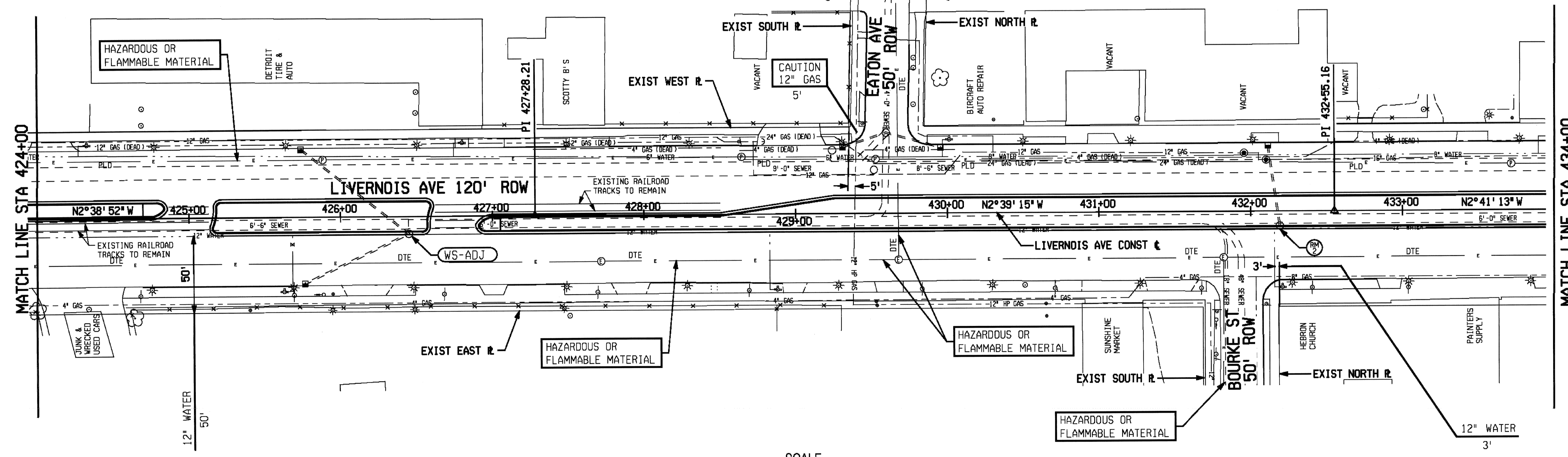


CALL MISS DIG
3 WORKING DAYS PRIOR
TO CONSTRUCTION
1-800-482-7171

- NOTES**
- ALL DIMENSIONS ARE IN FEET
 - FOR UTILITY LEGEND, SEE LEGEND SHEET
 - UTILITY LINE LOCATIONS ARE DIMENSIONED FROM EXISTING PROPERTY LINES
 - LOCATIONS OF EXISTING UTILITY LINES ARE BASED UPON BEST AVAILABLE RECORDS AND ARE NOT GUARANTEED FOR ACCURACY

QUANTITIES THIS SHEET

Reconstructing Dr Structure, Case 2, Modified	1 Ea
Water Shutoff, Adj, Modified	2 Ea



SCALE
1" = 40'

DESCRIPTION	REVISED	DATE	BY	CHECKED BY	APPROVED:
PLAN					
GRADE					FEDERAL PROJECT NO.
ESTIMATE					FEDERAL ITEM NO.

HNTB

CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

LIVERNOIS AVE MEDIAN IMPROVEMENTS FROM
SOUTH OF PASADENA ST TO McNICHOLS RD

UTILITY SHEET STA 414+00 TO STA 434+00

SHEET	14 OF 82 SHEETS
CONTROL SECTION	EDCF 82163
JOB NUMBER	86170A
DATE	JULY 11, 2007

FILE NAME: I:\300out\1414.dgn
CHECKED BY:
WORKED ON BY:
DATE:

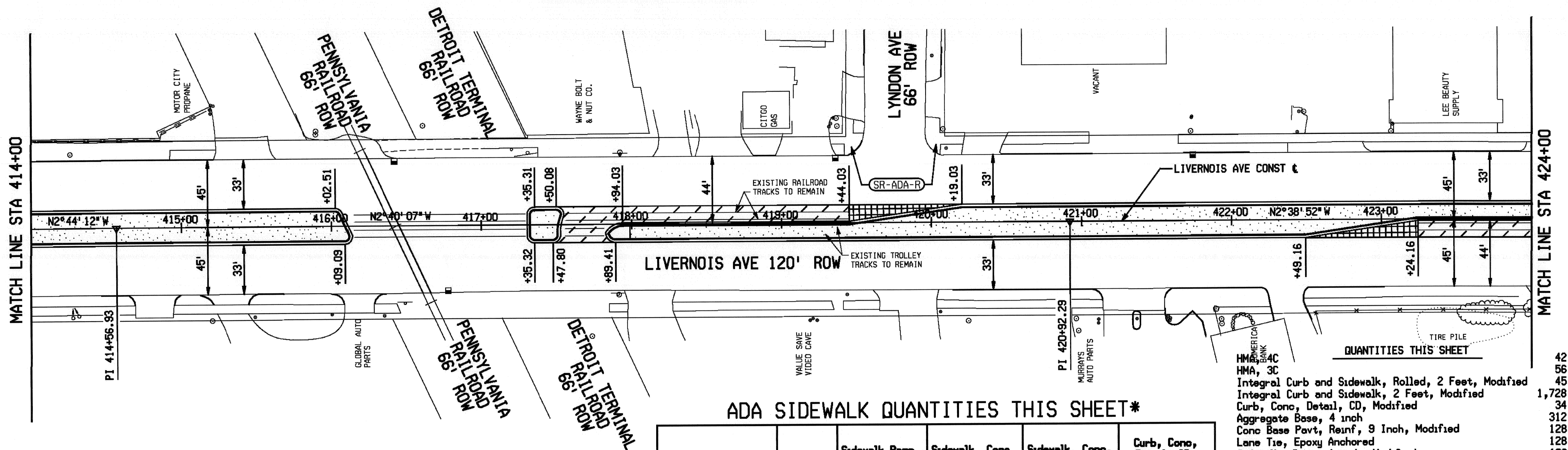
NOTES

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4. ALL PROPOSED RADII ARE DEFINED IN MISCELLANEOUS DETAILS SHEETS
5. PROPOSED SIDEWALK RAMP EXACT LOCATIONS AND PROPOSED GRADING DETAILS SHALL BE AS DIRECTED BY THE ENGINEER.

SCALE	HORIZONTAL	VERTICAL	BOOK NO.	PG.	LEVEL	DATE

PROPOSED LEGEND

- TOPSOIL SURFACE, FURN, LM, MODIFIED & SEEDING, MIXTURE TUF
- HMA, 4C
- HMA, 3C
- SIDEWALK, CONC, 4 INCH OR 6 INCH, MODIFIED OR CONC PAVT, MISC, NONREINF, 8 INCH, MODIFIED
- HMA ON CONC BASE PAVT, REINF, 9 INCH, MODIFIED



ADA SIDEWALK QUANTITIES THIS SHEET*

LOCATION LIVERNOIS AT	QUADRANT	Sidewalk Ramp, ADA, Modified	Sidewalk, Conc, 4 inch, Modified	Sidewalk, Conc, 6 inch, Modified	Curb, Conc, Detail, CD, Modified
		Sft	Sft	Sft	Ft
LYNDON	S-N	108	106	238	34
TOTALS		108	106	238	34

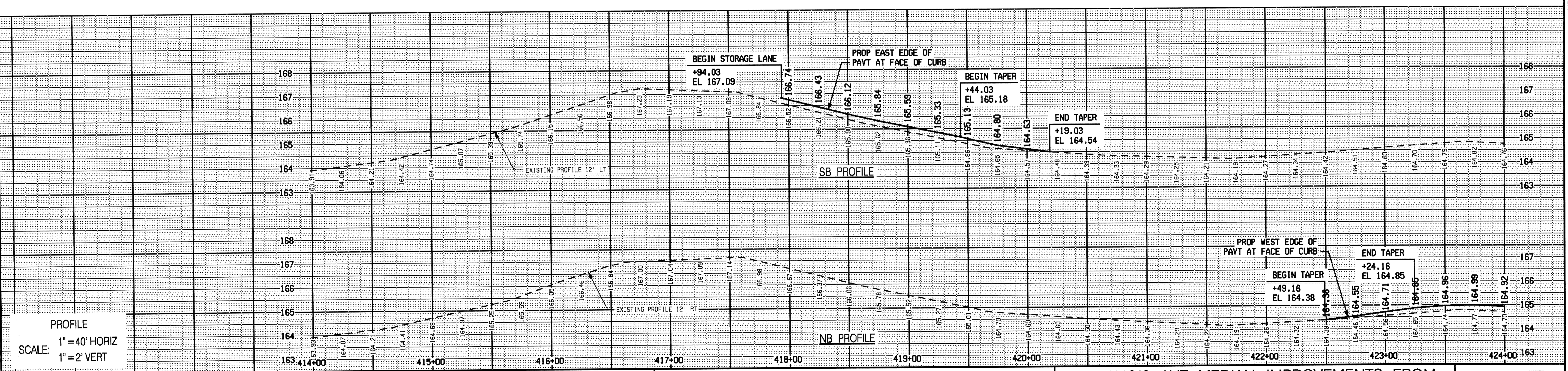
- QUANTITIES THIS SHEET**
- HMA, 4C
 - HMA, 3C
 - Integral Curb and Sidewalk, Rolled, 2 Feet, Modified
 - Integral Curb and Sidewalk, 2 Feet, Modified
 - Curb, Conc, Detail, CD, Modified
 - Aggregate Base, 4 inch
 - Conc Base Pavt, Reinf, 9 Inch, Modified
 - Lane Tie, Epoxy Anchored
 - Sidewalk, Conc, 4 inch, Modified
 - Sidewalk, Conc, 6 inch, Modified
 - Sidewalk Ramp, ADA, Modified
 - Conc Pavt, Misc, Nonreinf, 8 inch, Modified
 - Hand Patching
 - Embankment, CIP
 - Topsoil Surface, Furn, LM, Modified
 - Seeding, Mixture TUF
 - Mulch
 - Mulch Anchoring
 - Water, Sodding/Seeding
 - Fertilizer, Chemical Nutrient, CI A
 - Weed Control

- 42 Ton
- 56 Ton
- 45 Ft
- 1,728 Ft
- 34 Ft
- 312 Syd
- 128 Syd
- 128 Ea
- 106 Sft
- 238 Sft
- 108 Sft
- 13 Syd
- 38 Ton
- 2,021 Cud
- 247 Cud
- 68 Lb
- 1,478 Syd
- 63 Unit
- 70 Lb
- 0.32 Acre

BENCH MARKS NORTHING EASTING ELEV STATION OFFSET

SCALE 1" = 40'

*FOR INFORMATION ONLY



PROFILE

SCALE: 1" = 40' HORIZ
1" = 2' VERT

PLAN	BY	CHECKED BY	APPROVED:
GRADE			FEDERAL PROJECT NO.
ESTIMATE			FEDERAL ITEM NO.
DESCRIPTION	DATE	CHECK	REVIEW



CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

LIVERNOIS AVE MEDIAN IMPROVEMENTS FROM
SOUTH OF PASADENA ST TO McNICHOLS RD
CONSTRUCTION SHEET STA 414+00 TO STA 424+00

SHEET 15 OF 82 SHEETS
CONTROL SECTION EDCF 82163
JOB NUMBER 86170A
DATE: JULY 11, 2007

WORKED ON BY: DATE:

CHECKED BY: DATE:

FILE NAME: 13CDcom414.dgn

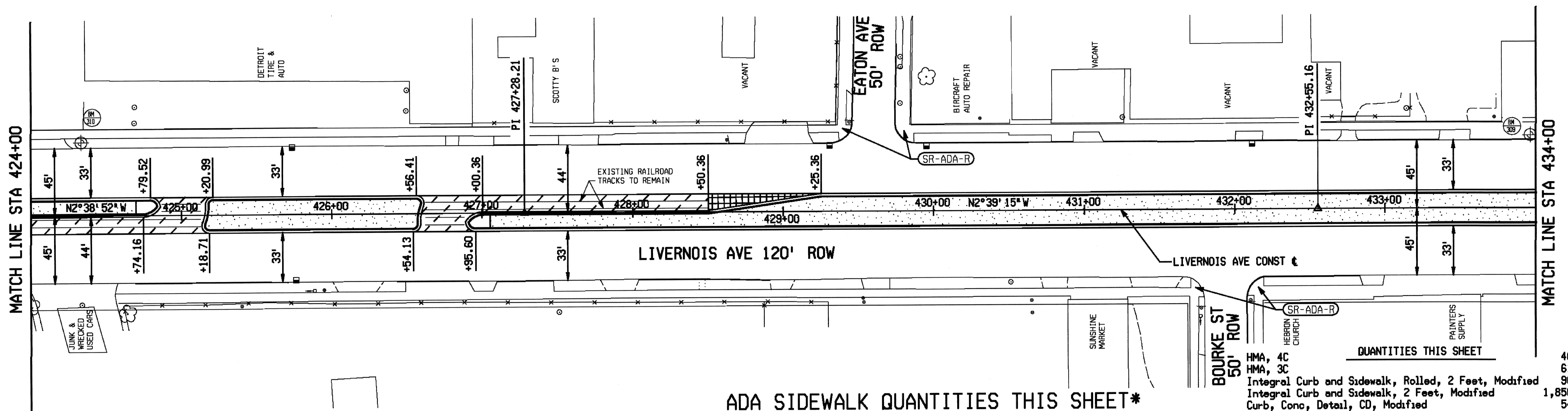
NOTES

1. ALL DIMENSIONS ARE IN FEET
2. FOR UTILITY INFORMATION, SEE UTILITY PLANS
3. FOR PROPERTY LINES AND RIGHT-OF-WAY INFORMATION, SEE UTILITY PLANS
4. ALL PROPOSED RADII ARE DEFINED IN MISCELLANEOUS DETAILS SHEETS
5. PROPOSED SIDEWALK RAMP EXACT LOCATIONS AND PROPOSED GRADING DETAILS SHALL BE AS DIRECTED BY THE ENGINEER.

SCALE	HORIZONTAL	VERTICAL	BOOK NO.	PG.	LEVEL	DATE
			2020	COMPLETED		

PROPOSED LEGEND

- TOPSOIL SURFACE, FURN, LM, MODIFIED & SEEDING, MIXTURE TUF
- HMA, 4C
- HMA, 3C
- SIDEWALK, CONC, 4 INCH OR 6 INCH, MODIFIED OR CONC PAVT, MISC, NONREINF, 8 INCH, MODIFIED
- HMA ON CONC BASE PAVT, REINF, 9 INCH, MODIFIED



ADA SIDEWALK QUANTITIES THIS SHEET*

LOCATION LIVERNOIS AT	QUADRANT	Sidewalk Ramp, ADA, Modified Sft	Sidewalk, Conc, 4 inch, Modified Sft	Sidewalk, Conc, 6 inch, Modified Sft	Curb, Conc, Detail, CD, Modified Ft
EATON	S-N	120	132	56	34
BOURKE	S-N	72	252	60	20
TOTALS		192	384	116	54

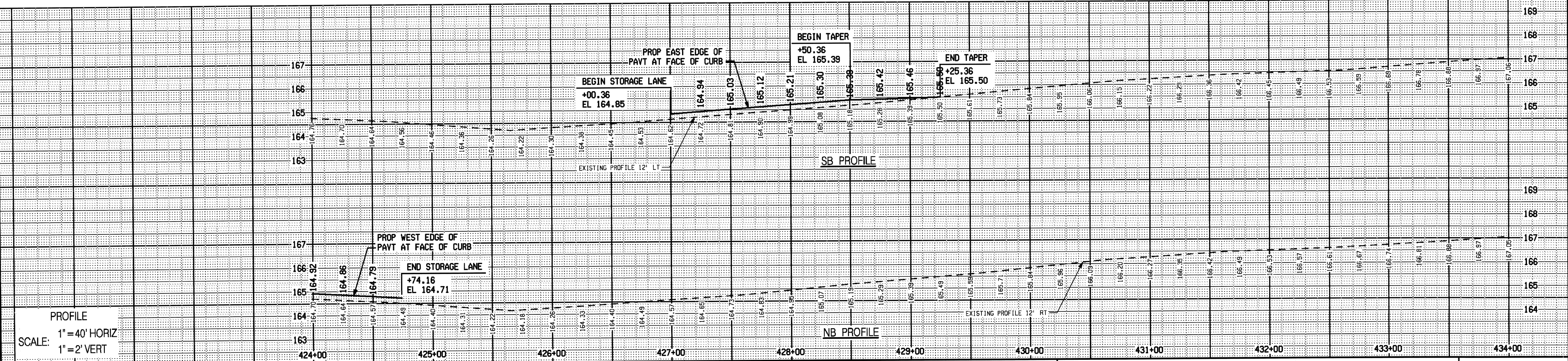
QUANTITIES THIS SHEET

HMA, 4C	46 Ton
HMA, 3C	61 Ton
Integral Curb and Sidewalk, Rolled, 2 Feet, Modified	90 Ft
Integral Curb and Sidewalk, 2 Feet, Modified	1,850 Ft
Curb, Conc, Detail, CD, Modified	54 Ft
Aggregate Base, 4 inch	342 Syd
Conc Base Pavg, Reinf, 9 Inch, Modified	79 Syd
Lane Tie, Epoxy Anchored	79 Ea
Sidewalk, Conc, 4 inch, Modified	384 Sft
Sidewalk, Conc, 6 inch, Modified	116 Sft
Sidewalk Ramp, ADA, Modified	192 Sft
Conc Pavg, Misc, Nonreinf, 8 inch, Modified	25 Syd
Hand Patching	42 Ton
Embankment, CIP	2,320 Cyd
Topsoil Surface, Furn, LM, Modified	284 Cyd
Seeding, Mixture TUF	78 Lb
Mulch	1,703 Syd
Mulch Anchoring	1,703 Syd
Water, Sodding/Seeding	72 Unst
Fertilizer, Chemical Nutrient, CI A	81 Lb
Weed Control	0.36 Acre

BENCH MARKS	NORTHING	EASTING	ELEV	STATION	OFFSET
BM #309	12470.1254	74726.4239	170.40	433+96.49	48.50' LT
BM #310	123747.8573	74755.6995	166.89	424+33.74	48.75' LT

SCALE
1" = 40'

*FOR INFORMATION ONLY



PROFILE
SCALE: 1" = 40' HORIZ
1" = 2' VERT

PLAN	APPROVED:
GRADE	FEDERAL PROJECT NO.
ESTIMATE	FEDERAL ITEM NO.
DESCRIPTION	REVISIONS
DRN	CDD
APPD	DATE
FINAL	CHECK
	REVIEW

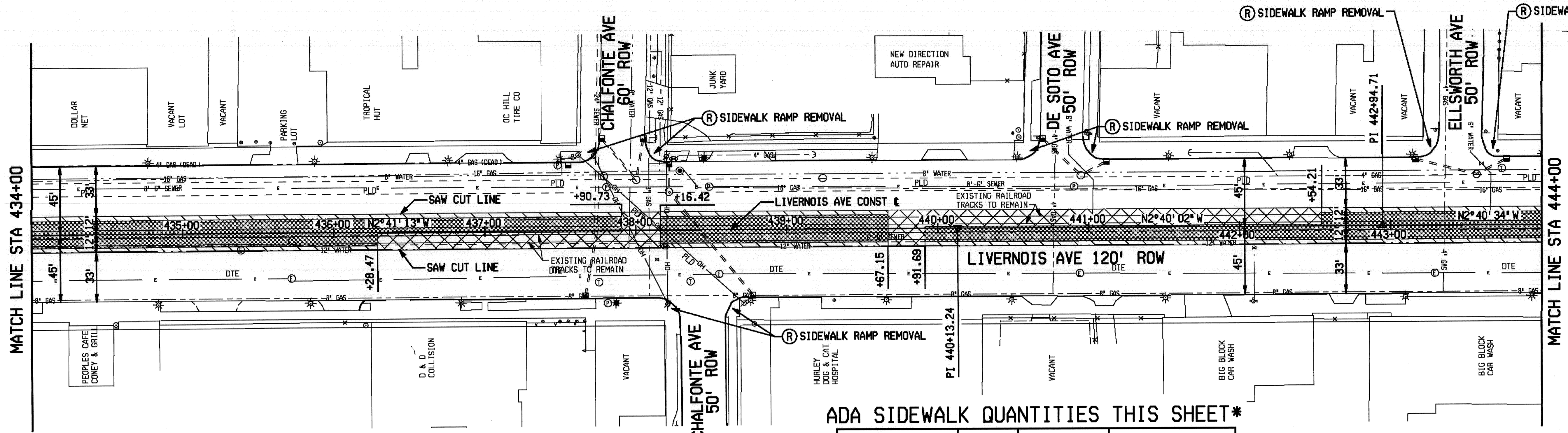


CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

LIVERNOIS AVE MEDIAN IMPROVEMENTS FROM
SOUTH OF PASADENA ST TO McNICHOLS RD
CONSTRUCTION SHEET STA 424+00 TO STA 434+00

SHEET 16 OF 82 SHEETS
CONTROL SECTION EDCF 82163
JOB NUMBER 86170A
DATE: JULY 11, 2007

WORKED ON BY: DATE: CHECKED BY: DATE: FILE NAME: I:\300\com\424.dgn



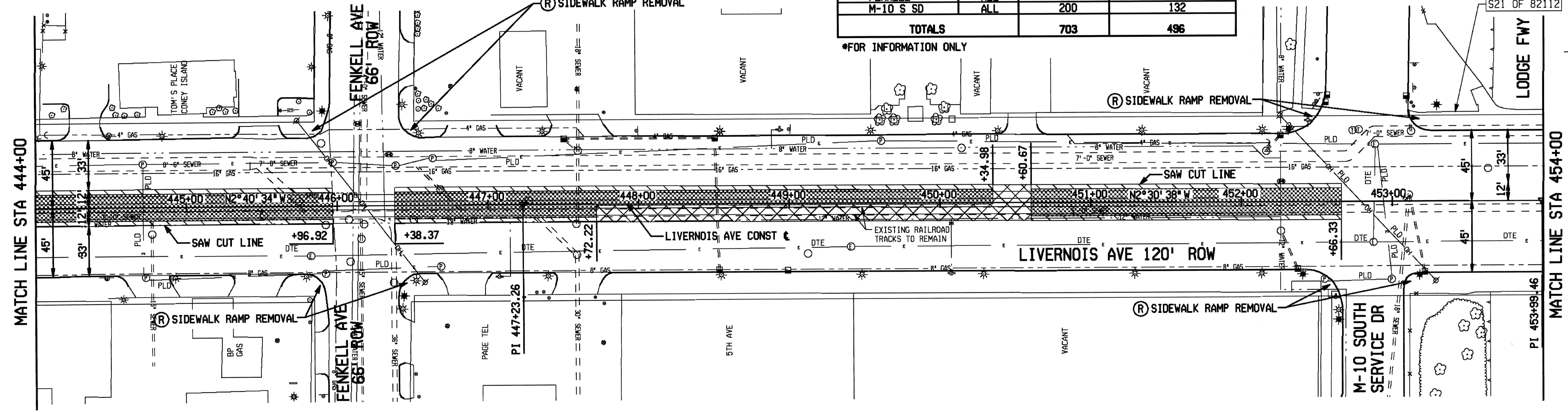
ADA SIDEWALK QUANTITIES THIS SHEET*

LOCATION LIVERNOIS AT	QUADRANT	Sidewalk, Rem	Curb, Rem, Modified
		Syd	Ft
CHALFONTE	ALL	188	58
DE SOTO	S-N	72	96
ELLSWORTH	S-N	89	70
FENKELL	ALL	154	140
M-10 S SD	ALL	200	132
TOTALS		703	496

*FOR INFORMATION ONLY

QUANTITIES THIS SHEET

Pavt, Rem, Modified	938	Syd
Cold Milling HMA Surface, Modified	1,044	Syd
Track, Encasement, Rem, Modified	2,968	Cyd
Excavation, Earth, Modified	469	Cyd
Sidewalk, Rem	703	Syd
Curb, Rem, Modified	496	Ft



SCALE
1" = 40'

NOTES

1. ALL DIMENSIONS ARE IN FEET
2. FOR REMOVAL LEGEND, SEE LEGEND SHEET
3. FOR UTILITY INFORMATION, SEE UTILITY PLANS
4. FOR PROPERTY LINES AND RIGHT-OF-WAY INFORMATION, SEE UTILITY PLANS

DESCRIPTION	DATE	BY	CHECKED BY	APPROVED:
PLAN				
GRADE				
ESTIMATE				
FINAL				

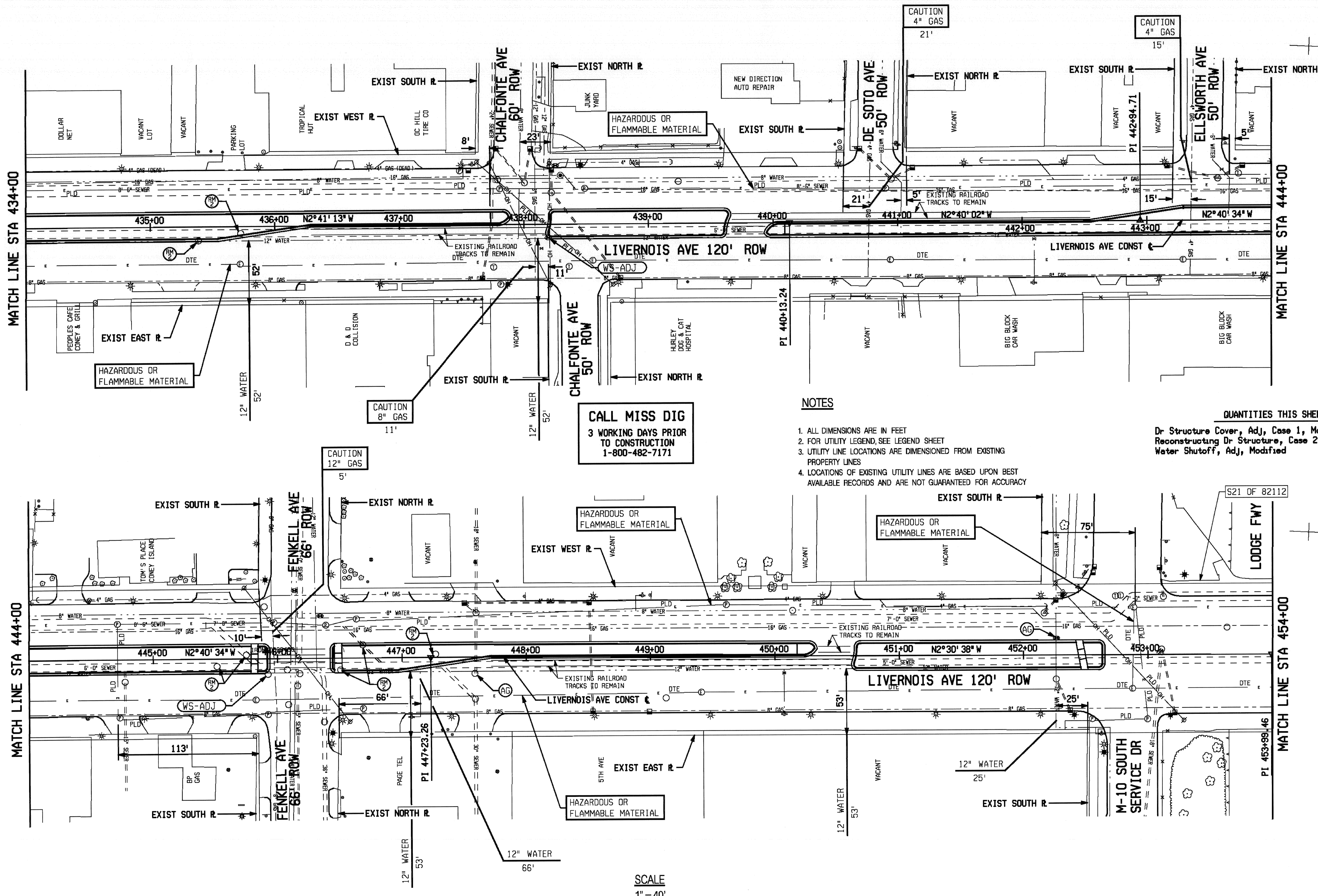


CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

LIVERNOIS AVE MEDIAN IMPROVEMENTS FROM
SOUTH OF PASADENA ST TO McNICHOLS RD
REMOVAL SHEET STA 434+00 TO STA 454+00

SHEET	17 OF 62 SHEETS
CONTROL SECTION	EDCF 82163
JOB NUMBER	86170A
DATE:	JULY 11, 2007

FILE NAME: I3CDrem434.dgn
CHECKED BY: DATE: WORKED ON BY: DATE:



NOTES

1. ALL DIMENSIONS ARE IN FEET
2. FOR UTILITY LEGEND, SEE LEGEND SHEET
3. UTILITY LINE LOCATIONS ARE DIMENSIONED FROM EXISTING PROPERTY LINES
4. LOCATIONS OF EXISTING UTILITY LINES ARE BASED UPON BEST AVAILABLE RECORDS AND ARE NOT GUARANTEED FOR ACCURACY

QUANTITIES THIS SHEET

Dr Structure Cover, Adj, Case 1, Modified	2 Ea
Reconstructing Dr Structure, Case 2, Modified	7 Ea
Water Shutoff, Adj, Modified	2 Ea

CALL MISS DIG
3 WORKING DAYS PRIOR TO CONSTRUCTION
1-800-482-7171

SCALE
1" = 40'

DESCRIPTION	BY	CHECKED BY	APPROVED:
PLAN			
GRADE			
ESTIMATE			
FINAL			



CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

LIVERNOIS AVE MEDIAN IMPROVEMENTS FROM SOUTH OF PASADENA ST TO McNICHOLS RD
UTILITY SHEET STA 434+00 TO STA 454+00

SHEET	18 OF 62 SHEETS
CONTROL SECTION	EDCF 82163
JOB NUMBER	86170A
DATE:	JULY 11, 2007

FILE NAME: 13CD01434.dgn
CHECKED BY:
WORKED ON BY:
DATE:

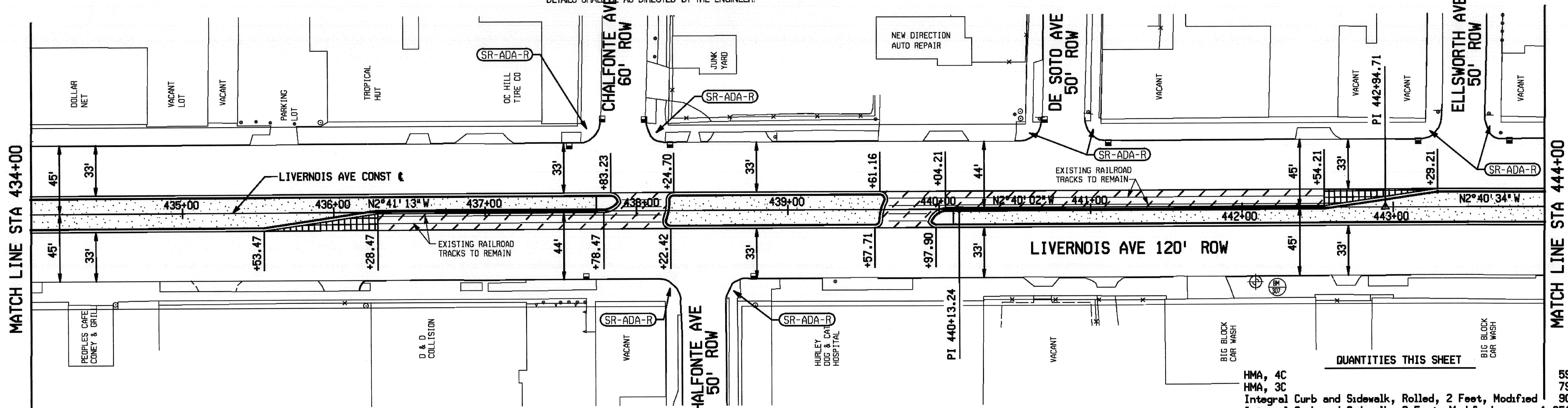
NOTES

1. ALL DIMENSIONS ARE IN FEET
2. FOR UTILITY INFORMATION, SEE UTILITY PLANS
3. FOR PROPERTY LINES AND RIGHT-OF-WAY INFORMATION, SEE UTILITY PLANS
4. ALL PROPOSED RADII ARE DEFINED IN MISCELLANEOUS DETAILS SHEETS
5. PROPOSED SIDEWALK RAMP EXACT LOCATIONS AND PROPOSED GRADING DETAILS SHALL BE AS DIRECTED BY THE ENGINEER.

SCALE	INFORMATION	BOOK NO.	PG.	LEVEL	DATE

PROPOSED LEGEND

- TOPSOIL SURFACE, FURN, LM, MODIFIED & SEEDING, MIXTURE TUF
- HMA, 4C
- HMA, 3C
- SIDEWALK, CONC, 4 INCH OR 6 INCH, MODIFIED OR CONC PAVT, MISC, NONREINF, 8 INCH, MODIFIED
- HMA ON CONC BASE PAVT, REINF, 9 INCH, MODIFIED



ADA SIDEWALK QUANTITIES THIS SHEET*

LOCATION LIVERNOIS AT	QUADRANT	Sidewalk Ramp, ADA, Modified	Sidewalk, Conc, 4 inch, Modified	Sidewalk, Conc, 6 inch, Modified	Curb, Conc, Detail CD, Modified
		Sft	Sft	Sft	Ft
CHALFONTE	ALL	144	1422	120	58
DE SOTO	S-N	72	515	60	96
ELLSWORTH	S-N	72	670	60	70
TOTALS		288	2607	240	224

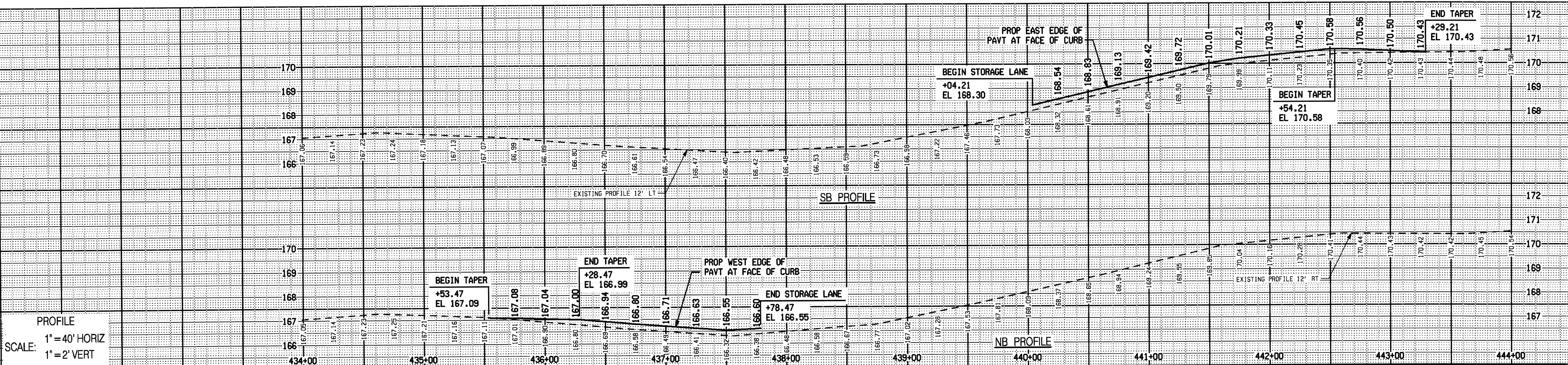
*FOR INFORMATION ONLY

QUANTITIES THIS SHEET

HMA, 4C	59 Ton
HMA, 3C	79 Ton
Integral Curb and Sidewalk, Rolled, 2 Feet, Modified	90 Ft
Integral Curb and Sidewalk, 2 Feet, Modified	1,851 Ft
Curb, Conc, Detail CD, Modified	224 Ft
Aggregate Base, 4 inch	342 Syd
Conc Base Pavt, Reinf, 9 Inch, Modified	128 Syd
Lane Tie, Epoxy Anchored	128 Ea
Sidewalk, Conc, 4 inch, Modified	2,607 Sft
Sidewalk, Conc, 6 inch, Modified	240 Sft
Sidewalk Ramp, ADA, Modified	288 Sft
Conc Pavt, Misc, Nonreinf, 8 inch, Modified	25 Syd
Hand Patching	42 Ton
Embankment, CIP	2,022 Cyd
Topsoil Surface, Furn, LM, Modified	241 Cyd
Seeding, Mixture TUF	66 Lb
Mulch	1,444 Syd
Mulch Anchoring	1,444 Syd
Water, Sodding/Seeding	61 Unit
Fertilizer, Chemical Nutrient, CI A	69 Lb
Weed Control	0.30 Acre

BENCH MARKS	NORTHING	EASTING	ELEV	STATION	OFFSET
BM #307	125525.0854	74798.6895	173.06	442+08.82	49.09 FT

SCALE
1" = 40'



PROFILE
SCALE: 1" = 40' HORIZ
1" = 2' VERT

DESCRIPTION	DATE	BY	CHECKED BY	APPROVED:
PLAN				
GRADE				FEDERAL PROJECT NO.
ESTIMATE				FEDERAL ITEM NO.



CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

LIVERNOIS AVE MEDIAN IMPROVEMENTS FROM
SOUTH OF PASADENA ST TO McNICHOLS RD
CONSTRUCTION SHEET STA 434+00 TO STA 444+00

SHEET	19 OF 62 SHEETS
CONTROL SECTION	EDCF 82163
JOB NUMBER	86170A
DATE:	JULY 11, 2007

WORKED ON BY: DATE:

CHECKED BY: DATE:

FILE NAME: 13CDcon434.dgn

NOTES

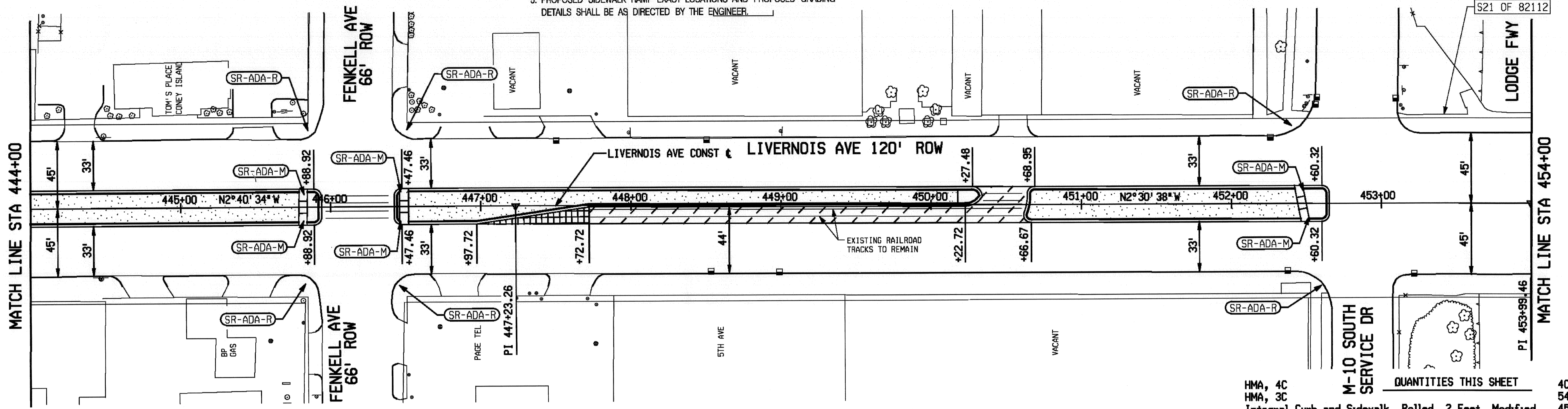
1. ALL DIMENSIONS ARE IN FEET
2. FOR UTILITY INFORMATION, SEE UTILITY PLANS
3. FOR PROPERTY LINES AND RIGHT-OF-WAY INFORMATION, SEE UTILITY PLANS
4. ALL PROPOSED RADII ARE DEFINED IN MISCELLANEOUS DETAILS SHEETS
5. PROPOSED SIDEWALK RAMP EXACT LOCATIONS AND PROPOSED GRADING DETAILS SHALL BE AS DIRECTED BY THE ENGINEER.

SCALE	HORIZONTAL	VERTICAL	BOOK NO.	PG.	LEVEL	DATE

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

PROPOSED LEGEND

- TOPSOIL SURFACE, FURN, LM, MODIFIED & SEEDING, MIXTURE TUF
- HMA, 4C
- HMA, 3C
- SIDEWALK, CONC, 4 INCH OR 6 INCH, MODIFIED OR CONC PAVT, MISC, NONREINF, 8 INCH, MODIFIED
- HMA ON CONC BASE PAVT, REINF, 9 INCH, MODIFIED



ADA SIDEWALK QUANTITIES THIS SHEET*

LOCATION LIVERNOIS AT	QUADRANT	Sidewalk Ramp, ADA, Modified	Sidewalk, Conc, 4 inch, Modified	Sidewalk, Conc, 6 inch, Modified	Curb, Conc, Detail CD, Modified
		Sft	Sft	Sft	Ft
FENKELL	ALL	288	993	100	140
M-10 S SD	ALL	288	1310	200	132
TOTALS		576	2303	300	272

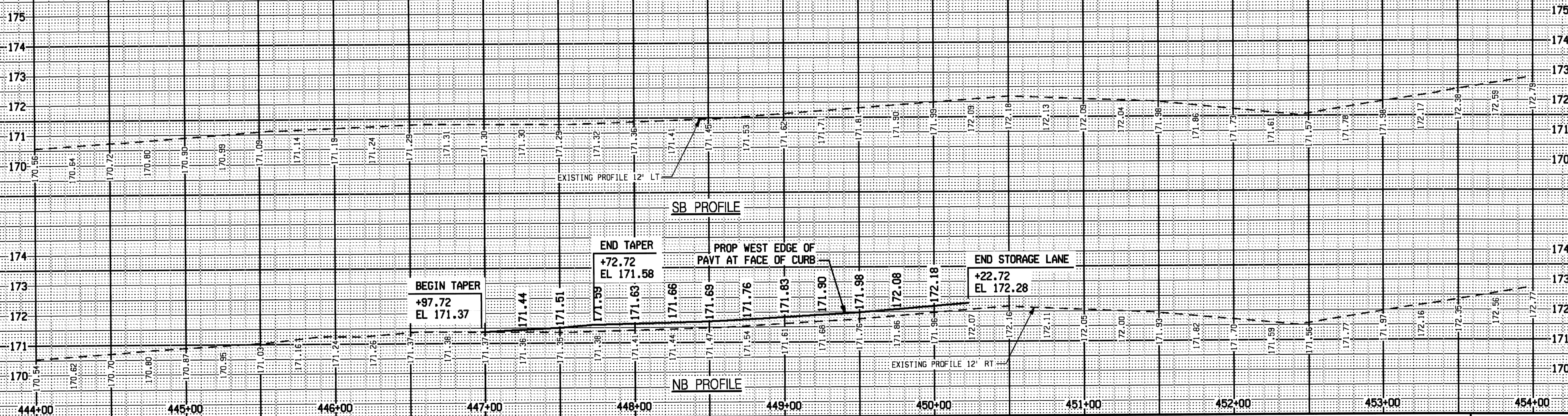
*FOR INFORMATION ONLY

QUANTITIES THIS SHEET

HMA, 4C	40 Ton
HMA, 3C	54 Ton
Integral Curb and Sidewalk, Rolled, 2 Feet, Modified	45 Ft
Integral Curb and Sidewalk, 2 Feet, Modified	1,618 Ft
Curb, Conc, Detail CD, Modified	272 Ft
Aggregate Base, 4 inch	293 Syd
Conc Base Pavt, Reinf, 9 inch, Modified	79 Syd
Lane Tie, Epoxy Anchored	79 Ea
Sidewalk, Conc, 4 inch, Modified	2,303 Sft
Sidewalk, Conc, 6 inch, Modified	879 Sft
Sidewalk Ramp, ADA, Modified	576 Sft
Conc Pavt, Misc, Nonreinf, 8 inch, Modified	13 Syd
Hand Patching	36 Ton
Embankment, CIP	1,852 Cyd
Topsoil Surface, Furn, LM, Modified	211 Cyd
Seeding, Mixture TUF	58 Lb
Mulch	1,262 Syd
Mulch Anchoring	1,262 Syd
Water, Sodding/Seeding	53 Unit
Fertilizer, Chemical Nutrient, CI A	60 Lb
Weed Control	0.30 Acre

BENCH MARKS NORTHING EASTING ELEV STATION OFFSET

SCALE
1" = 40'



PROFILE
SCALE: 1" = 40' HORIZ
1" = 2' VERT

DESCRIPTION	DATE	BY	CHECKED BY	APPROVED:

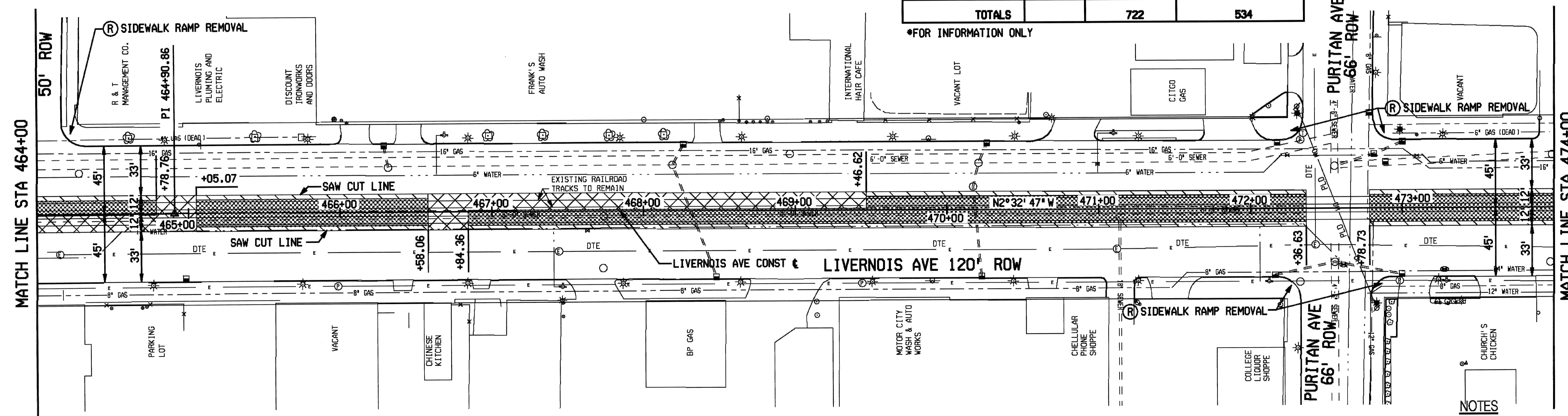
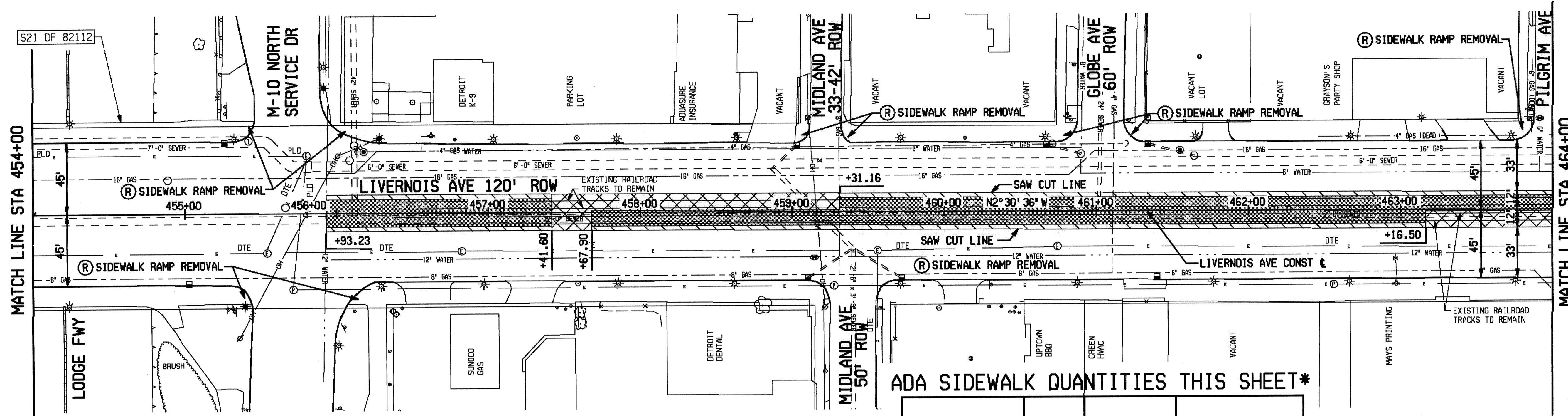


CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

LIVERNOIS AVE MEDIAN IMPROVEMENTS FROM
SOUTH OF PASADENA ST TO McNICHOLS RD
CONSTRUCTION SHEET STA 444+00 TO STA 454+00

SHEET	20 OF 82 SHEETS
CONTROL SECTION	EDCF 82163
JOB NUMBER	86170A
DATE	JULY 11, 2007

DATE: WORKED ON BY: CHECKED BY: FILE NAME: 13CDcom444.dgn



ADA SIDEWALK QUANTITIES THIS SHEET*

LOCATION LIVERNOIS AT	QUADRANT	Sidewalk, Rem		Curb, Rem, Modified	
		Syd	Ft	Syd	Ft
M-10 N SD	ALL	200	132		
MIDLAND	ALL	136	140		
GLOBE	S-N	65	56		
PILGRIM	S-N	73	84		
PURITAN	ALL	248	122		
TOTALS		722	534		

QUANTITIES THIS SHEET

Pavt, Rem, Modified	926 Syd
Cold Milling HMA Surface, Modified	930 Syd
Track, Encasement, Rem, Modified	2,935 Cyd
Excavation, Earth, Modified	464 Cyd
Sidewalk, Rem	722 Syd
Curb, Rem, Modified	534 Ft

*FOR INFORMATION ONLY

SCALE
1" = 40'

- NOTES
1. ALL DIMENSIONS ARE IN FEET
 2. FOR REMOVAL LEGEND, SEE LEGEND SHEET
 3. FOR UTILITY INFORMATION, SEE UTILITY PLANS
 4. FOR PROPERTY LINES AND RIGHT-OF-WAY INFORMATION, SEE UTILITY PLANS

DESCRIPTION	DATE	BY	CHECKED BY	APPROVED:
PLAN				
GRADE				FEDERAL PROJECT NO.
ESTIMATE				FEDERAL ITEM NO.
REVISIONS	DATE	BY	CHECKED BY	



CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

LIVERNOIS AVE MEDIAN IMPROVEMENTS FROM
SOUTH OF PASADENA ST TO McNICHOLS RD

REMOVAL SHEET STA 454+00 TO STA 474+00

SHEET 21 OF 82 SHEETS
CONTROL SECTION EDCF 82163
JOB NUMBER 86170A
DATE: JULY 11, 2007

FILE NAME: 130Drem454.dgn
CHECKED BY: DATE: WORKED ON BY: DATE:

NOTES

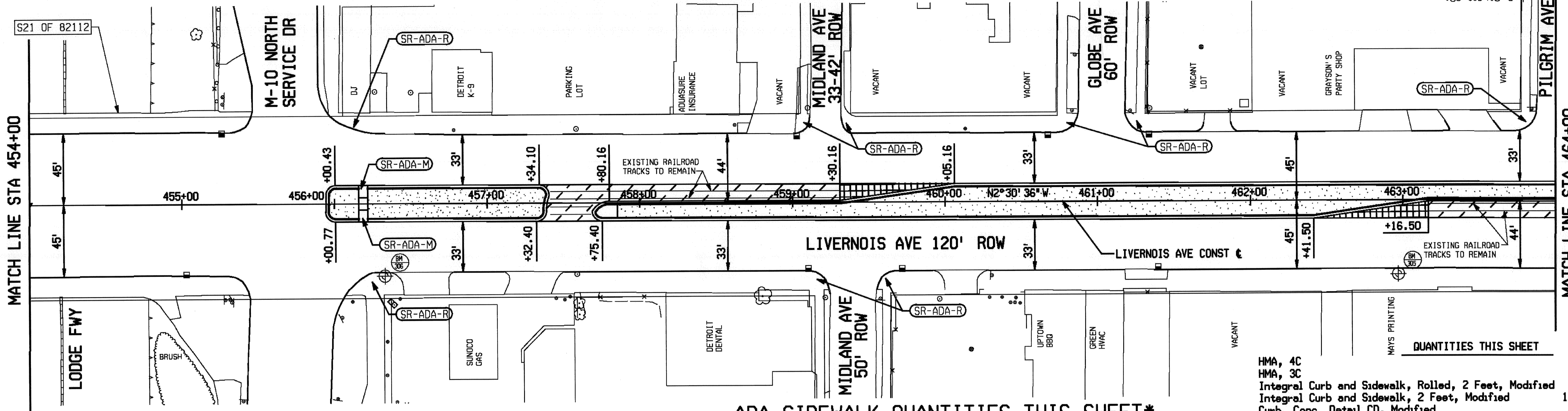
1. ALL DIMENSIONS ARE IN FEET
2. FOR UTILITY INFORMATION, SEE UTILITY PLANS
3. FOR PROPERTY LINES AND RIGHT-OF-WAY INFORMATION, SEE UTILITY PLANS
4. ALL PROPOSED RADII ARE DEFINED IN MISCELLANEOUS DETAILS SHEETS
5. PROPOSED SIDEWALK RAMP EXACT LOCATIONS AND PROPOSED GRADING DETAILS SHALL BE AS DIRECTED BY THE ENGINEER.

SCALE	HORIZONTAL	VERTICAL	BOOK NO.	PG.	LEVEL	DATE
			2020	CONV-010		

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

PROPOSED LEGEND

- TOPSOIL SURFACE, FURN, LM, MODIFIED & SEEDING, MIXTURE TUF
- HMA, 4C
- HMA, 3C
- SIDEWALK, CONC, 4 INCH OR 6 INCH, MODIFIED OR CONC PAVT, MISC, NONREINF, 8 INCH, MODIFIED
- HMA ON CONC BASE PAVT, REINF, 9 INCH, MODIFIED



ADA SIDEWALK QUANTITIES THIS SHEET*

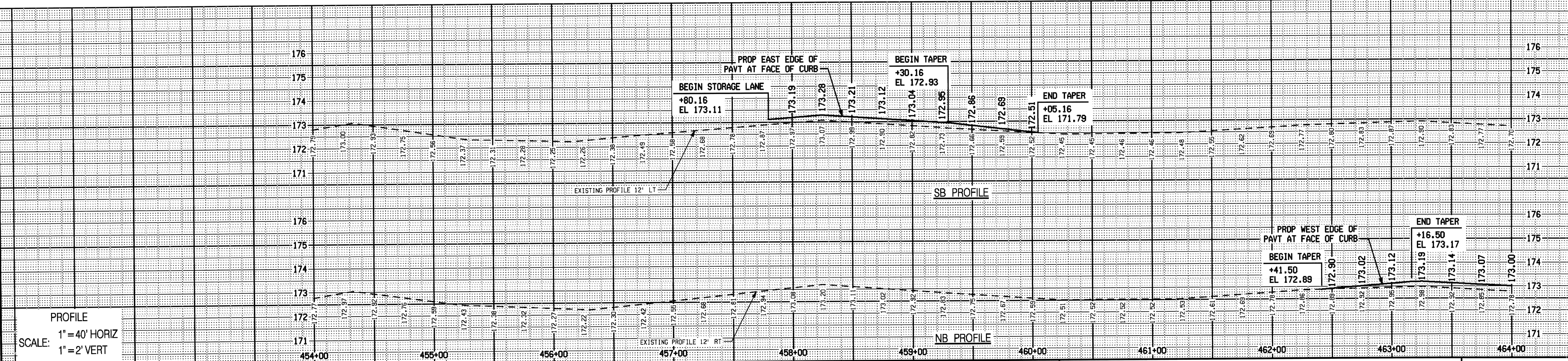
LOCATION LIVERNOIS AT	QUADRANT	Sidewalk Ramp, ADA, Modified Sft	Sidewalk, Conc, 4 inch, Modified Sft	Sidewalk, Conc, 6 inch, Modified Sft	Curb, Conc, Detail CD, Modified Ft
M-10 N SD	ALL	288	1310	200	132
MIDLAND	ALL	144	962	117	140
GLOBE	S-N	72	452	60	56
PILGRIM	S-N	72	472	110	84
TOTALS		576	3196	487	412

- QUANTITIES THIS SHEET**
- HMA, 4C 42 Ton
 - HMA, 3C 55 Ton
 - Integral Curb and Sidewalk, Rolled, 2 Feet, Modified 45 Ft
 - Integral Curb and Sidewalk, 2 Feet, Modified 1,749 Ft
 - Curb, Conc, Detail CD, Modified 412 Ft
 - Aggregate Base, 4 inch 316 Syd
 - Conc Base PAVT, Reinf, 9 Inch, Modified 115 Syd
 - Lane Tie, Epoxy Anchored 115 Ea
 - Sidewalk, Conc, 4 inch, Modified 3,196 Sft
 - Sidewalk, Conc, 6 inch, Modified 918 Sft
 - Sidewalk Ramp, ADA, Modified 576 Sft
 - Conc PAVT, Misc, Nonreinf, 8 inch, Modified 13 Syd
 - Hand Patching 39 Ton
 - Embankment, CIP 1,774 Cyd
 - Topsoil Surface, Furn, LM, Modified 209 Cyd
 - Seeding, Mixture TUF 57 Lb
 - Mulch 1,250 Syd
 - Mulch Anchoring 1,250 Syd
 - Water, Sodding/Seeding 53 Unit
 - Fertilizer, Chemical Nutrient, CI A 59 Lb
 - Weed Control 0.30 Acre

BENCH MARKS	NORTHING	EASTING	ELEV	STATION	OFFSET
BM #306 ARROW ON HYD @ N.E CORNER OF LIVERNOIS & THE LODGE	126948.5071	74755.7460	175.20	456+33.02	47.66' FT
BM #305 ARROW ON HYD EAST SIDE OF LIVERNOIS @ MAYS MASTER PAINTERS	127612.3546	74739.1675	172.29	462+97.10	48.74' FT

SCALE
1" = 40'

*FOR INFORMATION ONLY



PROFILE
SCALE: 1" = 40' HORIZ
1" = 2' VERT

PLAN	CHECKED BY	APPROVED:
GRADE		FEDERAL PROJECT NO.
ESTIMATE		FEDERAL ITEM NO.
DESCRIPTION	DRN	CCD
REVISIONS	APPD	DATE

HNTB
 CITY OF DETROIT
 DEPARTMENT OF PUBLIC WORKS
 TRAFFIC ENGINEERING DIVISION

LIVERNOIS AVE MEDIAN IMPROVEMENTS FROM
 SOUTH OF PASADENA ST TO McNICHOLS RD
 CONSTRUCTION SHEET STA 454+00 TO STA 464+00

SHEET 23 OF 62 SHEETS
 CONTROL SECTION EDCF 82163
 JOB NUMBER 86170A
 DATE: JULY 11, 2007

WORKED ON BY: DATE: CHECKED BY: DATE: FILE NAME: 13CDcon454.dgn

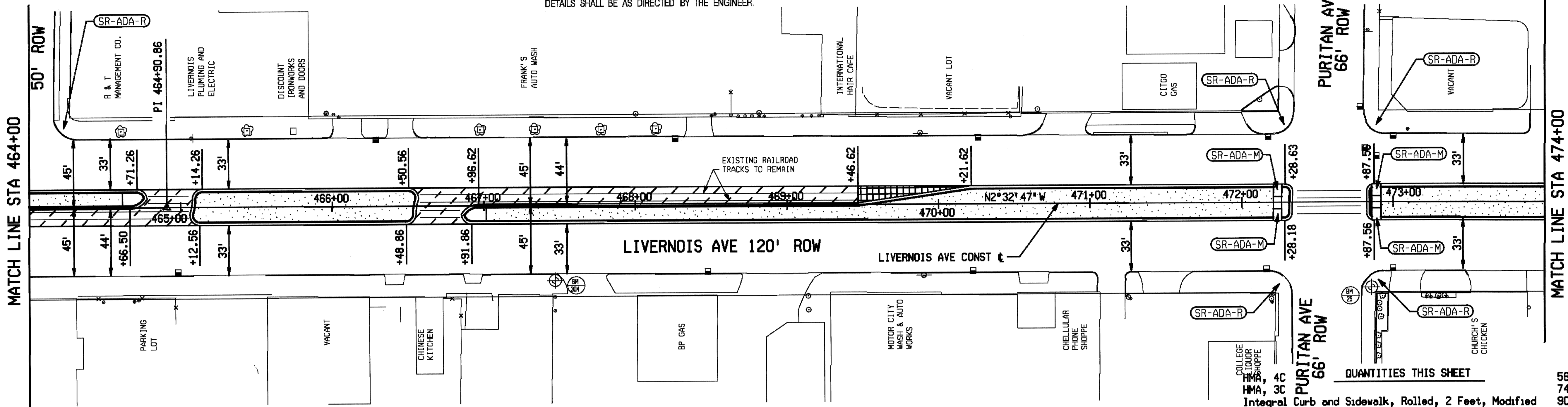
NOTES

1. ALL DIMENSIONS ARE IN FEET
2. FOR UTILITY INFORMATION, SEE UTILITY PLANS
3. FOR PROPERTY LINES AND RIGHT-OF-WAY INFORMATION, SEE UTILITY PLANS
4. ALL PROPOSED RADII ARE DEFINED IN MISCELLANEOUS DETAILS SHEETS
5. PROPOSED SIDEWALK RAMP EXACT LOCATIONS AND PROPOSED GRADING DETAILS SHALL BE AS DIRECTED BY THE ENGINEER.

SCALE	HORIZONTAL	VERTICAL	BOOK NO.	PG.	LEVEL	DATE
			TR-10	COMPLETED		

PROPOSED LEGEND

- TOPSOIL SURFACE, FURN, LM, MODIFIED & SEEDING, MIXTURE TUF
- HMA, 4C
- HMA, 3C
- SIDEWALK, CONC, 4 INCH OR 6 INCH, MODIFIED OR CONC PAVT, MISC, NONREINF, 8 INCH, MODIFIED
- HMA ON CONC BASE PAVT, REINF, 9 INCH, MODIFIED



BENCH MARKS	NORTHING	EASTING	ELEV	STATION	OFFSET
BM #304 ARROW ON HYD EAST SIDE OF LIVERNOIS @ SOUTH SIDE OF BP GAS STATION	128062.1948	74726.0163	174.94	467+47.07	49.40' RT
BM #25 CITY OF DETROIT BENCHMARK 25-251 4'SNL PURITAN 4'WEL LIVERNOIS	128600.8385	74717.3274	169.19	472+86.74	56.20' RT

ADA SIDEWALK QUANTITIES THIS SHEET*

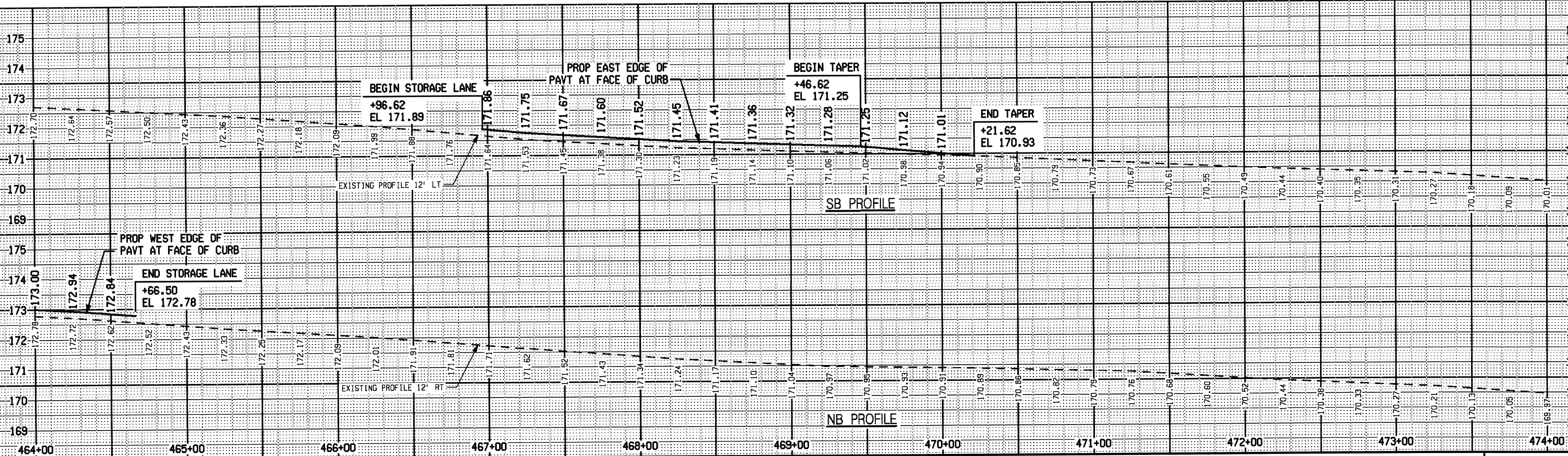
LOCATION LIVERNOIS AT	QUADRANT	Sidewalk Ramp, ADA, Modified	Sidewalk, Conc, 4 inch, Modified	Sidewalk, Conc, 6 inch, Modified	Curb, Conc, Detail CD, Modified
		Sft	Sft	Sft	Ft
PURITAN	ALL	288	1511	114	122
TOTALS		288	1511	114	122

*FOR INFORMATION ONLY

QUANTITIES THIS SHEET

HMA, 4C	56 Ton
HMA, 3C	74 Ton
Integral Curb and Sidewalk, Rolled, 2 Feet, Modified	90 Ft
Integral Curb and Sidewalk, 2 Feet, Modified	1,786 Ft
Curb, Conc, Detail CD, Modified	122 Ft
Aggregate Base, 4 inch	330 Syd
Conc Base Pavt, Reinf, 9 Inch, Modified	90 Syd
Lane Tie, Epoxy Anchored	90 Ea
Sidewalk, Conc, 4 inch, Modified	1,511 Sft
Sidewalk, Conc, 6 inch, Modified	328 Sft
Sidewalk Ramp, ADA, Modified	288 Sft
Conc Pavt, Misc, Nonreinf, 8 inch, Modified	25 Syd
Hand Patching	41 Ton
Embankment, CIP	2,038 Cyd
Topsoil Surface, Furn, LM, Modified	239 Cyd
Seeding, Mixture TUF	65 Lb
Mulch	1,430 Syd
Mulch Anchoring	1,430 Syd
Water, Sodding/Seeding	61 Unit
Fertilizer, Chemical Nutrient, CI A	68 Lb
Weed Control	0.30 Acre

SCALE
1" = 40'



PROFILE
SCALE: 1" = 40' HORIZ
1" = 2' VERT

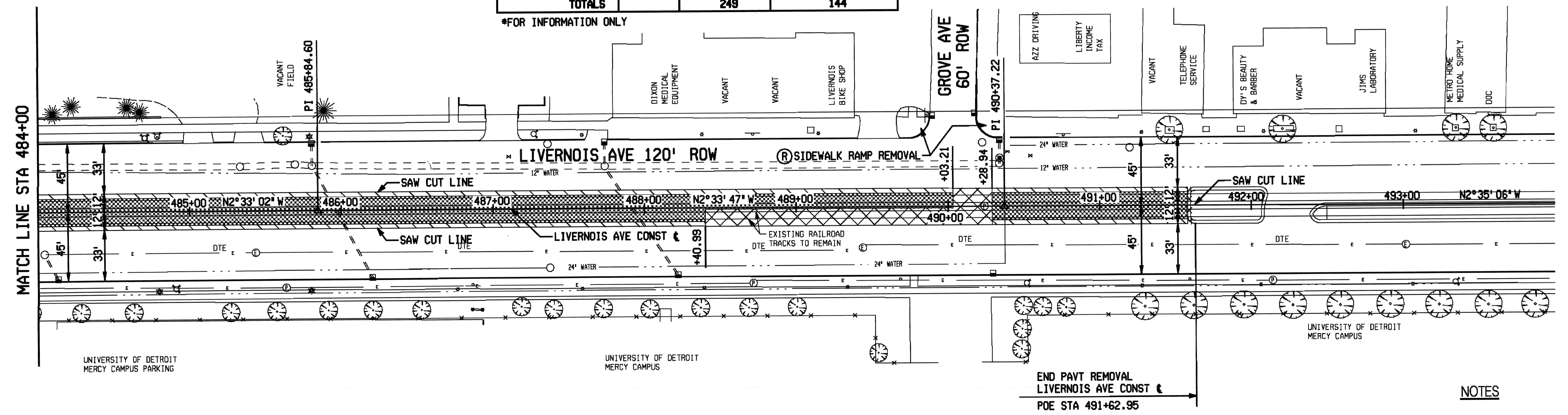
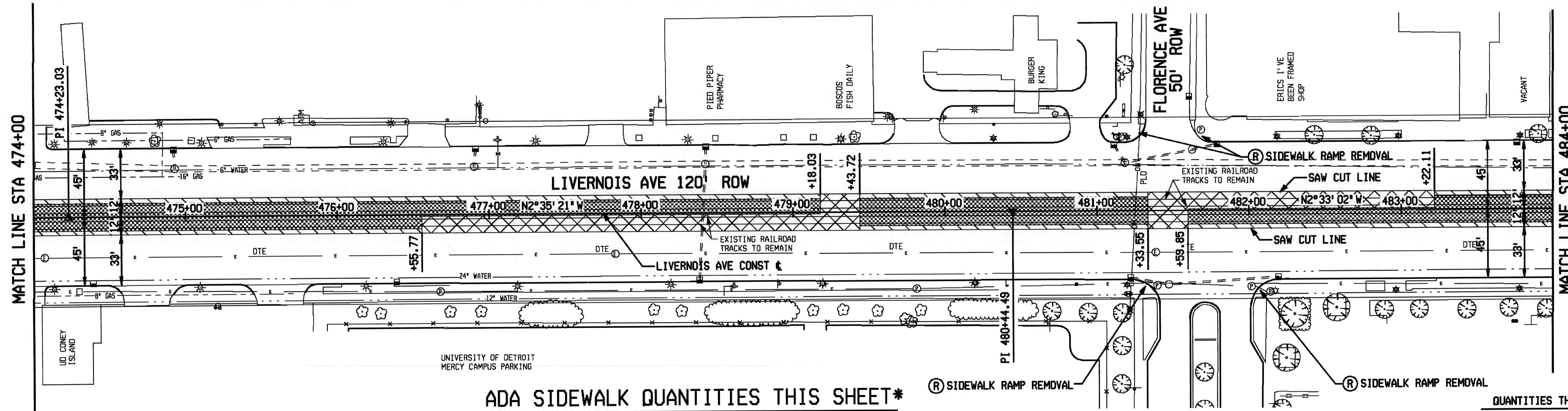
PLAN	CHECKED BY	APPROVED:	HNTB	CITY OF DETROIT DEPARTMENT OF PUBLIC WORKS TRAFFIC ENGINEERING DIVISION		LIVERNOIS AVE MEDIAN IMPROVEMENTS FROM SOUTH OF PASADENA ST TO McNICHOLS RD	
GRADE		FEDERAL PROJECT NO.		CONSTRUCTION SHEET STA 464+00 TO STA 474+00		SHEET 24 OF 82 SHEETS	
ESTIMATE		FEDERAL ITEM NO.				CONTROL SECTION EDCF 82163	
DESCRIPTION	DRN	CCD	APPD	DATE	CHECK	REVIEW	JOB NUMBER 86170A
							DATE: JULY 11, 2007

WORKED ON BY: DATE:

CHECKED BY: DATE:

FILE NAME: 13CDcon464.dgn

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



ADA SIDEWALK QUANTITIES THIS SHEET*

LOCATION LIVERNOIS AT	QUADRANT	Sidewalk, Rem		Curb, Rem, Modified	
		Syd	Ft	Syd	Ft
FLORENCE	ALL	184		102	
GROVE	S-N	65		42	
TOTALS		249		144	

*FOR INFORMATION ONLY

QUANTITIES THIS SHEET

Pavt, Rem, Modified	920 Syd
Cold Milling HMA Surface, Modified	926 Syd
Track, Encasement, Rem, Modified	2,920 Cyd
Excavation, Earth, Modified	460 Cyd
Sidewalk, Rem	249 Syd
Curb, Rem, Modified	174 Ft

SCALE
1" = 40'

NOTES

1. ALL DIMENSIONS ARE IN FEET
2. FOR REMOVAL LEGEND, SEE LEGEND SHEET
3. FOR UTILITY INFORMATION, SEE UTILITY PLANS
4. FOR PROPERTY LINES AND RIGHT-OF-WAY INFORMATION, SEE UTILITY PLANS

DESCRIPTION	BY	CHECKED BY	APPROVED:
PLAN			
GRADE			FEDERAL PROJECT NO.
ESTIMATE			FEDERAL ITEM NO.
REVISIONS	DRN	CCD	APAD
	DATE	CHECK	REVIEW

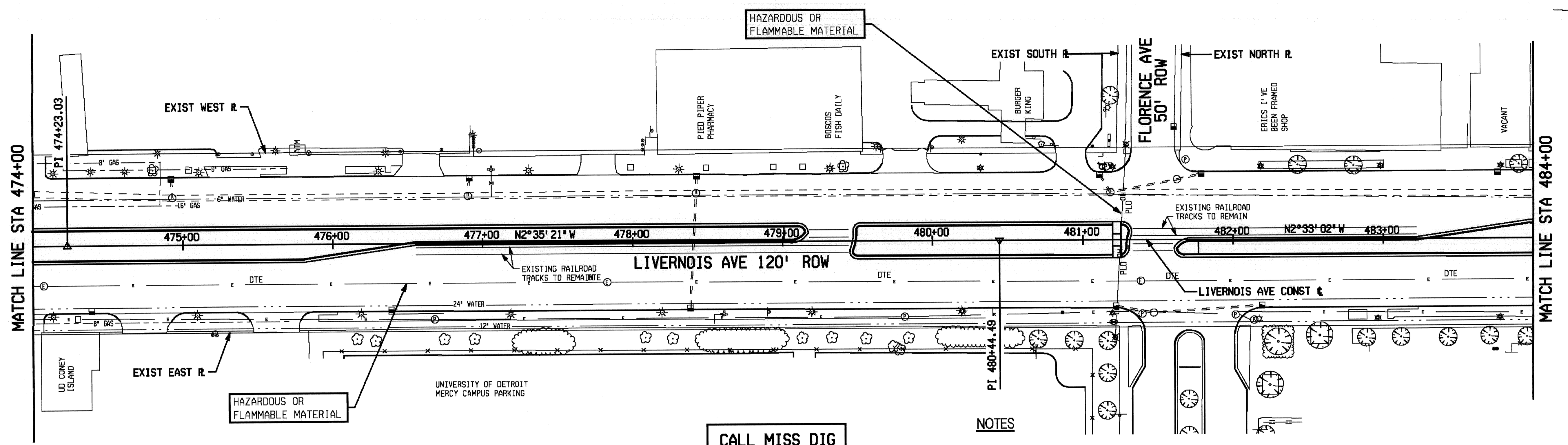


CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

LIVERNOIS AVE MEDIAN IMPROVEMENTS FROM
SOUTH OF PASADENA ST TO McNICHOLS RD
REMOVAL SHEET STA 474+00 TO POE STA 491+62.95

SHEET 25 OF 82 SHEETS
CONTROL SECTION EDCF 82163
JOB NUMBER 86170A
DATE: JULY 11, 2007

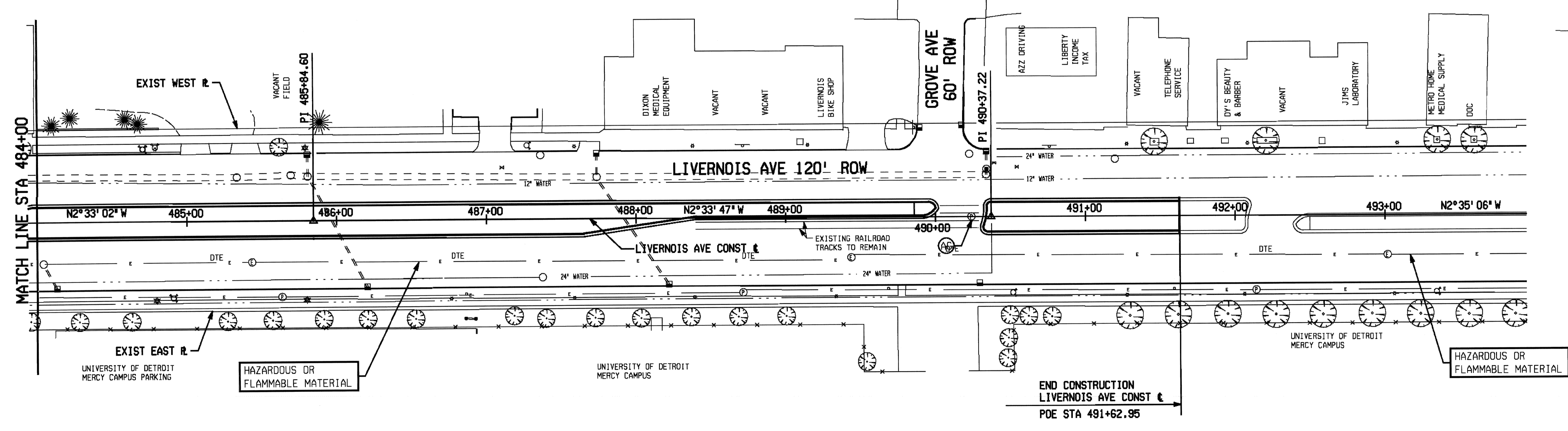
CHECKED BY: WORKED ON BY: DATE: FILE NAME: 1:300rem474.dgn



CALL MISS DIG
3 WORKING DAYS PRIOR
TO CONSTRUCTION
1-800-482-7171

- NOTES**
1. ALL DIMENSIONS ARE IN FEET
 2. FOR UTILITY LEGEND, SEE LEGEND SHEET
 3. UTILITY LINE LOCATIONS ARE DIMENSIONED FROM EXISTING PROPERTY LINES
 4. LOCATIONS OF EXISTING UTILITY LINES ARE BASED UPON BEST AVAILABLE RECORDS AND ARE NOT GUARANTEED FOR ACCURACY

QUANTITIES THIS SHEET
Dr Structure Cover, Adj, Case 1, Modified 1 Ea



SCALE
1" = 40'

DESCRIPTION	DATE	BY	CHECKED BY	APPROVED:
PLAN				
GRADE				FEDERAL PROJECT NO.
ESTIMATE				FEDERAL ITEM NO.
REVISIONS				

HNTB

CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

LIVERNOIS AVE MEDIAN IMPROVEMENTS FROM
SOUTH OF PASADENA ST TO McNICHOLS RD

UTILITY SHEET STA 474+00 TO POE STA 491+62.95

SHEET	26 OF 82 SHEETS
CONTROL SECTION	EDCF 82163
JOB NUMBER	86170A
DATE	JULY 11, 2007

FILE NAME: 13CD011474.dgn
CHECKED BY:
DATE:
WORKED ON BY:
DATE:

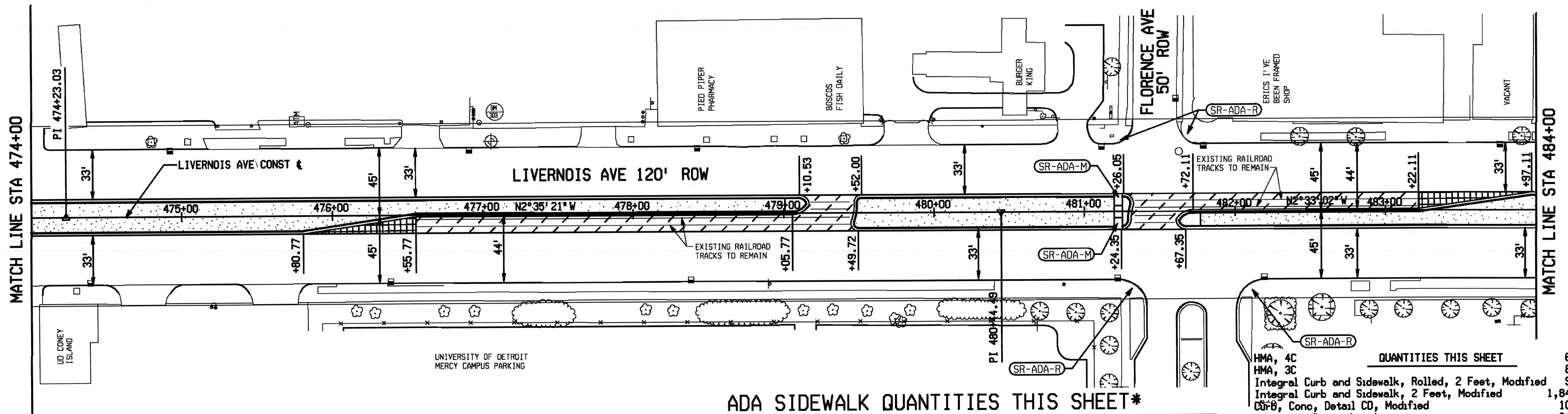
NOTES

1. ALL DIMENSIONS ARE IN FEET
2. FOR UTILITY INFORMATION, SEE UTILITY PLANS
3. FOR PROPERTY LINES AND RIGHT-OF-WAY INFORMATION, SEE UTILITY PLANS
4. ALL PROPOSED RADII ARE DEFINED IN MISCELLANEOUS DETAILS SHEETS
5. PROPOSED SIDEWALK RAMP EXACT LOCATIONS AND PROPOSED GRADING DETAILS SHALL BE AS DIRECTED BY THE ENGINEER.

SCALE	HORIZONTAL	VERTICAL	BOOK NO.	PG.	LEVEL	DATE

PROPOSED LEGEND

- TOPSOIL SURFACE, FURN, LM, MODIFIED & SEEDING, MIXTURE TUF
- HMA, 4C
- HMA, 3C
- SIDEWALK, CONC, 4 INCH OR 6 INCH, MODIFIED OR CONC PAVT, MISC, NONREINF, 8 INCH, MODIFIED
- HMA ON CONC BASE PAVT, REINF, 9 INCH, MODIFIED



ADA SIDEWALK QUANTITIES THIS SHEET*

LOCATION LIVERNOIS AT	QUADRANT	Sidewalk Ramp, ADA, Modified SFt	Sidewalk, Conc, 4 inoh, Modified SFt	Sidewalk, Conc, 6 inoh, Modified SFt	Curb, Conc, Detail CD, Modified Ft
FLORENCE	ALL	216	1320	114	102
TOTALS		216	1320	114	102

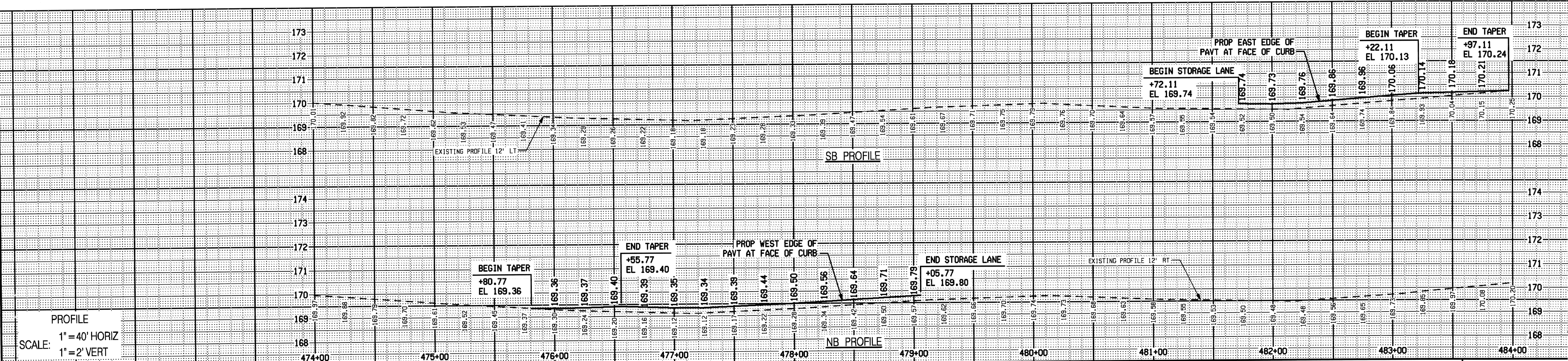
*FOR INFORMATION ONLY

QUANTITIES THIS SHEET

HMA, 4C	67 Ton
HMA, 3C	89 Ton
Integral Curb and Sidewalk, Rolled, 2 Feet, Modified	90 Ft
Integral Curb and Sidewalk, 2 Feet, Modified	1,849 Ft
Curb, Conc, Detail CD, Modified	102 Ft
Aggregate Base, 4 inch	342 Syd
Conc Base Pavt, Reinf, 9 Inch, Modified	124 Syd
Lane Tie, Epoxy Anchored	124 Ea
Sidewalk, Conc, 4 inoh, Modified	1,320 Sft
Sidewalk, Conc, 6 inoh, Modified	235 Sft
Sidewalk Ramp, ADA, Modified	216 Sft
Conc Pavt, Misc, Nonreinf, 8 inoh, Modified	25 Syd
Hand Patching	42 Ton
Embankment, CIP	2,019 Cyd
Topsoil Surface, Furn, LM, Modified	237 Cyd
Seeding, Mixture TUF	65 Lb
Mulch	1,421 Syd
Mulch Anchoring	1,421 Syd
Water, Sodding/Seeding	60 Unit
Fertilizer, Chemical Nutrient, CI A	67 Lb
Weed Control	0.30 Acre

BENCH	MARKS	NORTHING	EASTING	ELEV	STATION	OFFSET
BM #303	ARROW ON HYD WEST SIDE OF LIVERNOIS @ PIED PIPER MARKET	129017.6799	74599.7922	172.01	477+05.83	49.10' LT

SCALE
1" = 40'



<p>PROFILE SCALE: 1" = 40' HORIZ 1" = 2' VERT</p>		<p>BY: _____ CHECKED BY: _____ APPROVED: _____</p>		<p>HNTB</p>	<p>CITY OF DETROIT DEPARTMENT OF PUBLIC WORKS TRAFFIC ENGINEERING DIVISION</p>	<p>LIVERNOIS AVE MEDIAN IMPROVEMENTS FROM SOUTH OF PASADENA ST TO McNICHOLS RD CONSTRUCTION SHEET STA 474+00 TO STA 484+00</p>	<p>SHEET 27 OF 82 SHEETS CONTROL SECTION EDCF 82163 JOB NUMBER 86170A DATE: JULY 11, 2007</p>
<p>DESCRIPTION REVISIONS</p>		<p>FEDERAL PROJECT NO. FEDERAL ITEM NO.</p>					

WORKED ON BY: _____ DATE: _____

CHECKED BY: _____ DATE: _____

FILE NAME: I:\300\con474.dgn

NOTES

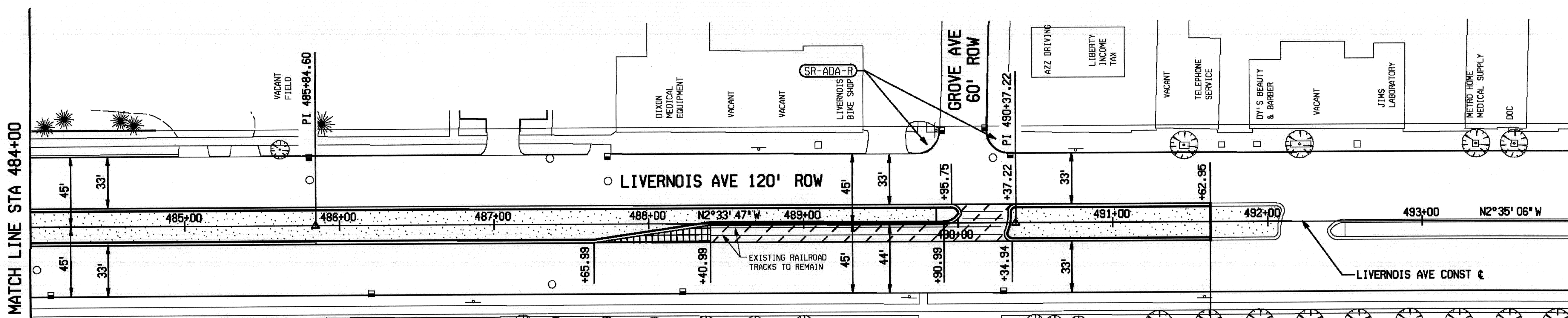
1. ALL DIMENSIONS ARE IN FEET
2. FOR UTILITY INFORMATION, SEE UTILITY PLANS
3. FOR PROPERTY LINES AND RIGHT-OF-WAY INFORMATION, SEE UTILITY PLANS
4. ALL PROPOSED RADII ARE DEFINED IN MISCELLANEOUS DETAILS SHEETS
5. PROPOSED SIDEWALK RAMP EXACT LOCATIONS AND PROPOSED GRADING DETAILS SHALL BE AS DIRECTED BY THE ENGINEER.

SCALE	HORIZONTAL	VERTICAL	BOOK NO.	PG.	LEVEL	DATE

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

PROPOSED LEGEND

- TOPSOIL SURFACE, FURN, LM, MODIFIED & SEEDING, MIXTURE TUF
- HMA, 4C
- HMA, 3C
- SIDEWALK, CONC, 4 INCH OR 6 INCH, MODIFIED OR CONC PAVT, MISC, NONREINF, 8 INCH, MODIFIED
- HMA ON CONC BASE PAVT, REINF, 9 INCH, MODIFIED



ADA SIDEWALK QUANTITIES THIS SHEET*

LOCATION LIVERNOIS AT	QUADRANT	Sidewalk Ramp, ADA, Modified	Sidewalk, Conc, 4 inch, Modified	Sidewalk, Conc, 6 inch, Modified	Curb, Conc, Detail CD, Modified
		Sft	Sft	Sft	Ft
GROVE	S-N	72	456	57	42
TOTALS		72	456	57	42

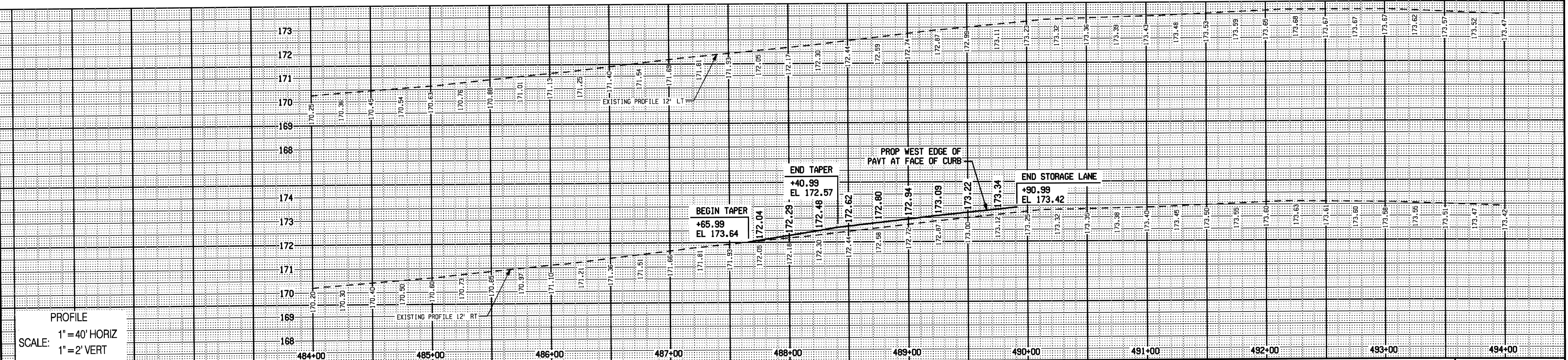
*FOR INFORMATION ONLY

QUANTITIES THIS SHEET

HMA, 4C	29 Ton
HMA, 3C	38 Ton
Integral Curb and Sidewalk, Rolled, 2 Feet, Modified	45 Ft
Integral Curb and Sidewalk, 2 Feet, Modified	1,451 Ft
Curb, Conc, Detail CD, Modified	42 Ft
Aggregate Base, 4 inch	264 Syd
Conc Base Pavt, Reinf, 9 Inch, Modified	63 Syd
Lane Tie, Epoxy Anchored	63 Ea
Sidewalk, Conc, 4 inch, Modified	456 Sft
Sidewalk, Conc, 6 inch, Modified	57 Sft
Sidewalk Ramp, ADA, Modified	72 Sft
Conc Pavt, Misc, Nonreinf, 8 inch, Modified	13 Syd
Hand Patching	32 Ton
Embankment, CIP	1,846 Cyd
Topsoil Surface, Furn, LM, Modified	228 Cyd
Seeding, Mixture TUF	63 Lb
Mulch	1,365 Syd
Mulch Anchoring	1,365 Syd
Water, Sodding/Seeding	58 Unit
Fertilizer, Chemical Nutrient, CI A	65 Lb
Weed Control	0.30 Acre

BENCH MARKS NORTHING EASTING ELEV STATION OFFSET

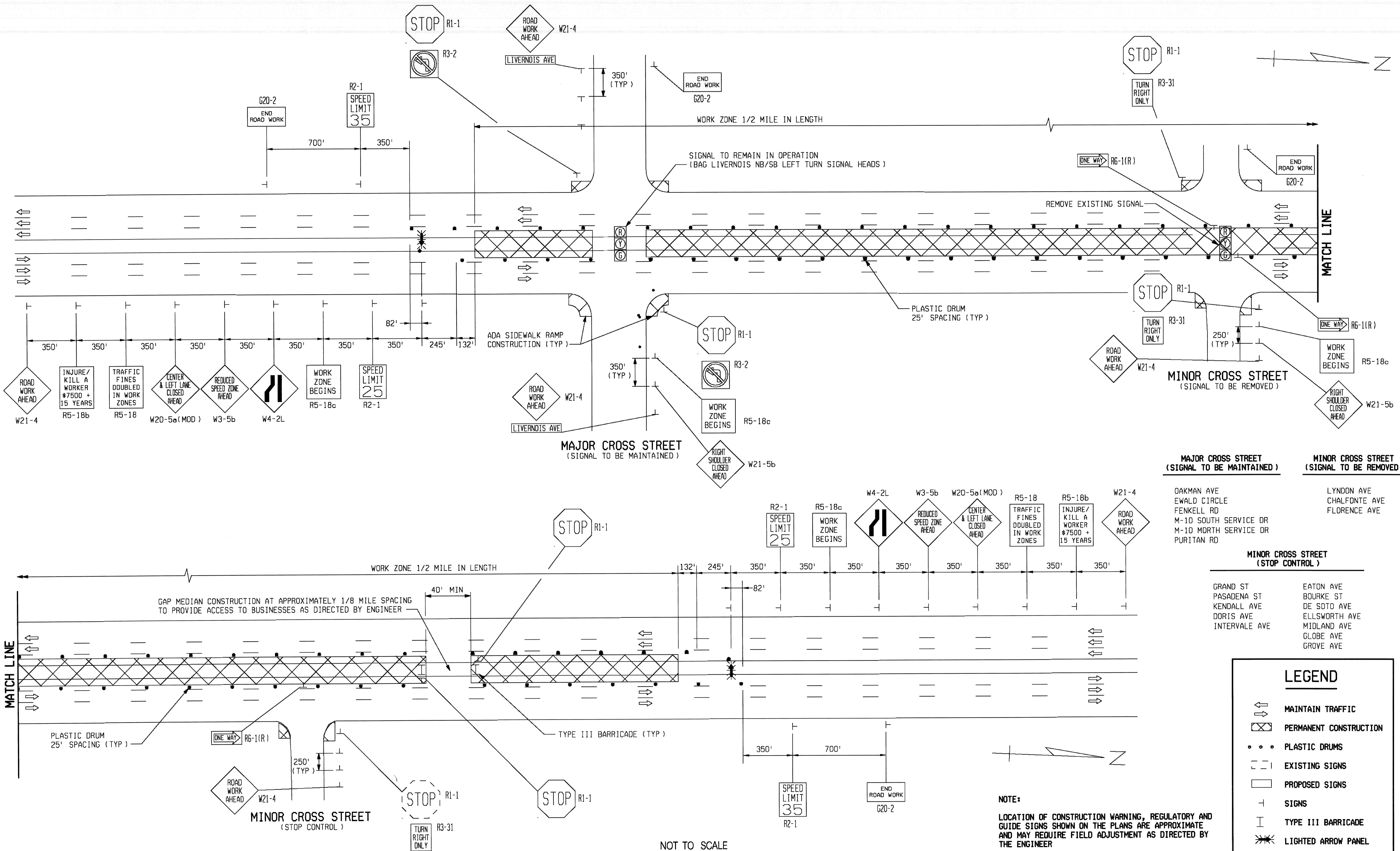
SCALE 1" = 40'



PROFILE SCALE: 1" = 40' HORIZ, 1" = 2' VERT

<p>HNTB</p>		<p>CITY OF DETROIT DEPARTMENT OF PUBLIC WORKS TRAFFIC ENGINEERING DIVISION</p>		<p>LIVERNOIS AVE MEDIAN IMPROVEMENTS FROM SOUTH OF PASADENA ST TO McNICHOLS RD</p>		<p>SHEET 28 OF 82 SHEETS CONTROL SECTION EDCF 82163 JOB NUMBER 86170A DATE: JULY 11, 2007</p>	
<p>APPROVED:</p>		<p>FEDERAL PROJECT NO.</p>		<p>FEDERAL ITEM NO.</p>		<p>CONSTRUCTION SHEET STA 484+00 TO POE STA 491+62.95</p>	

WORKED ON BY: DATE: CHECKED BY: DATE: FILE NAME: 1300con484.dgn



NOT TO SCALE

DESCRIPTION	BY	CHECKED BY	APPROVED:
PLAN			FEDERAL PROJECT NO.
GRADE			FEDERAL ITEM NO.
ESTIMATE			
DATE	DATE	DATE	
FINAL	CHECK	REVIEW	

HNTB

CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

LIVERNOIS AVE MEDIAN IMPROVEMENTS FROM
SOUTH OF PASADENA ST TO McNICHOLS RD

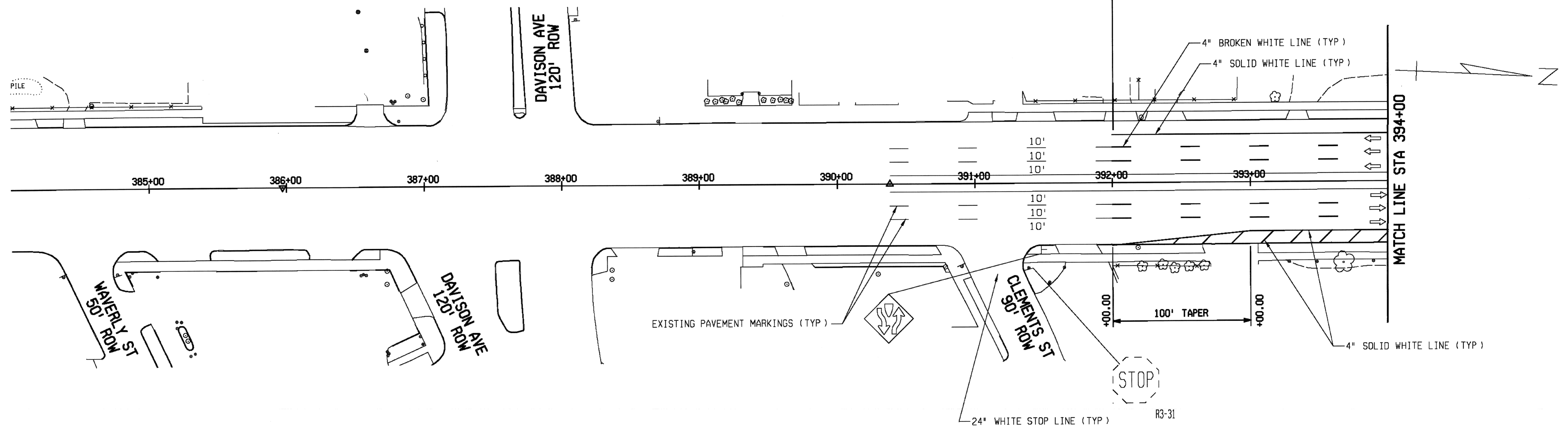
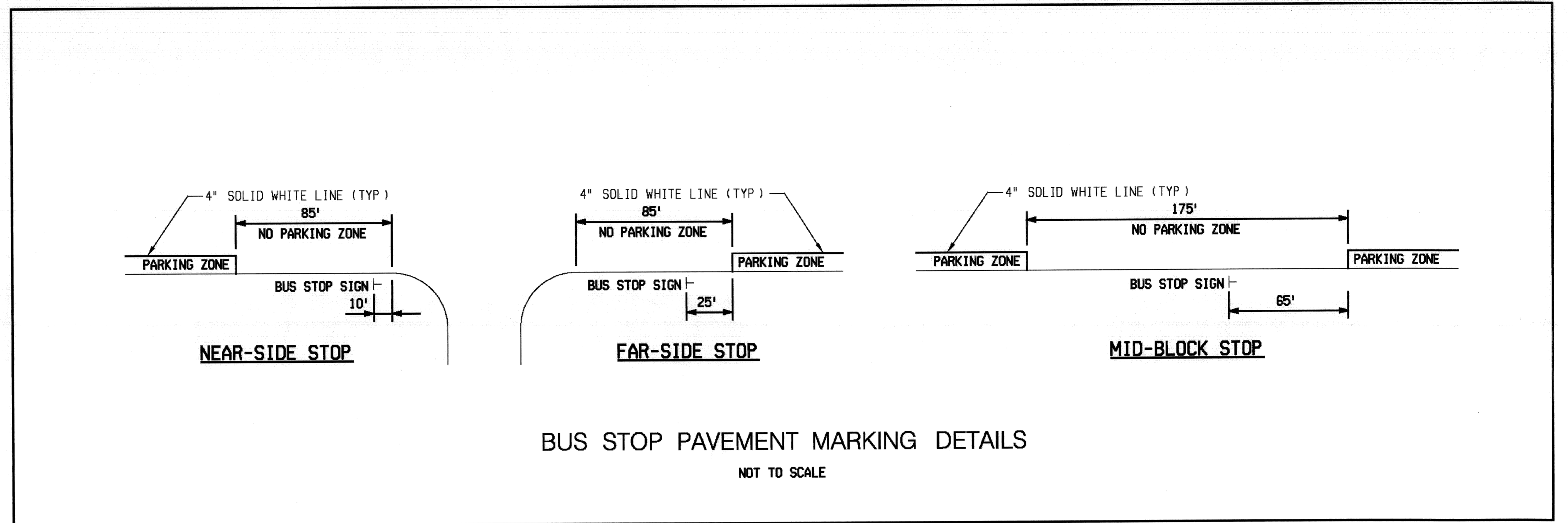
MAINTENANCE OF TRAFFIC

SHEET 29 OF 62 SHEETS
CONTROL SECTION EDCF 82163
JOB NUMBER 86170A
DATE: JULY 11, 2007

FILE NAME: I3CDMGT.dgn CHECKED BY: WORKED ON BY: DATE:

NOTES

1. EDGE OF PROPOSED SIGNS TO BE PLACED A MINIMUM OF 2 FEET FROM BACK OF CURB
 2. PROPOSED SIGN LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE AND MAY BE ADJUSTED IN THE FIELD AS DIRECTED BY ENGINEER
 3. ALL SIGNS WILL BE INSTALLED BY CITY OF DETROIT
 4. LOCATION OF PROPOSED PAVEMENT MARKING ARROWS AND ONLY LEGEND TO BE DETERMINED BY ENGINEER
 5. ALL MEDIAN NOSES FROM SPRING POINT TO SPRING POINT ARE TO BE PAINTED WITH YELLOW RETROREFLECTIVE PAINT
 6. THE OUTSIDE 4" SOLID WHITE EDGE/PARKING LINES WILL BE GAPPED OUT AT ALL DRIVEWAY CURB CUTS & EAST/WEST PED X-INGS TO A DISTANCE 20' NORTH/SOUTH OF THE NEAREST CURB CUT/PED X-ING.
 7. PARKING WILL BE RESTRICTED AT EXISTING BUS STOP LOCATIONS TO MAINTAIN BUS ACCESS. SEE BUS STOP PAVEMENT MARKING DETAILS.
- SEE SIGNAL PLANS FOR SIGNAL DETAILS



DESCRIPTION	DATE	BY	CHECKED BY	APPROVED:
PLAN				
GRADE				FEDERAL PROJECT NO.
ESTIMATE				FEDERAL ITEM NO.
REVISIONS				

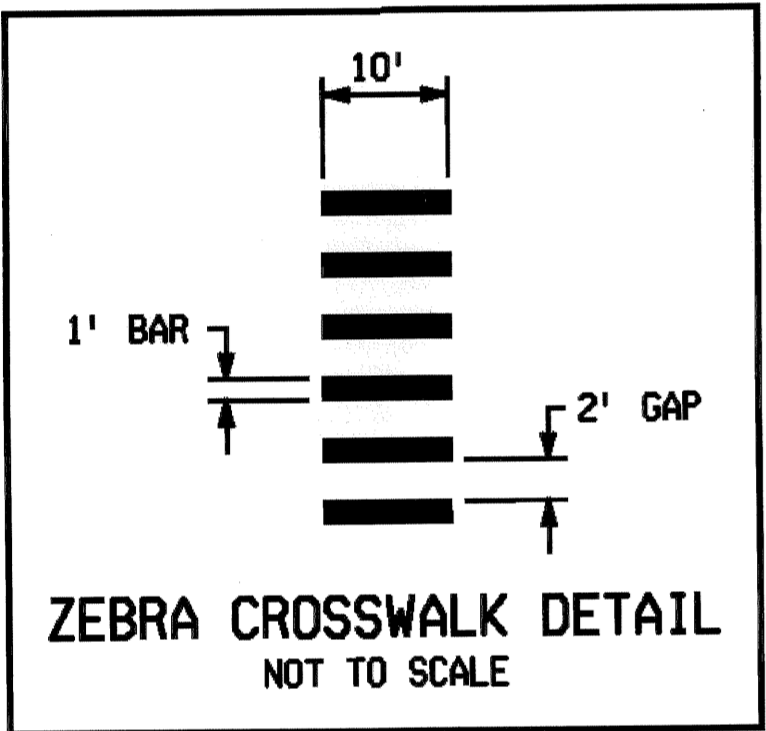
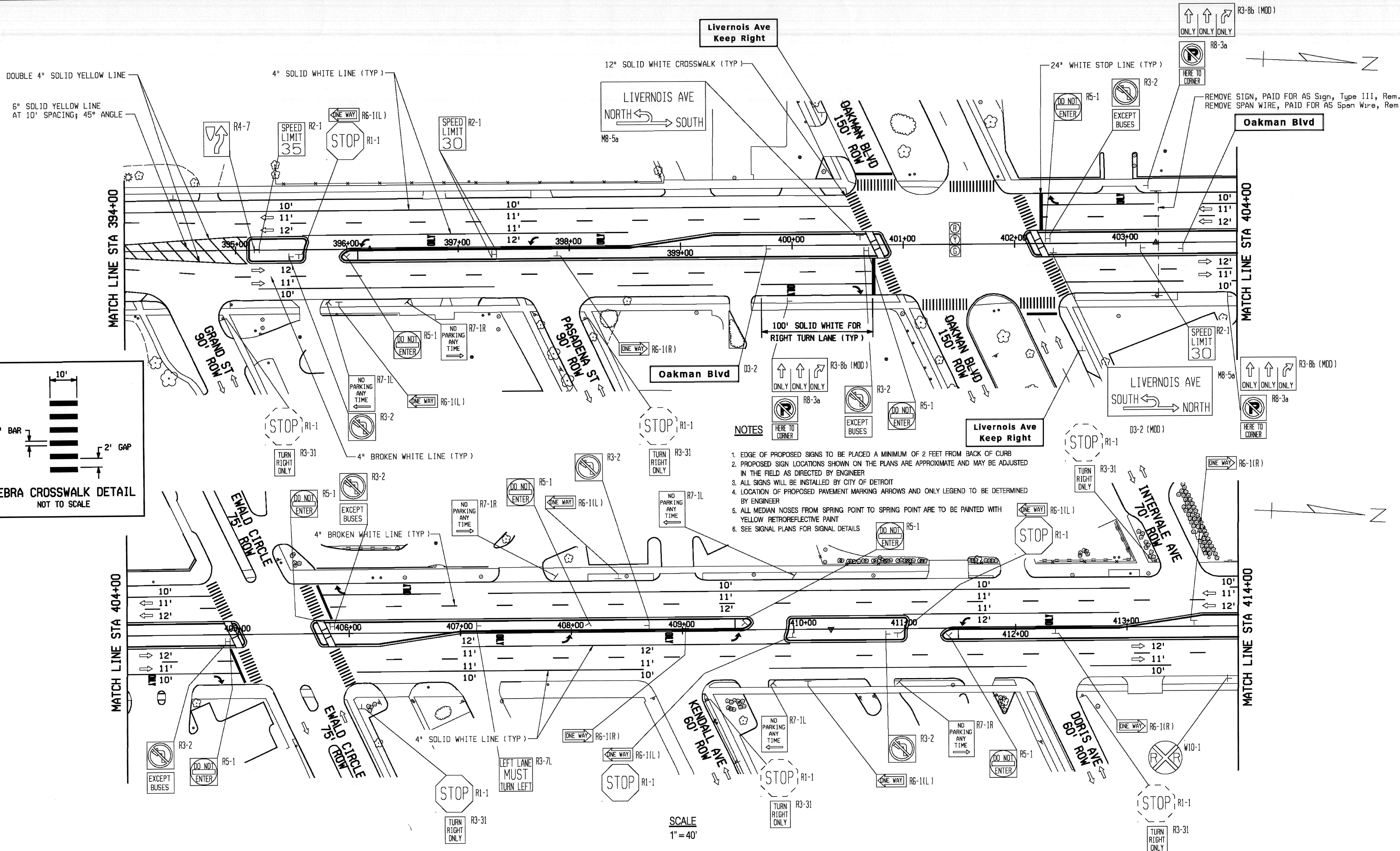
HNTB

CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

LIVERNOIS AVE MEDIAN IMPROVEMENTS FROM SOUTH OF PASADENA ST TO McNICHOLS RD
PERMANENT SIGNING AND PAVEMENT MARKINGS
STA 392+00.00 TO STA 394+00

SHEET 30	OF 62 SHEETS
CONTROL SECTION	EDCF 82163
JOB NUMBER	86170A
DATE:	JULY 11, 2007

FILE NAME: I30Dpm374.dgn
CHECKED BY:
WORKED ON BY:
DATE:



NOTES

- EDGE OF PROPOSED SIGNS TO BE PLACED A MINIMUM OF 2 FEET FROM BACK OF CURB
- PROPOSED SIGN LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE AND MAY BE ADJUSTED IN THE FIELD AS DIRECTED BY ENGINEER
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- SEE SIGNAL PLANS FOR SIGNAL DETAILS

SCALE
1" = 40'

DESCRIPTION	DATE	BY	CHECKED BY	APPROVED:
PLAN				
GRADE				FEDERAL PROJECT NO.
ESTIMATE				FEDERAL ITEM NO.
DRN	CXD	APVD	DATE	CHECK
REVISIONS				

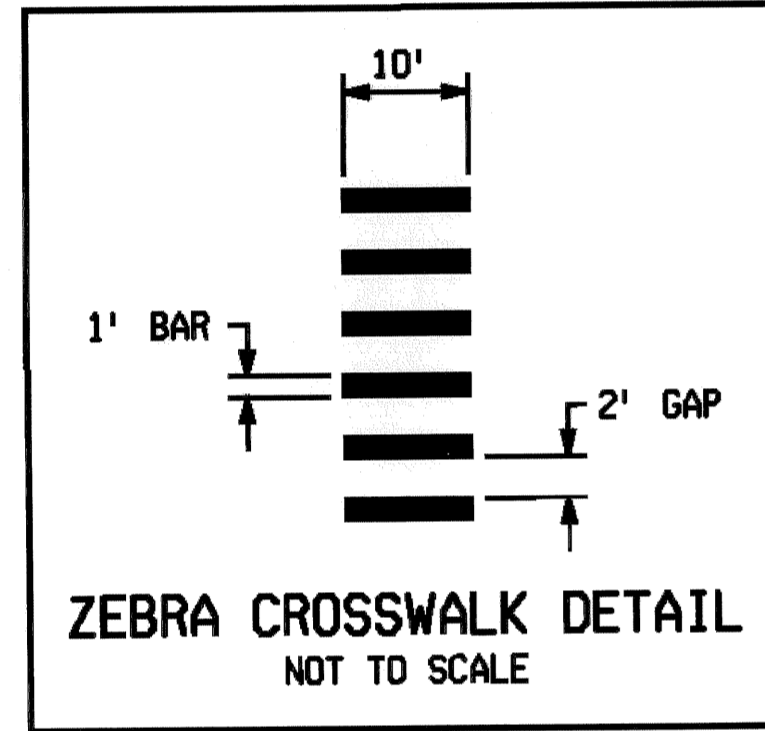
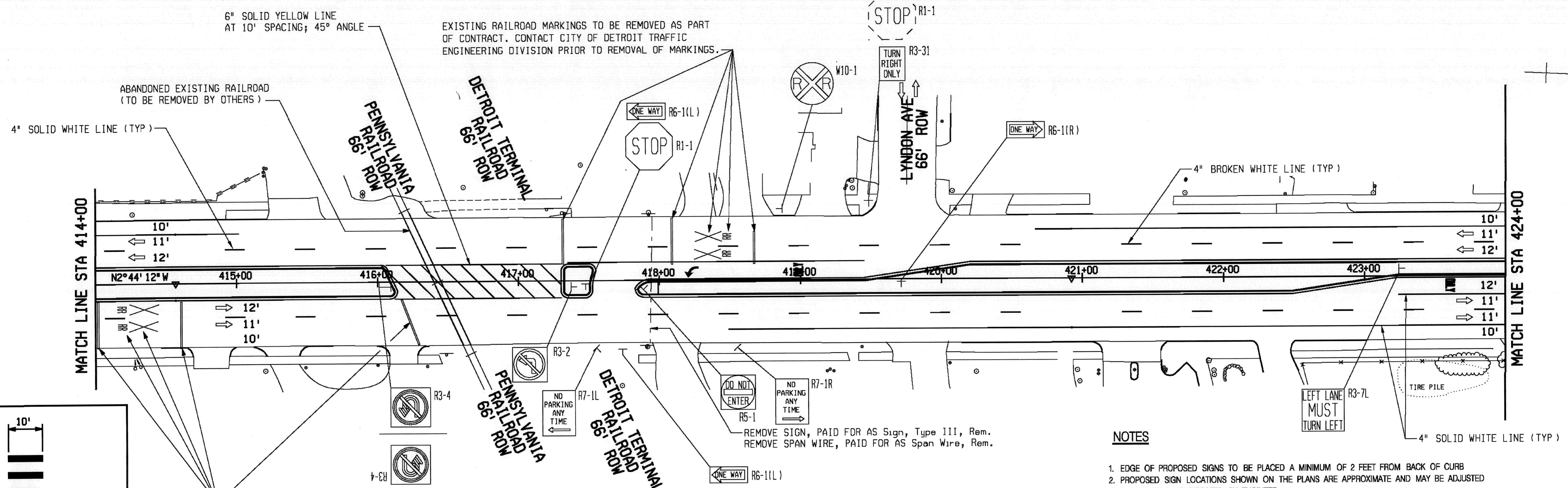
HNTB

CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

LIVERNOIS AVE MEDIAN IMPROVEMENTS FROM SOUTH OF PASADENA ST TO McNICHOLS RD
PERMANENT SIGNING AND PAVEMENT MARKINGS
STA 394+00 TO STA 414+00

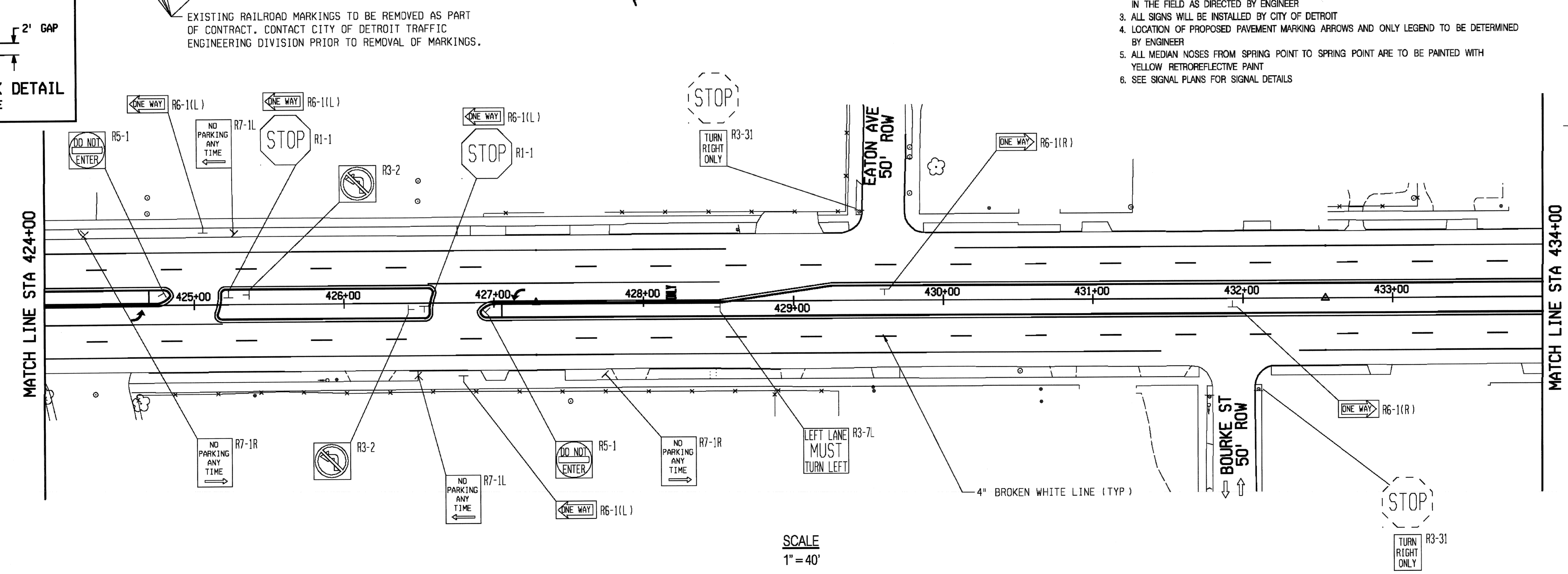
SHEET	31 OF 62 SHEETS
CONTROL SECTION	EDCF 82163
JOB NUMBER	86170A
DATE:	JULY 11, 2007

FILE NAME: 13CDpm394.dgn
CHECKED BY:
DATE:
WORKED ON BY:
DATE:



NOTES

- EDGE OF PROPOSED SIGNS TO BE PLACED A MINIMUM OF 2 FEET FROM BACK OF CURB
- PROPOSED SIGN LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE AND MAY BE ADJUSTED IN THE FIELD AS DIRECTED BY ENGINEER
- ALL SIGNS WILL BE INSTALLED BY CITY OF DETROIT
- LOCATION OF PROPOSED PAVEMENT MARKING ARROWS AND ONLY LEGEND TO BE DETERMINED BY ENGINEER
- ALL MEDIAN NOSES FROM SPRING POINT TO SPRING POINT ARE TO BE PAINTED WITH YELLOW RETROREFLECTIVE PAINT
- SEE SIGNAL PLANS FOR SIGNAL DETAILS



SCALE
1" = 40'

DESCRIPTION	DATE	BY	CHECKED BY	APPROVED:
PLAN				
GRADE				FEDERAL PROJECT NO.
ESTIMATE				FEDERAL ITEM NO.
REVISIONS				

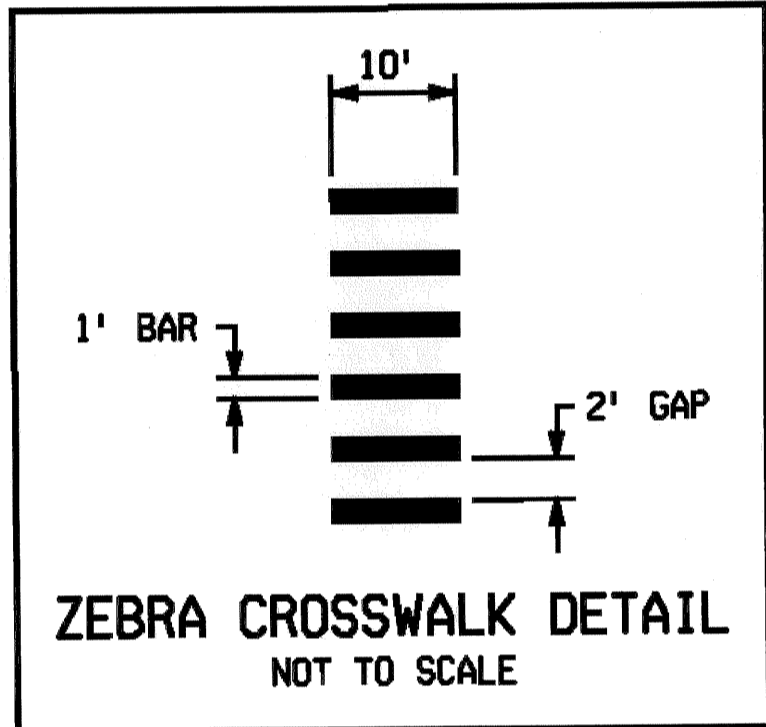
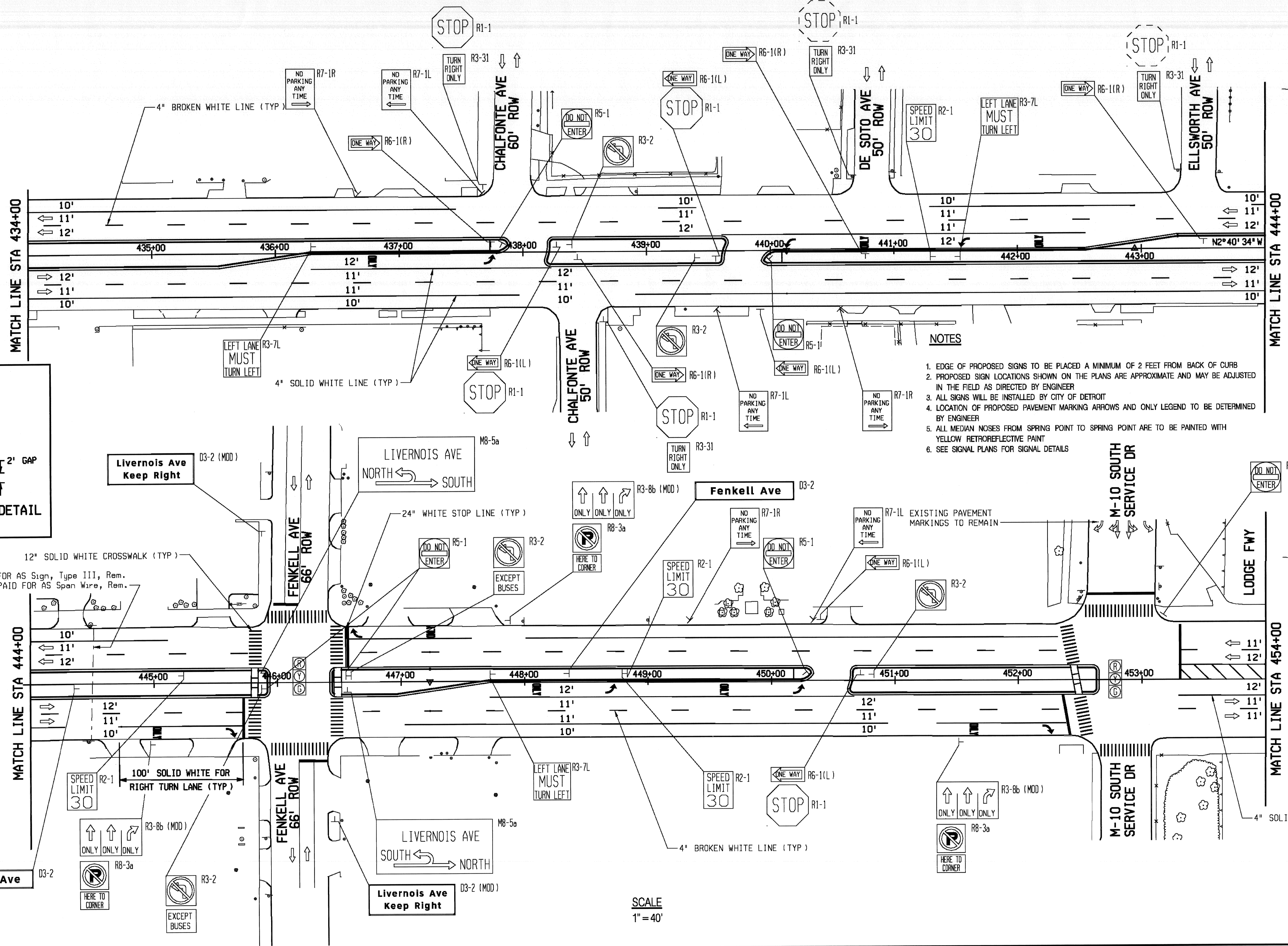
HNTB

CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

LIVERNOIS AVE MEDIAN IMPROVEMENTS FROM SOUTH OF PASADENA ST TO McNICHOLS RD
PERMANENT SIGNING AND PAVEMENT MARKINGS
STA 414 + 00 TO STA 434 + 00

SHEET 32 OF 82 SHEETS
CONTROL SECTION EDCF 82163
JOB NUMBER 86170A
DATE: JULY 11, 2007

FILE NAME: I3CDpm414.dgn
CHECKED BY:
WORKED ON BY:
DATE:



- NOTES**
- EDGE OF PROPOSED SIGNS TO BE PLACED A MINIMUM OF 2 FEET FROM BACK OF CURB
 - PROPOSED SIGN LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE AND MAY BE ADJUSTED IN THE FIELD AS DIRECTED BY ENGINEER
 - ALL SIGNS WILL BE INSTALLED BY CITY OF DETROIT
 - LOCATION OF PROPOSED PAVEMENT MARKING ARROWS AND ONLY LEGEND TO BE DETERMINED BY ENGINEER
 - ALL MEDIAN NOSES FROM SPRING POINT TO SPRING POINT ARE TO BE PAINTED WITH YELLOW RETROREFLECTIVE PAINT
 - SEE SIGNAL PLANS FOR SIGNAL DETAILS

REMOVE SIGN, PAID FOR AS Sign, Type III, Rem.
REMOVE SPAN WIRE, PAID FOR AS Span Wire, Rem.

SCALE
1" = 40'

NO.	DESCRIPTION	DATE	BY	CHECKED BY	APPROVED:
	PLAN				
	GRADE				FEDERAL PROJECT NO.
	ESTIMATE				FEDERAL ITEM NO.

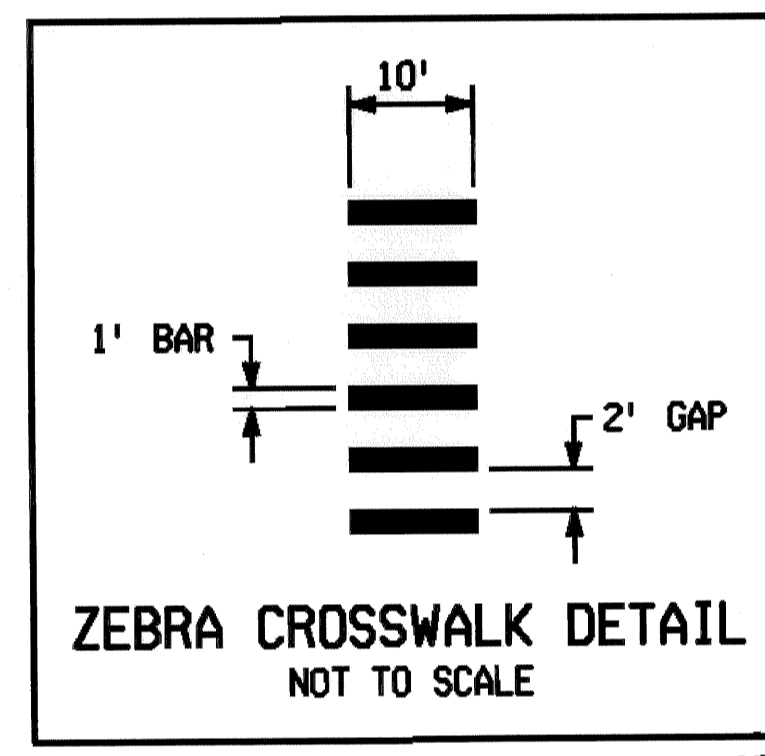
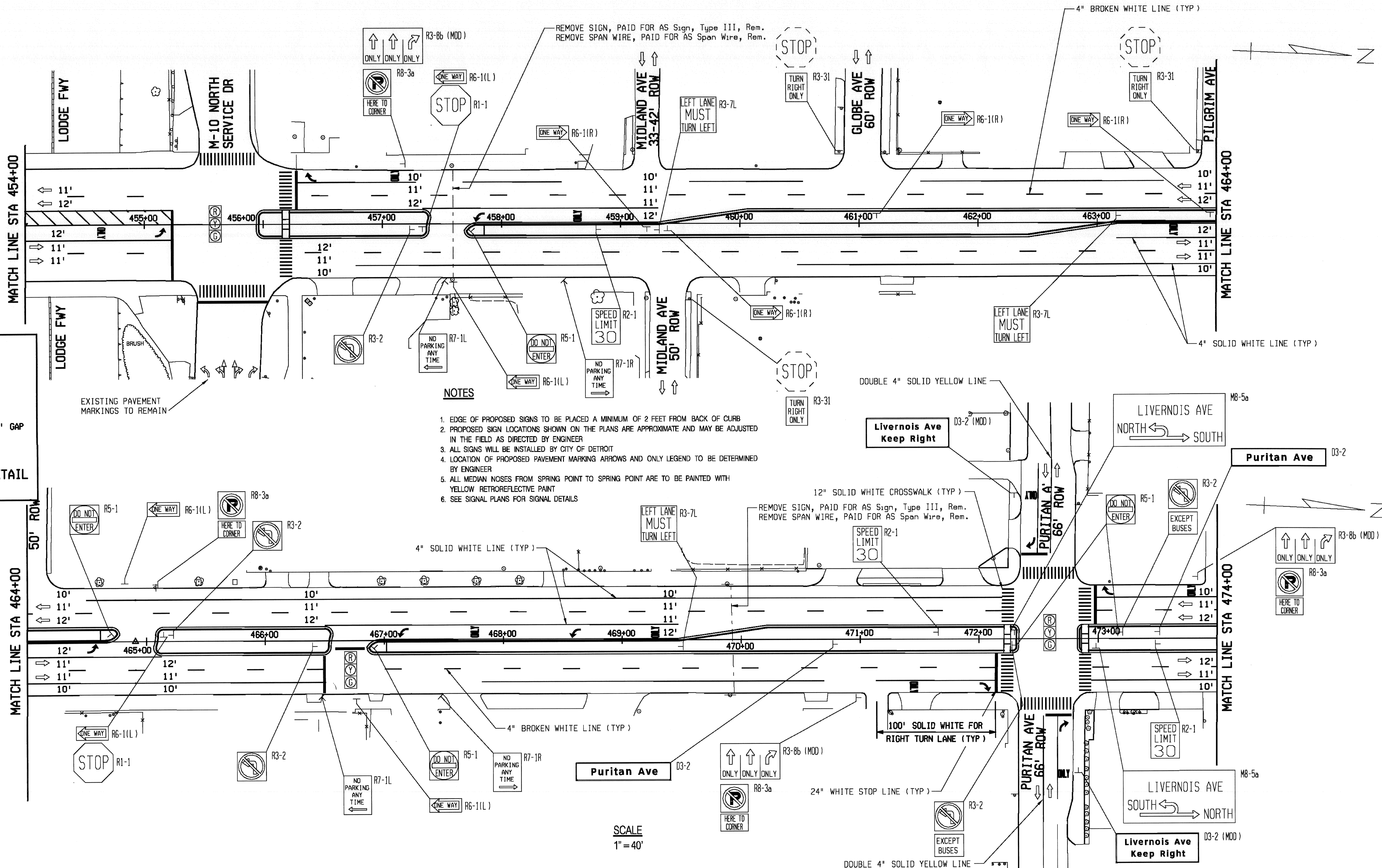
HNTB

CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

LIVERNOIS AVE MEDIAN IMPROVEMENTS FROM
SOUTH OF PASADENA ST TO McNICHOLS RD
PERMANENT SIGNING AND PAVEMENT MARKINGS
STA 434+00 TO STA 454+00

SHEET	33 OF 62 SHEETS
CONTROL SECTION	EDCF 82163
JOB NUMBER	86170A
DATE:	JULY 11, 2007

FILE NAME: I:\30dpm\434.dgn CHECKED BY: WORKED ON BY: DATE:



NOTES

1. EDGE OF PROPOSED SIGNS TO BE PLACED A MINIMUM OF 2 FEET FROM BACK OF CURB
2. PROPOSED SIGN LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE AND MAY BE ADJUSTED IN THE FIELD AS DIRECTED BY ENGINEER
3. ALL SIGNS WILL BE INSTALLED BY CITY OF DETROIT
4. LOCATION OF PROPOSED PAVEMENT MARKING ARROWS AND ONLY LEGEND TO BE DETERMINED BY ENGINEER
5. ALL MEDIAN NOSES FROM SPRING POINT TO SPRING POINT ARE TO BE PAINTED WITH YELLOW RETROREFLECTIVE PAINT
6. SEE SIGNAL PLANS FOR SIGNAL DETAILS

SCALE
1" = 40'

DESCRIPTION	DATE	BY	CHECKED BY	APPROVED:
PLAN				
GRADE				
ESTIMATE				
FINAL				

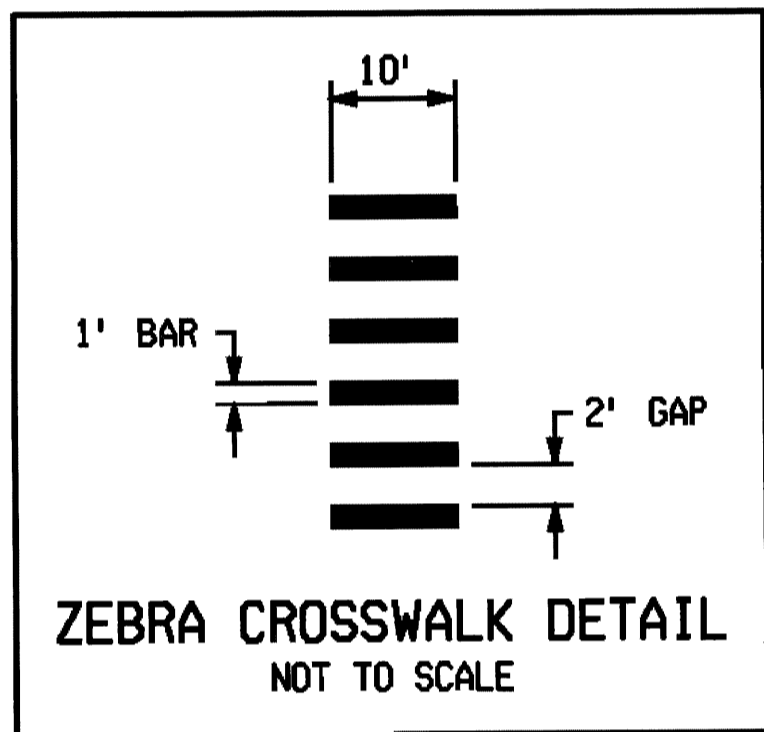
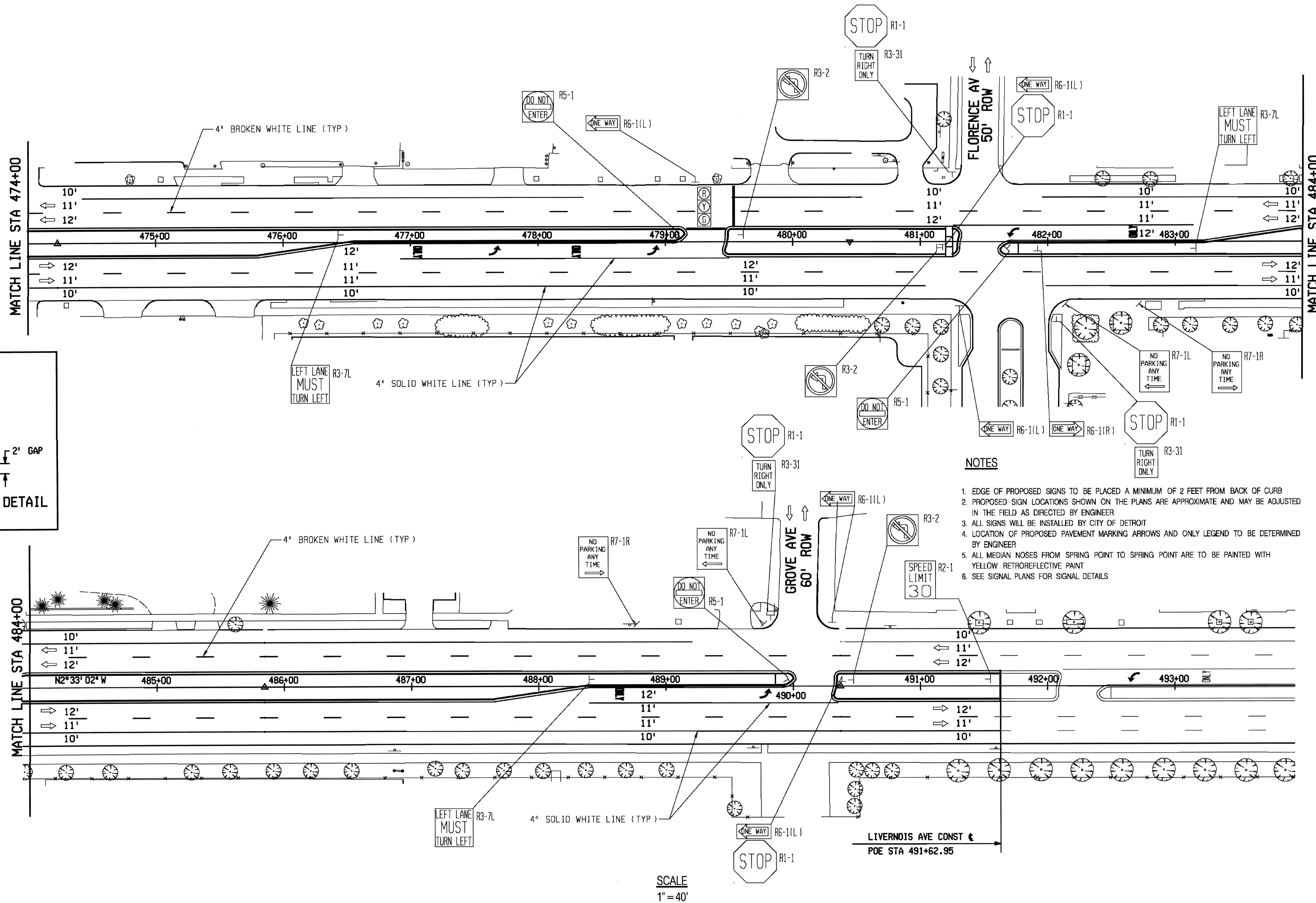
HNTB

CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

LIVERNOS AVE MEDIAN IMPROVEMENTS FROM SOUTH OF PASADENA ST TO McNICHOLS RD
PERMANENT SIGNING AND PAVEMENT MARKINGS
STA 454+00 TO STA 474+00

SHEET	34 OF 82 SHEETS
CONTROL SECTION	EDCF 82163
JOB NUMBER	86170A
DATE:	JULY 11, 2007

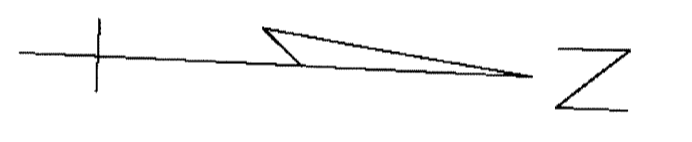
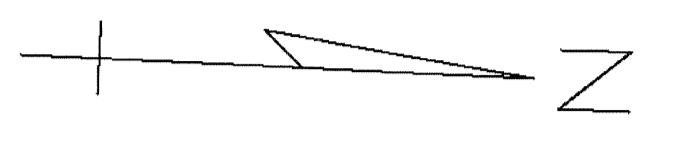
FILE NAME: I:\CD\pm454.dgn CHECKED BY: DATE: WORKED ON BY: DATE:



NOTES

- EDGE OF PROPOSED SIGNS TO BE PLACED A MINIMUM OF 2 FEET FROM BACK OF CURB
- PROPOSED SIGN LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE AND MAY BE ADJUSTED IN THE FIELD AS DIRECTED BY ENGINEER
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- ALL MEDIAN NOSES FROM SPRING POINT TO SPRING POINT ARE TO BE PAINTED WITH YELLOW RETROREFLECTIVE PAINT
- SEE SIGNAL PLANS FOR SIGNAL DETAILS

SCALE
1" = 40'



DATE:

WORKED ON BY:

DATE:

CHECKED BY:

FILE NAME: I3CDpm474.dgn

DESCRIPTION	DATE	BY	CHECKED BY	APPROVED:
PLAN				
GRADE				FEDERAL PROJECT NO.
ESTIMATE				FEDERAL ITEM NO.
REVISIONS	DRN	EXT	APVD	DATE

HNTB

CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

LIVERNOIS AVE MEDIAN IMPROVEMENTS FROM SOUTH OF PASADENA ST TO McNICHOLS RD
PERMANENT SIGNING AND PAVEMENT MARKINGS
STA 474+00 TO POE STA 491+62.95

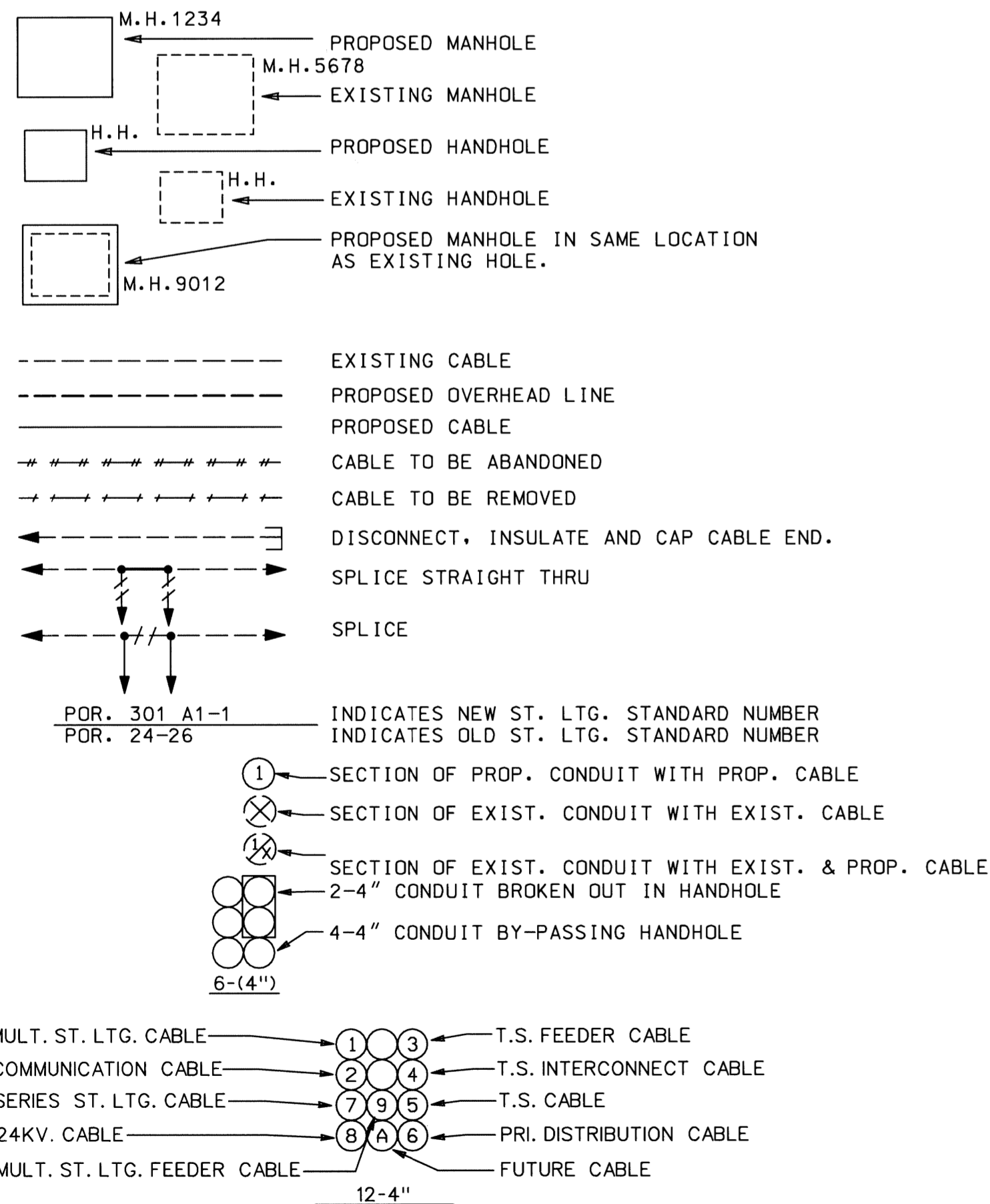
SHEET	35 OF 82 SHEETS
CONTROL SECTION	EDCF 82163
JOB NUMBER	86170A
DATE:	JULY 11, 2007

UNDERGROUND

- FIRE HYDRANT
- EXISTING MANHOLE
- EXISTING HANDHOLE
- EXISTING DUCT RUN
- ABANDON EXISTING DUCT RUN
- EXISTING DIRECT BURIAL OR PARKWAY CABLE
- ABANDON DIRECT BURIAL OR PARKWAY CABLE
- INSTALL DIRECT BURIAL CABLE (NO. AND SIZE WILL BE SHOWN)
- BUILD ENCASED CONDUIT (E.C.) (NO. AND SIZE WILL BE SHOWN)
- INSTALL DIRECT BURIAL CONDUIT (D.B.) (NO. AND SIZE WILL BE SHOWN)
- JACKED-BORED CONDUIT (J.B.) (NO. AND SIZE WILL BE SHOWN)
- BUILD NEW MANHOLE (2-WAY)
- BUILD NEW MANHOLE (3-WAY)
- BUILD NEW MANHOLE (4-WAY)
- BUILD NEW MANHOLE (CORNER)
- BUILD NEW HANDHOLE (ROUND OR SQUARE AS INDICATED ON PLANS).
- BUILD POLYMER CONCRETE HANDHOLE
- BUILD TYPE "S" HANDHOLE
- BUILD TYPE "D" HANDHOLE
- EXISTING UNDERGROUND-FED ST.LTG. UNIT AND FOUNDATION
- REMOVE UNDERGROUND-FED ST.LTG. UNIT AND FOUNDATION (EXCEPT AS OTHERWISE NOTED)
- INSTALL CODE 009-00.010-06, OR 118-06 AS NOTED ST. LTG. UNIT ON BRIDGE OR NEW FDN. INSTALL LUMINAIRE (SALVAGED), EXCEPT WHERE OTHERWISE NOTED. ANCHOR BOLTS IN BRIDGE DECK ON PLAN BY OTHERS
- 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).



LEGEND SHEET

DIAGRAMS

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

OVERHEAD

- INSTALL OVERHEAD ALLEY LTG. UNIT WITH 6 FOOT BRACKET ARM.
- INSTALL OVERHEAD RESIDENTIAL LTG. (16 FOOT ARM WITH TYPE I 4-WAY LUMINAIRE SHOWN)
- INSTALL OVERHEAD RESIDENTIAL LTG. UNIT (10 FOOT 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
- INSTALL GUY AND ANCHOR (3/8" GUY UNLESS OTHERWISE NOTED)
- REMOVE GUY AND ANCHOR ROD
- INSTALL POLE GUY (3/8" GUY UNLESS OTHERWISE NOTED)
- INSTALL ARM GUY (5/16" GUY UNLESS OTHERWISE NOTED)
- REMOVE GUY (POLE OR ARM GUY WILL BE INDICATED)
- MATERIALS TO BE REMOVED
- MATERIALS TO BE INSTALLED
- CABLE POLE
- EXISTING MATERIALS
- MAKE WOOD POLE SELF-SUPPORTING IN CRUSHED STONE
- PHASES OF P.L.D. DISTRIBUTION WIRES OR EQUIPMENT
- D.E. CO. DISTRIBUTION WIRE
- D.E. SECONDARY WIRE
- INSTALL SUSPENSION INSULATOR
- P.L.D. DISTRIBUTION WIRE
- P.L.D. SECONDARY WIRE
- P.L.D. SERIES ST. LTG. WIRE
- P.L.D. MULT. ST. LTG. WIRE

GENERAL

- 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
- EXISTING SEWER LINE, MANHOLE AND CATCH BASIN
- EXISTING DETROIT EDISON UNDERGROUND LINE AND MANHOLE
- EXISTING AMERITECH TELEPHONE UNDERGROUND LINE AND MANHOLE
- EXISTING GAS LINE AND MANHOLE
- EXISTING WATER LINE AND HANDHOLE
- EXISTING DETROIT PUBLIC LIGHTING UNDERGROUND LINE AND HANDHOLE.
- EXISTING DETROIT EDISON UNDERGROUND STEAM LINE
- EXISTING R.R. TRACKS
- EXISTING STREETCAR TRACKS
- EXISTING FENCE
- EXISTING PUBLIC TELEPHONE
- EXISTING TELEPHONE CONTROL BOX
- EXISTING TRANSFORMER
- 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

- POLE CONTACT HEIGHT OF TRAFFIC SIGNAL SPAN WIRE
- 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 12" TRAFFIC SIGNAL (2-WAY SHOWN)
- EXISTING 1 OR 2-SECTION 12" TRAFFIC SIGNAL FLASHERS
- INSTALL 1 OR 2-SECTION 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, 12" PEDESTRIAN (WALK-DON'T WALK) TRAFFIC SIGNAL (2-WAY SHOWN)
- INSTALL 2-SECTION, 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, 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 30" ANCHOR BASE STEEL STRAIN POLE ON NEW FOUNDATION (EXCEPT AS OTHERWISE NOTED). (USE 18" BOLT CIRCLE FOR ALL NEW STRAIN POLES).
- EXISTING TRAFFIC SIGNAL CONTROLLER
- EXISTING MAST ARM STANDARD
- EXISTING PEDESTAL
- EXISTING STEEL STRAIN POLE
- INSTALL OVERHEAD PLASTIC JACKETED CABLE (P.J.)
- EXISTING OVERHEAD PLASTIC JACKETED CABLE (P.J.)
- REMOVE OVERHEAD PLASTIC JACKETED CABLE (P.J.)
- INSTALL JUNCTION BOX (J.B.)
- INSTALL SALVAGED JUNCTION BOX (J.B.)
- REMOVE JUNCTION BOX (J.B.)
- EXISTING JUNCTION BOX (J.B.)
- EXISTING LOOP DETECTOR
- INSTALL LOOP DETECTOR

CONTRACTOR TO FURNISH AND INSTALL ALL MATERIALS

002

DISK FILE: *****

DESCRIPTION	REVISIONS	DRN	CHK	APPD	DATE

PLAN PREPARED BY
MANSSELL ASSOCIATES INC.
ENGINEERING CONSULTANTS
33608 Grand River
Farmington, MI 48335
(248) 473-7070

HNTB

CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

LIVERNOIS AVE MEDIAN IMPROVEMENTS
PHASE II

TRAFFIC SIGNAL LEGEND

SHEET 38 OF 62 SHEETS
CONTROL SECTION
JOB NUMBER
DATE: 06-15-07

GENERAL INFORMATION

1. CALL MISS DIG (313) (647-7344) 3 WORKING DAYS PRIOR TO ANY EXCAVATION FOR THE LOCATIONS OF UNDERGROUND UTILITIES.
2. A MINIMUM CLEARANCE OF 3.5' HORIZONTAL & 1.0' VERTICAL MUST BE MAINTAINED BETWEEN PROPOSED P.L.D. FACILITIES & EXISTING U.G. WATER FACILITIES.
3. CONTRACTOR TO NOTIFY MICHIGAN CONSOLIDATED GAS CO. AT (313) 491-6301 IF PROTECTIVE COATED GAS MAIN IS EXPOSED OR DAMAGED.
4. CONTRACTOR TO NOTIFY D.T.E., AT (313) 237-9564 IF PROTECTIVE COATING OF ANY D.T.E. HIGH VOLTAGE UNDERGROUND LINE IS EXPOSED OR DAMAGED.
5. ALL EXISTING P.L.D. LIGHTING, TRAFFIC SIGNAL, PRIMARY, TRANSMISSION ETC. CIRCUITS SHALL ALWAYS BE MAINTAINED IN AN OPERATIONAL CONDITION (EXCEPT WHERE OTHERWISE NOTED). NOTIFY P.L.D. SYSTEM OPERATOR AT (313) 224-0500 48 HOURS PRIOR TO BEGINNING WORK ON P.L.D. CIRCUITS & KEEP HIM 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 DISPOSED OF BY THE CONTRACTOR AT A PROPER P.L.D. SITE.
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 (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 DISCONNECTING TYPE.
17. WHERE A P.L.D. WOOD POLE WITH OTHER UTILITY CONTACTS IS TO BE REMOVED THE P.L.D. INSPECTOR WILL INDICATE 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.D.O.T.
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. WALLS SHALL BE CORE DRILLED ONLY FOR ENTRANCE OF CONDUITS. NEW CONDUITS SHALL NOT INTERFERE WITH RACKING AND / OR TRAINING OF CABLES.

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 3/8" EXTRA HIGH STRENGTH GRADE AS PER SPECIFICATIONS.
24. SIDEWALK RAMPS OF THE TYPE & LOCATION AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER SHALL BE CONSTRUCTED.
25. SEAL-END OF CABLE WHERE COILING OF CABLE IS CALLED FOR ON PLANS. (CONTRACTOR SHALL RECEIVE PAYMENT FOR COILED-UP CABLES).
26. SUPPLIER OF THE TRAFFIC SIGNAL CONTROLLER(S) SHALL BE RESPONSIBLE FOR THE TIMING AND TESTING PRIOR TO INSTALLATION. TIMING PLANS SHALL BE OBTAINED FROM THE CITY OF DETROIT TRAFFIC ENGINEERING DEPARTMENT.
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. INSPECTION 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 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 & ENCASMENT WITHIN HOLES. EXIST. CABLES SHALL BE EXTENDED & 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 & STREET LIGHTING STANDARD ANCHOR BOLTS SEE STRUCTURE PLANS.
34. PAVEMENT, SIDEWALK, CURB REMOVAL, REPLACEMENT AND EXCAVATION & BACKFILL SHALL BE DONE ACCORDING TO THE MDOT 2003 STANDARD SPECIFICATIONS FOR CONSTRUCTION AND THE CITY OF DETROIT SPECIAL PROVISIONS
35. UNDERGROUND CABLE QUANTITIES ARE ITEMIZED ON GENERAL PLANS. ALL 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 NEW 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 ON PLANS. (INCLUDED TO STREET LIGHTING UNITS)
38. STENCILLING SHALL BE ON THE CURB SIDE OF THE POLE, LOCATED BETWEEN 4' AND 5' ABOVE GRADE. ALL LETTERS AND NUMBERS SHALL BE 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. ALL NEW CONDUIT RUNS SHALL BE BUILT STRAIGHT AS POSSIBLE. BENDS SHALL HAVE NO LESS THAN 26' RADIUS AND NO REVERSE OR "S" BENDS.
40. 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) (931-3950).
41. 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.
42. WHERE IT IS SHOWN ON PLANS TO HAND DIG FOUNDATION, EXCAVATE BY HAND TOOLS ENTIRE DEPTH OF FOUNDATION. NO MECHANICAL EQUIPMENT SHALL BE USED.
43. CONTRACTOR SHALL NOTIFY THE P.L.D. SYSTEM OPERATOR AT (313) (224-0500) & THE D.D.O.T. AFTER COMPLETION OF WORK AT ANY TRAFFIC SIGNAL INTERSECTION.
44. ALL CABLES SHALL BE TRAINED & PROPERLY RACKED IN ALL EXISTING MANHOLES & HANDHOLES. RACKS ARE TO BE INSTALLED WHERE NECESSARY & ARE INCLUDED IN THE INSTALLATION OF UNDERGROUND CABLE.
45. ALL CONDUITS NOT TERMINATING IN STRUCTURES SUCH AS MANHOLES, HANDHOLES OR FOUNDATIONS SHALL EXTEND 3' BEYOND PAVEMENT LIMIT (EXCEPT AS OTHERWISE INDICATED). ALL UNOCCUPIED CONDUITS SHALL BE PLUGGED.
46. ALL NEW UNDERGROUND-FED STREET LIGHTING UNITS SHALL BE INSTALLED 2.5' BACK OF FACE OF CURB UNLESS OTHERWISE INDICATED ON PLANS. VERIFY WITH P.L.D.
47. 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 BE REMOVED.
48. THE "FINAL" CONDUIT MUST BE TRIMMED FLUSH WITH MANHOLE WALL, HAVE END BELLS AND SPACERS AND BE TUCK POINTED. DO NOT ENCASE FINAL CONDUIT WITHOUT INSPECTION BY THE P.L.D. UNDERGROUND INSPECTION DEPARTMENT.
49. INSTALL 3/8" DIAMETER YELLOW POLYPROPYLENE ROPE IN ALL "FINAL" CONDUIT. (INCLUDE IN PAY ITEM FOR "CONDUIT")
50. OPEN-CUT UNDER ALL PAVEMENTS FOR TRAFFIC SIGNAL INSTALLATION OR MODIFICATION MUST BE COMPLETED WITH HMA, 3C SURFACING WITHIN 48 HOURS AFTER THE CONCRETE BASE REPAIR IS CURED. IF SEASONAL LIMITATIONS PROHIBIT THE PLACEMENT OF HMA PAVEMENT, THE TRENCHES MUST BE TEMPORARILY COLD-PATCHED TO PROVIDE AN ADEQUATE RIDING SURFACE.
51. PAYMENT FOR TEMPORARY PLACEMENT AND REMOVAL OF COLD-PATCH MATERIAL IN THE TRENCHES WILL NOT BE PAID FOR SEPARATELY BUT WILL BE INCLUDED IN THE WORK OF EACH TRAFFIC SIGNAL LOCATION.

ITEM		QUANTITIES
LIST OF MATERIAL		
CONDUIT REPAIR UNDER SIDEWALK OR DIRT		5 EA.
CONDUIT REPAIR UNDER PAVEMENT		5 EA.

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.

CONTRACTOR SHALL BE RESPONSIBLE FOR CUTTING AND SPLICING OF CABLES AS SPECIFIED ON PLANS. ALL MATERIAL AND LABOR REQUIRED FOR CUTTING, SEALING, SPLICING (INCLUDING SPLICE KITS), RACKING, AND TAGGING OF CABLES SHALL BE INCLUDED IN THE INSTALLATION OF EACH RESPECTIVE CABLE. CONTRACTOR SHALL CONTACT THE P.L.D. SYSTEMS OPERATOR AT (313) 224-0500 PRIOR TO WORKING ON CABLES FOR COORDINATION AND INSPECTION.

DISK FILE:

DESCRIPTION	QTY	UNIT	APPRO	DATE

PLAN PREPARED BY

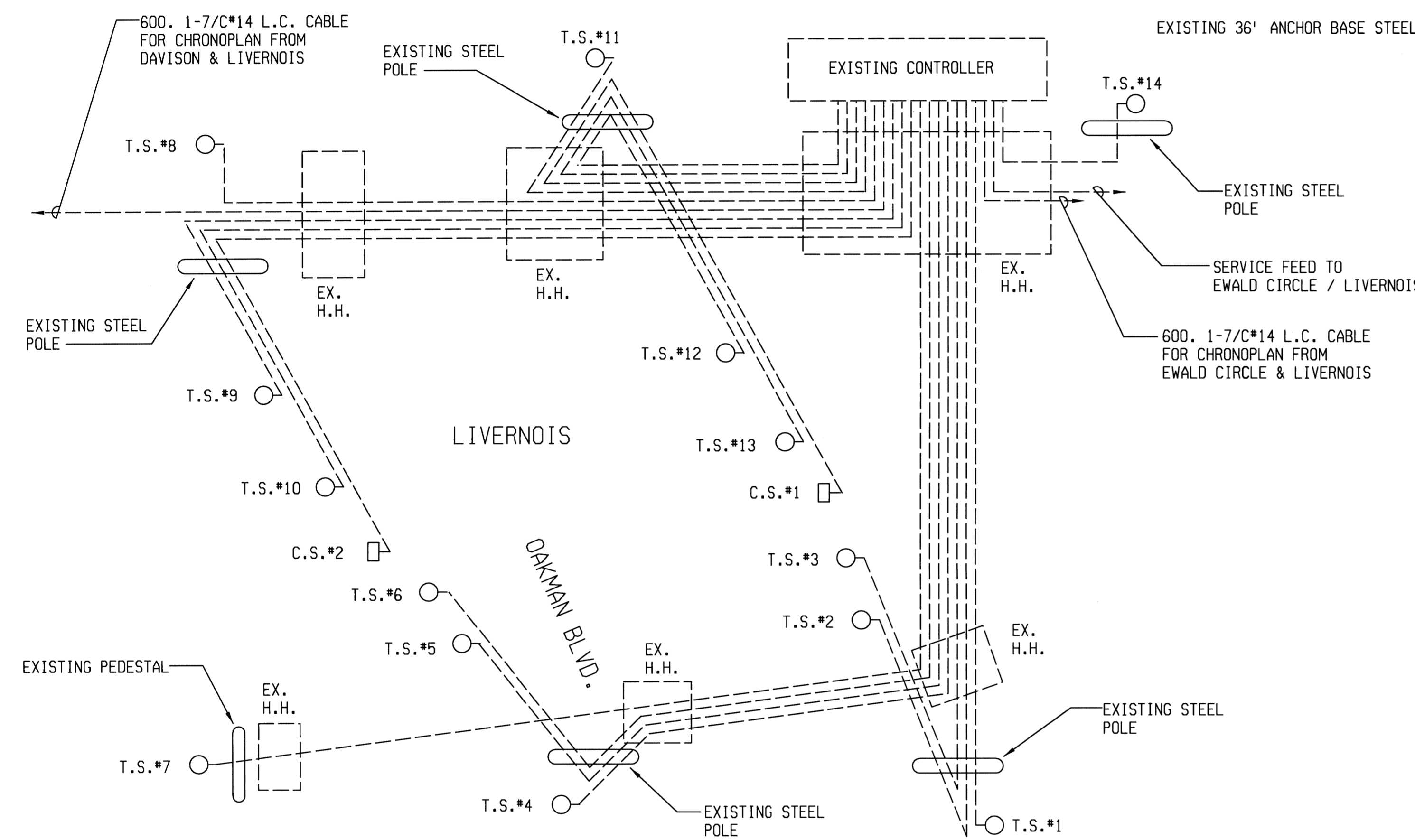
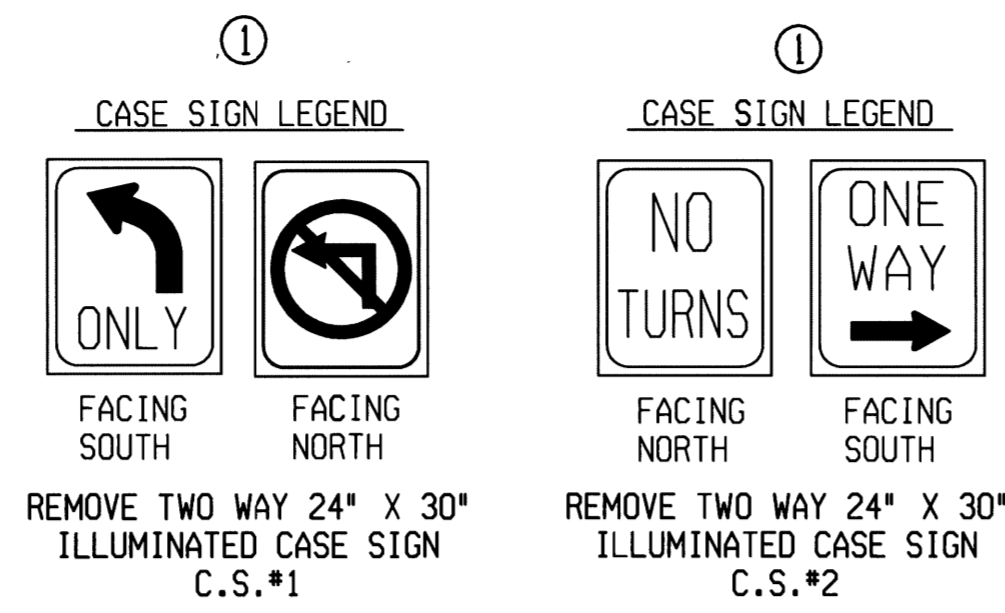
MANSELL ASSOCIATES INC.
 ENGINEERING CONSULTANTS
 33608 Grand River
 Farmington, MI 48335
 (248) 473-7070

HNTB

CITY OF DETROIT
 DEPARTMENT OF PUBLIC WORKS
 TRAFFIC ENGINEERING DIVISION

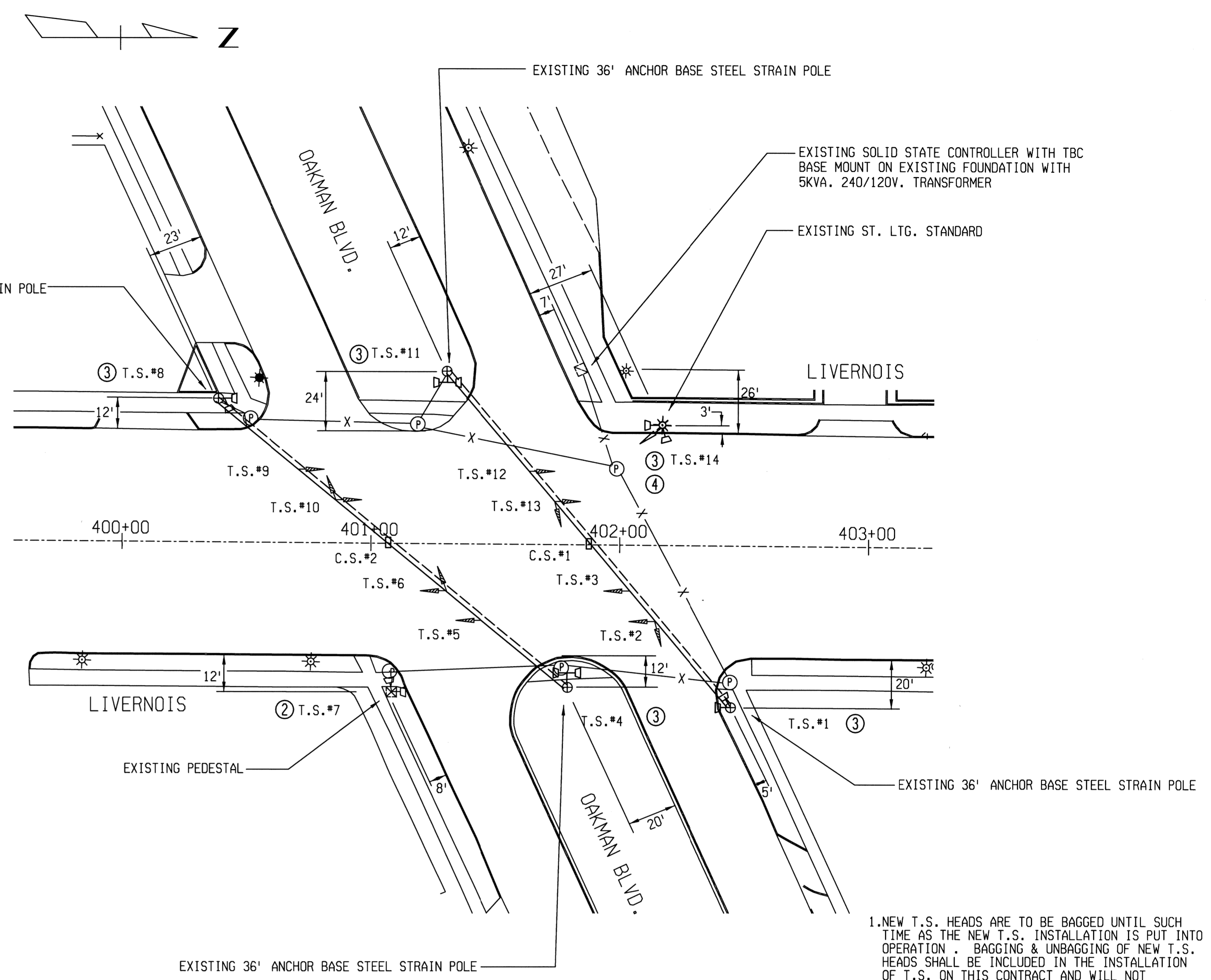
LIVERNOIS AVE MEDIAN IMPROVEMENTS
 PHASE II
 GENERAL NOTES

SHEET 39 OF 62 SHEETS
CONTROL SECTION
JOB NUMBER
DATE: 06-15-07



REMOVAL WIRING DIAGRAM

LIST OF MATERIAL		
NO.	ITEM	QUANTITIES
①	Case Sign, Rem	2 Ea
②	TS, Pedestrian, Pedestal Mtd, Rem	1 Ea
③	TS, Pedestrian, Bracket Arm Mtd, Rem	5 Ea
④	TS, Bracket Arm Mtd, Rem	1 Ea



REMOVAL PLAN
SCALE 1" = 30'

1. NEW T.S. HEADS ARE TO BE BAGGED UNTIL SUCH TIME AS THE NEW T.S. INSTALLATION IS PUT INTO OPERATION. BAGGING & UNBAGGING OF NEW T.S. HEADS SHALL BE INCLUDED IN THE INSTALLATION OF T.S. ON THIS CONTRACT AND WILL NOT BE PAID FOR SEPARATELY. TIME OF BAGGING AND UNBAGGING TO BE DIRECTED BY THE ENGINEER.
2. FOR ALL SIGN TRANSFERS: PLEASE CONTACT RUBIN MANN, SIGN SHOP MANAGER AT (1-313-628-2933) 72 HOURS PRIOR TO REMOVING ANY POLE TO TRANSFER THE EXISTING SIGNS TO THE NEW POLE.
3. CONTRACTOR SHALL USE PLD DETAILS FOR WORK SHOWN ON THIS SHEET.
4. ALL STREET LTG. EQUIPMENT ON REMOVED/REPLACED WOOD POLES, OR T.S. STANDARDS MUST BE TRANSFERRED TO THE NEW WOOD POLES OR T.S. STANDARDS.
5. CONTACT SUNNY JACOBS OR JUBI CHACKUNKAL OF THE CITY OF DETROIT DPW, TRAFFIC ENGINEERING AT (313) 224-1315 OR (313) 628-5604 48 HOURS PRIOR TO ACTIVATION OF NEW T.S.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR PROGRAMMING OF CONTROLLER, WIRING OF THE CABINET & INSTALLATION OF THE TRANSFORMER. TIMING PERMIT TO BE PROVIDED BY THE CITY OF DETROIT TRAFFIC ENGINEERING.
7. CONTACT THE SYSTEM OPERATOR AT (313) 224-0500 OF PLD FOR ELECTRICAL SERVICE CONNECTION.

NO.	DESCRIPTION	DATE	BY	CHKD	APVD	DATE

PLAN PREPARED BY
MANSELL ASSOCIATES INC.
ENGINEERING CONSULTANTS
33608 Grand River
Farmington, MI 48335
(248) 473-7070

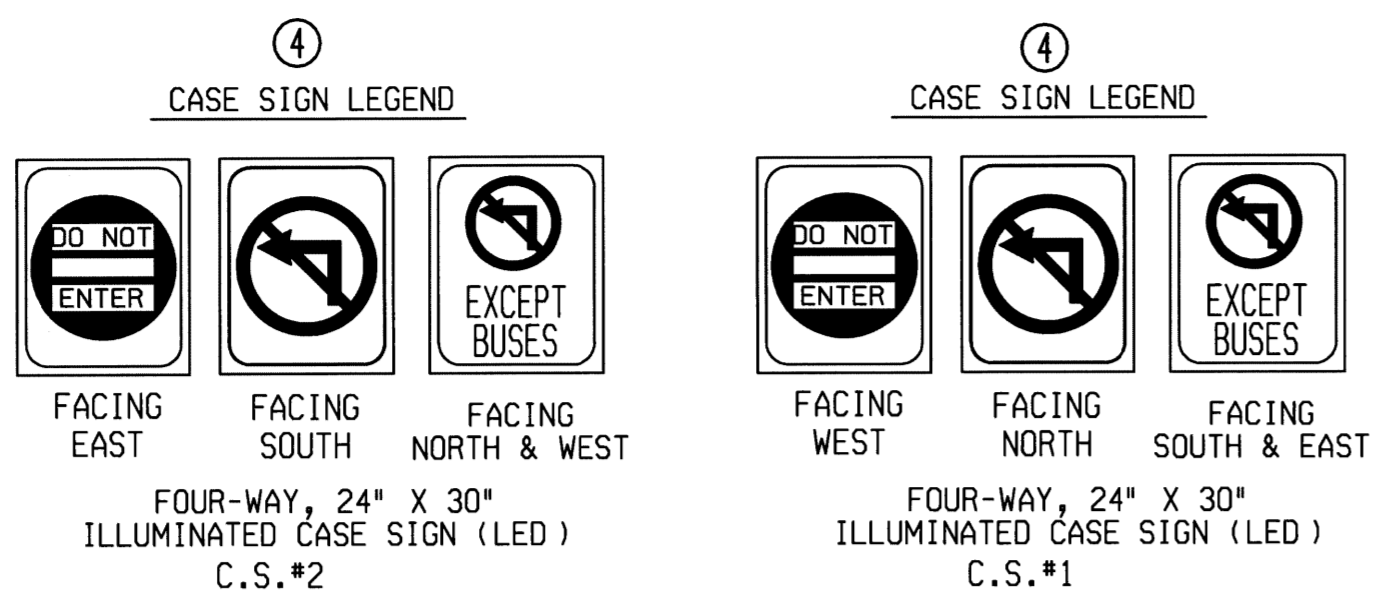


CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

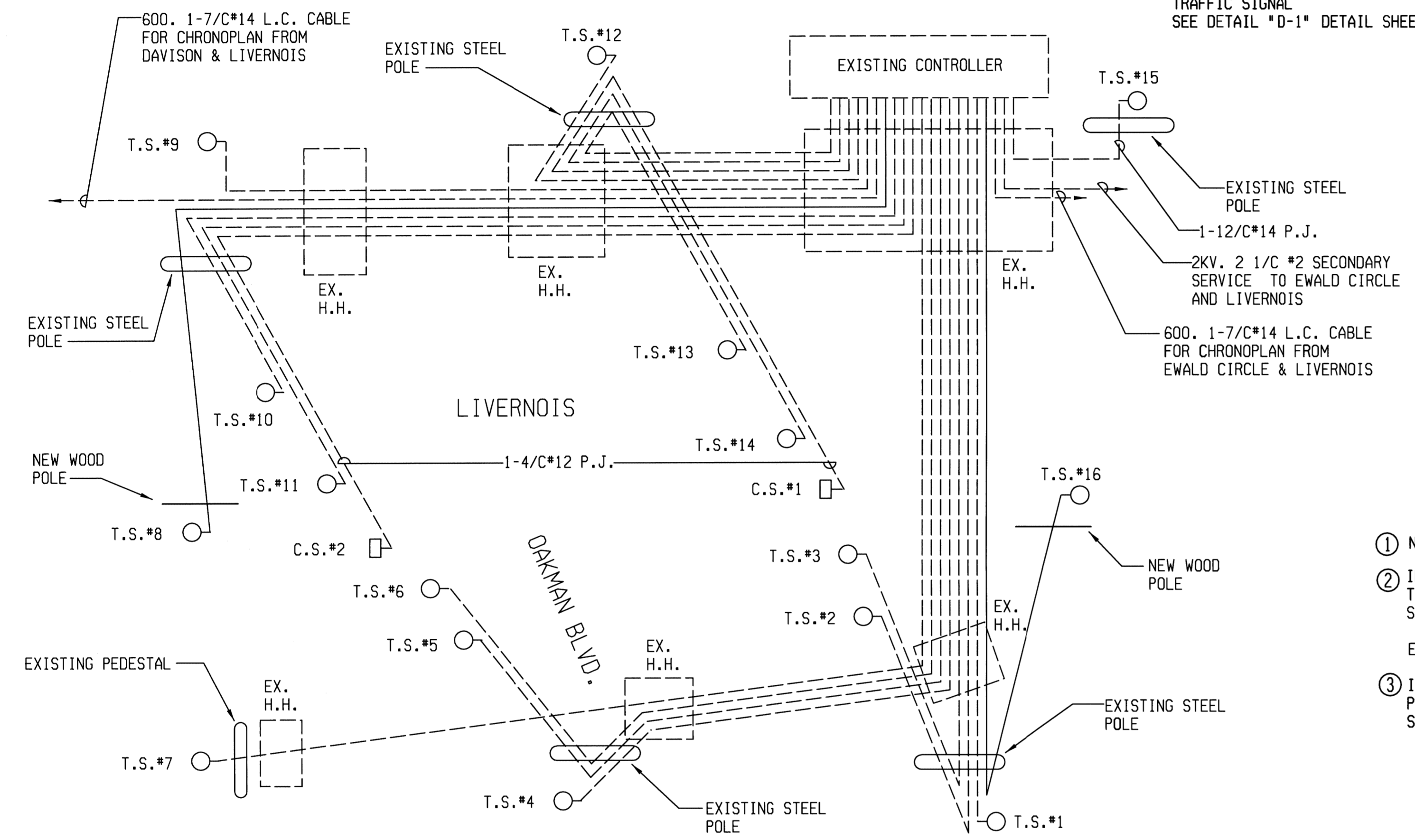
LIVERNOIS AVE MEDIAN IMPROVEMENTS PHASE II
LIVERNOIS & OAKMAN BLVD

SHEET 40 OF 62 SHEETS
CONTROL SECTION
JOB NUMBER
DATE: 06-15-07

DATE: WORKED ON BY: CHECKED BY: FILE NAME:



ALL CABLES SHALL BE 1-7/8\"/>



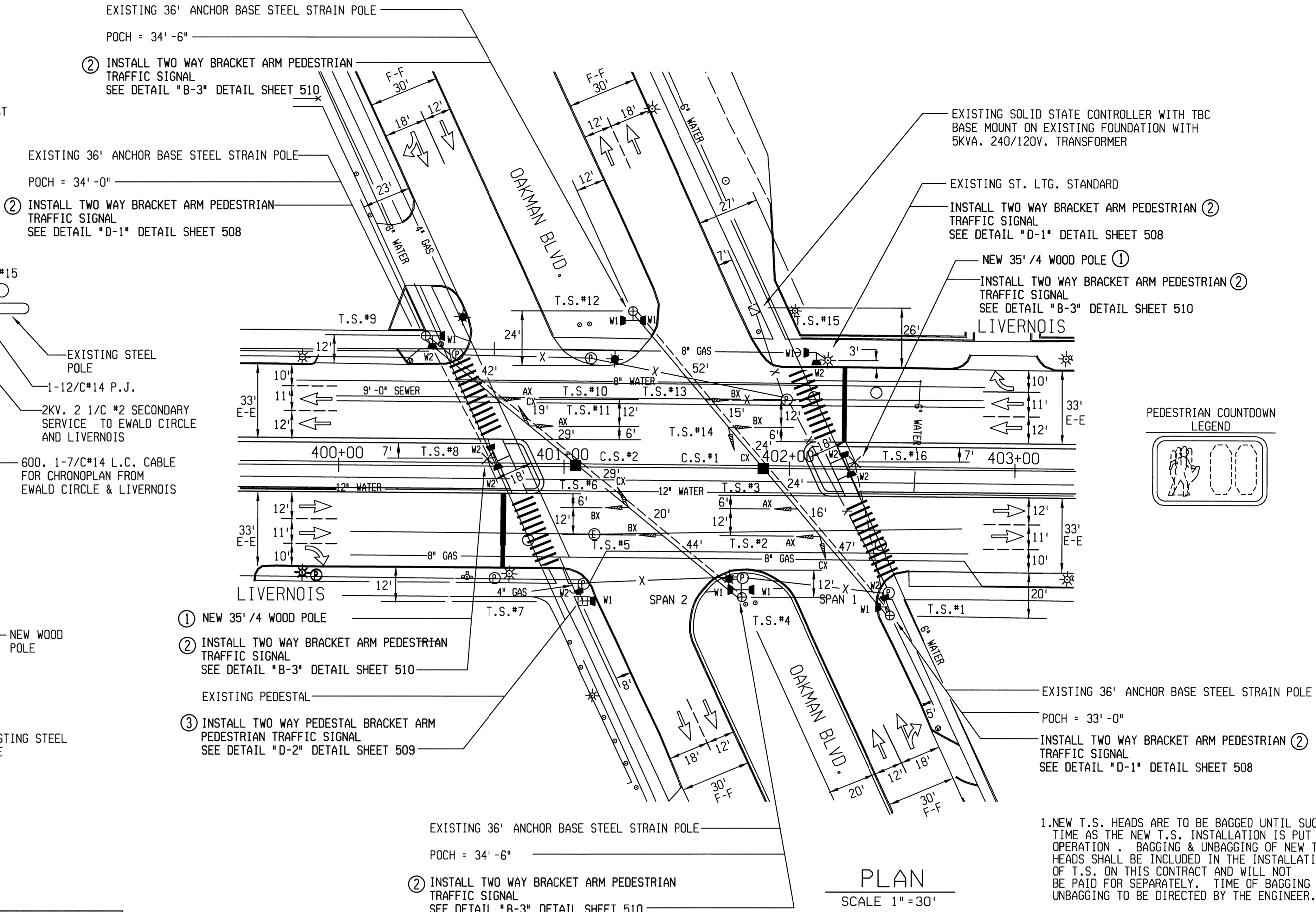
WIRING DIAGRAM

LIST OF MATERIAL		
NO.	ITEM	QUANTITIES
①	Wood Pole, Cl 4, 35 foot	2 Ea
②	TS, Pedestrian, Two Way Bracket Arm Mtd (LED) Countdown	7 Ea
③	TS, Pedestrian, Two Way Pedestal Mtd (LED) Countdown	1 Ea
④	Case Sign, Four Way, 24 inch by 30 inch (LED)	2 Ea

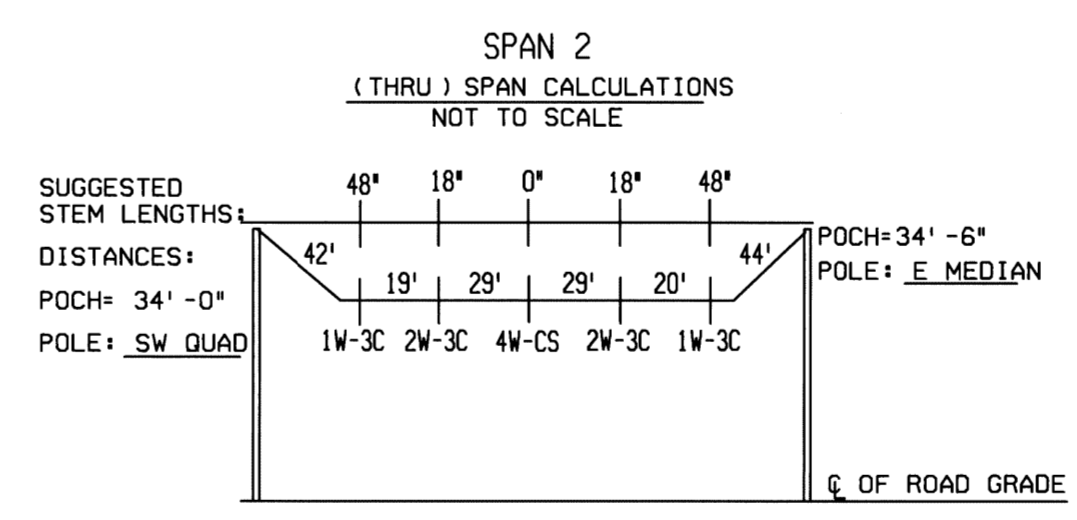
FOR REMOVAL OF STREET CAR RAIL AND FOUNDATION SEE ROAD PLANS

CONTRACTOR SHALL ADJUST POLE CONTACT HEIGHTS OF EXISTING SPAN WIRE TO POCH VALUES SHOWN ON PLANS. (INCLUDED IN THE INSTALLATION OF "Case Sign, Four Way, 24 inch by 30 inch (LED)" ON THIS CONTACT.

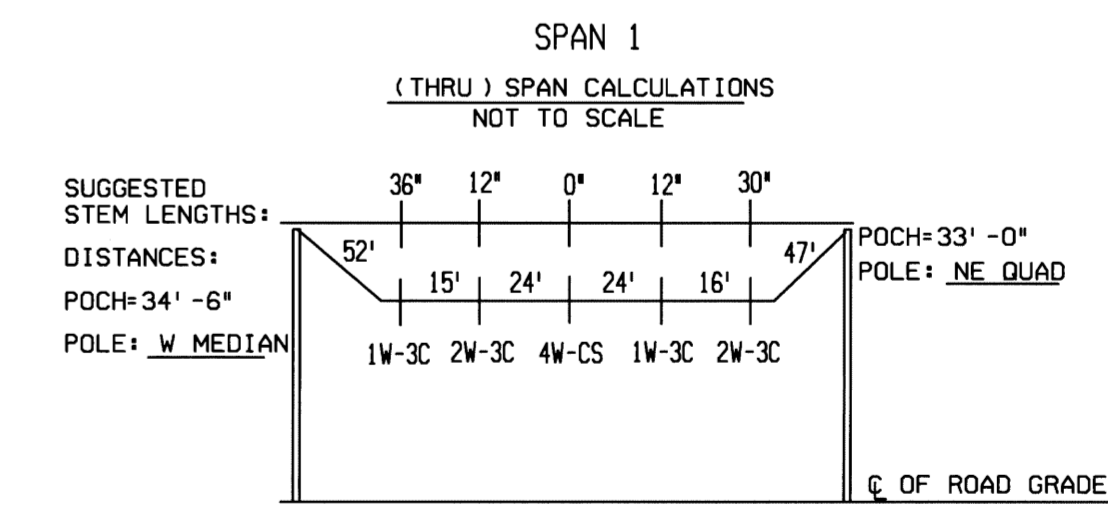
ALL OVERHEAD CONDUCTOR CABLES SHALL BE SUPPORTED BY A MESSENGER CABLE



PLAN
SCALE 1" = 30'



NOTE: POCH (POLE CONTACT HEIGHT) IS SHOWN ABOVE C GRADE. FIELD ADJUSTMENTS ARE TO BE MADE FOR ANY DIFFERENCE IN GRADE AT POLE VS. ROAD GRADE. POCH IS CALCULATED AT 1000 POUNDS TENSION.



NOTE: POCH (POLE CONTACT HEIGHT) IS SHOWN ABOVE C GRADE. FIELD ADJUSTMENTS ARE TO BE MADE FOR ANY DIFFERENCE IN GRADE AT POLE VS. ROAD GRADE. POCH IS CALCULATED AT 1000 POUNDS TENSION.

- NEW T.S. HEADS ARE TO BE BAGGED UNTIL SUCH TIME AS THE NEW T.S. INSTALLATION IS PUT INTO OPERATION. BAGGING & UNBAGGING OF NEW T.S. HEADS SHALL BE INCLUDED IN THE INSTALLATION OF T.S. ON THIS CONTRACT AND WILL NOT BE PAID FOR SEPARATELY. TIME OF BAGGING AND UNBAGGING TO BE DIRECTED BY THE ENGINEER.
- FOR ALL SIGN TRANSFERS: PLEASE CONTACT RUBIN MANN, SIGN SHOP MANAGER AT (1-313-628-2933) 72 HOURS PRIOR TO REMOVING ANY POLE TO TRANSFER THE EXISTING SIGNS TO THE NEW POLE.
- CONTRACTOR SHALL USE PLD DETAILS FOR WORK SHOWN ON THIS SHEET.
- ALL STREET LTG. EQUIPMENT ON REMOVED/REPLACED WOOD POLES, OR T.S. STANDARDS MUST BE TRANSFERRED TO THE NEW WOOD POLES OR T.S. STANDARDS.
- CONTACT SUNNY JACOBS OR JUBI CHACKUNKAL OF THE CITY OF DETROIT DPW, TRAFFIC ENGINEERING AT (313) 224-1315 OR (313) 628-5604 48 HOURS PRIOR TO ACTIVATION OF NEW T.S.
- CONTRACTOR SHALL BE RESPONSIBLE FOR PROGRAMMING OF CONTROLLER, WIRING OF THE CABINET & INSTALLATION OF THE TRANSFORMER. TIMING PERMIT TO BE PROVIDED BY THE CITY OF DETROIT TRAFFIC ENGINEERING.
- CONTACT THE SYSTEM OPERATOR AT (313) 224-0500 OF PLD FOR ELECTRICAL SERVICE CONNECTION.

NO.	DESCRIPTION	DRN	CHKD	APP'D	DATE

PLAN PREPARED BY
MANSELL ASSOCIATES INC.
ENGINEERING CONSULTANTS
33608 Grand River
Farmington, MI 48335
(248) 473-7070

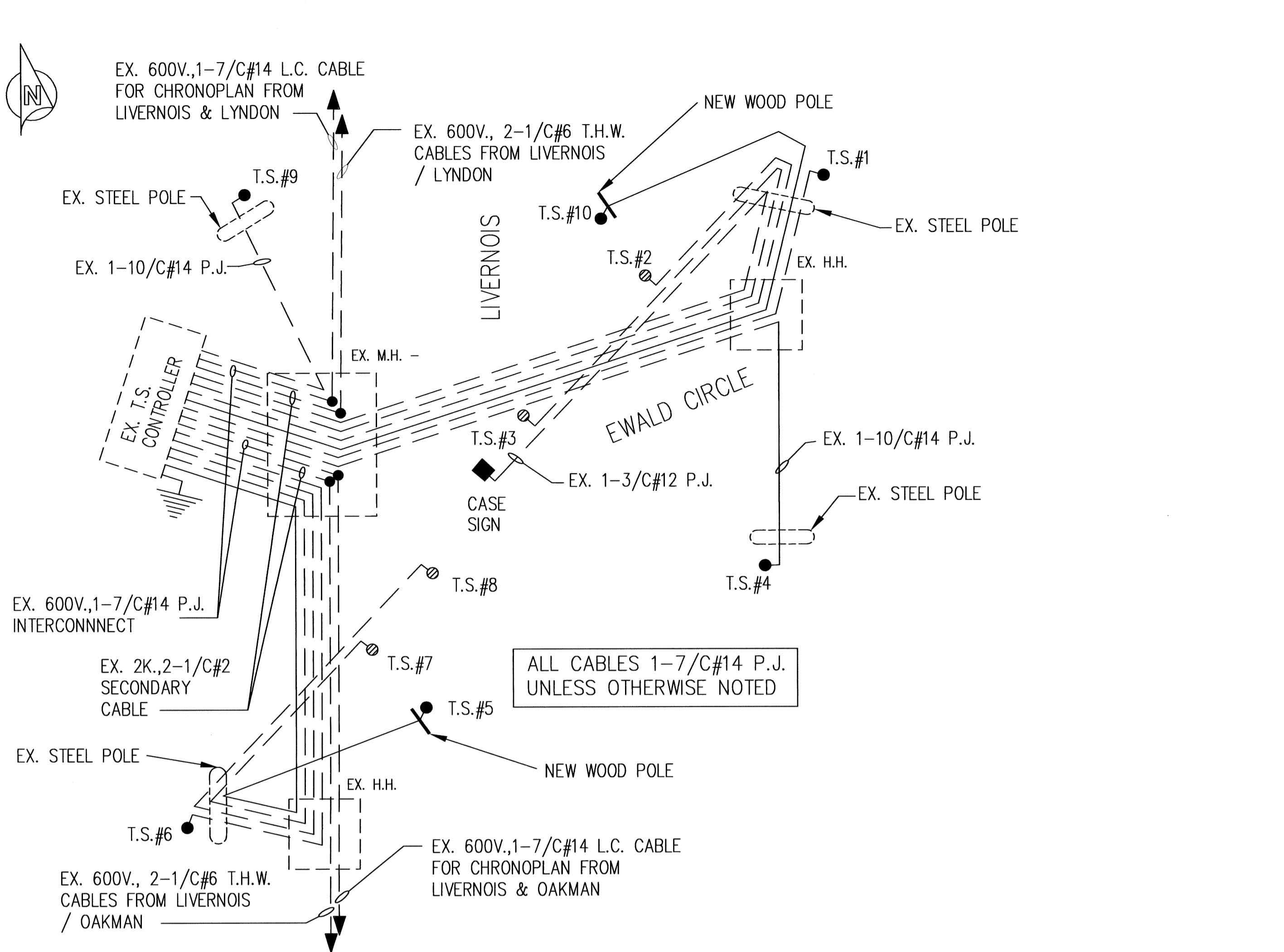


CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

LIVERNOIS AVE MEDIAN IMPROVEMENTS PHASE II
LIVERNOIS & OAKMAN BLVD

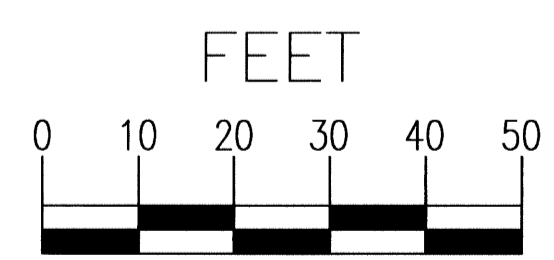
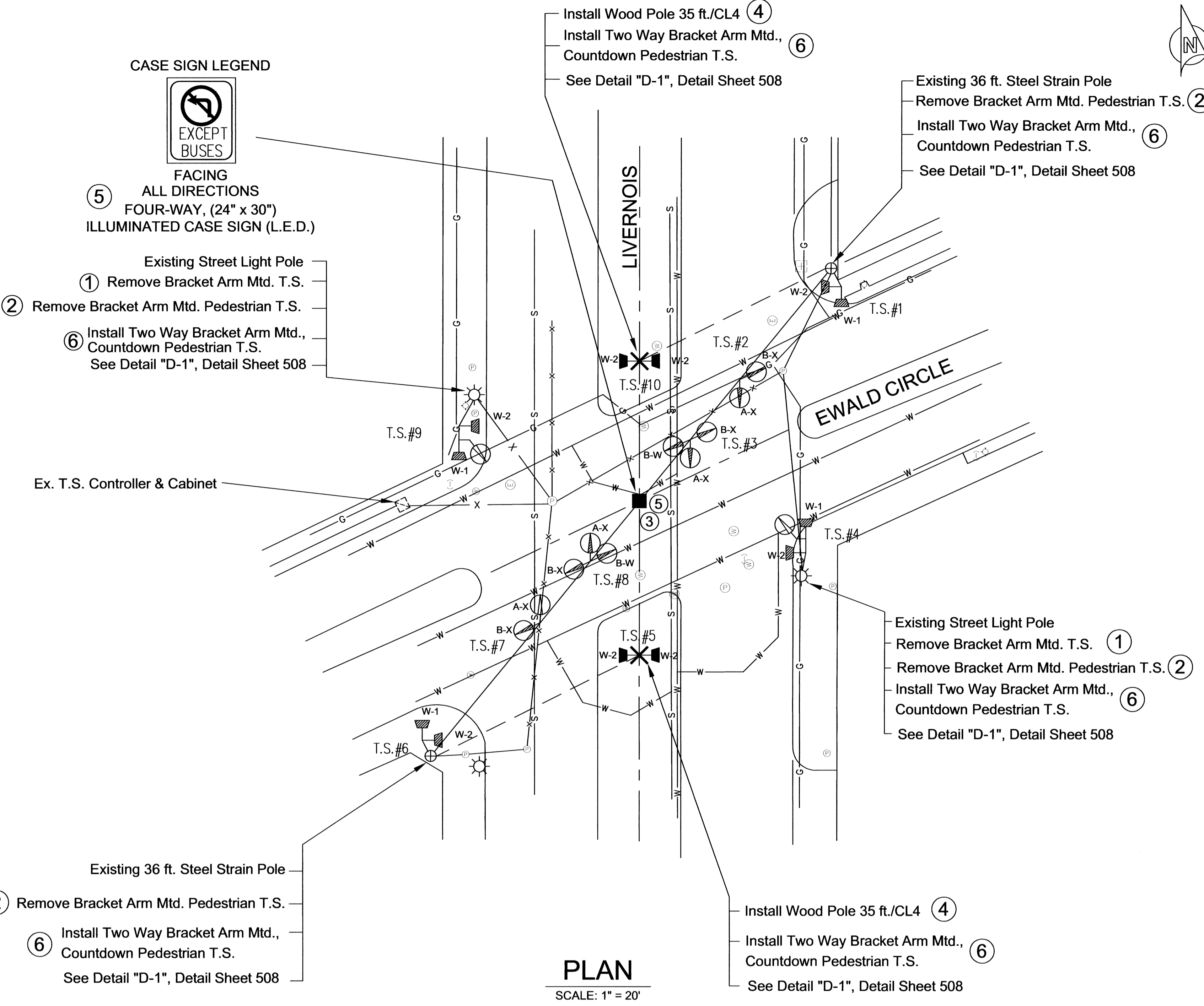
SHEET 41 OF 62 SHEETS
CONTROL SECTION
JOB NUMBER
DATE: 06-15-07

DATE: _____ WORKED ON BY: _____ CHECKED BY: _____ FILE NAME: _____



- NOTES:**
- ALL REMOVED TRAFFIC SIGNAL AND STREET LIGHTING EQUIPMENT SHALL BE SALVAGED IN REUSABLE CONDITION AND SHALL BECOME PROPERTY OF P.L.D. ALL REMOVED MATERIAL WILL BE STORED ON SITE FOR PICK-UP BY P.L.D. ALL MATERIAL LEFT FOR THE CONTRACTOR WILL BECOME THE RESPONSIBILITY OF THE CONTRACTOR FOR DISPOSAL AWAY FROM THE SITE.
 - EXISTING TRAFFIC SIGNAL TO REMAIN IN OPERATION UNTIL SUCH TIME THAT THE NEW T.S. IS PUT INTO OPERATION. EXISTING T.S. FACILITIES TO BE REMOVE IMMEDIATELY AFTER NEW T.S. IS PUT INTO OPERATION.
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 - FOR ALL SIGN TRANSFERS PLEASE CONTACT RUBIN MANN SIGN SHOP MANAGER AT (313) 628-2923 3 WEEKS PRIOR TO REMOVING ANY POLE, TO TRANSFER THE EXISTING SIGNS TO THE NEW POLE.
 - CONTRACTOR SHALL USE PLD DETAILS FOR WORK SHOWN ON THIS SHEET.
 - ALL STREET LIGHTING EQUIPMENT ON REMOVED/ REPLACED WOOD POLES, OR T.S. STANDARDS MUST BE TRANSFERRED TO THE NEW WOOD POLES OR T.S. STANDARDS.
 - CONTACT CAROLYN DAVIS OF PLD AT (313)-267-7270, 48 HOURS PRIOR TO ACTIVATION OF NEW T.S.
 - CONTACT JUBI CHACKUNKAL OR SUNNY JACOBS OF DPW, TRAFFIC ENGINEERING AT (313) 224-1315 OR (313) 628-5604, 48 HOURS PRIOR TO ACTIVATION OF NEW T.S.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR PROGRAMMING OF CONTROLLER, WIRING OF CABINET & INSTALLATION OF TRANSFORMER. TIMING PERMIT TO BE PROVIDED BY THE CITY OF DETROIT TRAFFIC ENGINEERING.
 - CONTACT THE SYSTEM OPERATOR AT (313) 224-0500 OF PLD FOR ELECTRICAL SERVICE CONNECTION.

LIST OF MATERIAL		
NO.	ITEMS	QTY
1	TS, Bracket Arm Mtd, Rem	2 Ea
2	TS, Pedestrian, Bracket Arm Mtd, Rem	4 Ea
3	Case Sign, Rem	1 Ea
4	Wood Pole, Cl 4, 35 foot	2 Ea
5	Case Sign, Four Way, 24 inch by 30 inch (LED)	1 Ea
6	TS, Pedestrian, Two Way Bracket Arm Mtd (LED), Count Down	6 Ea



INSTALLATION SHEET

CYCLIC WATTS: 660 WATTS
STEADY WATTS: 202 WATTS

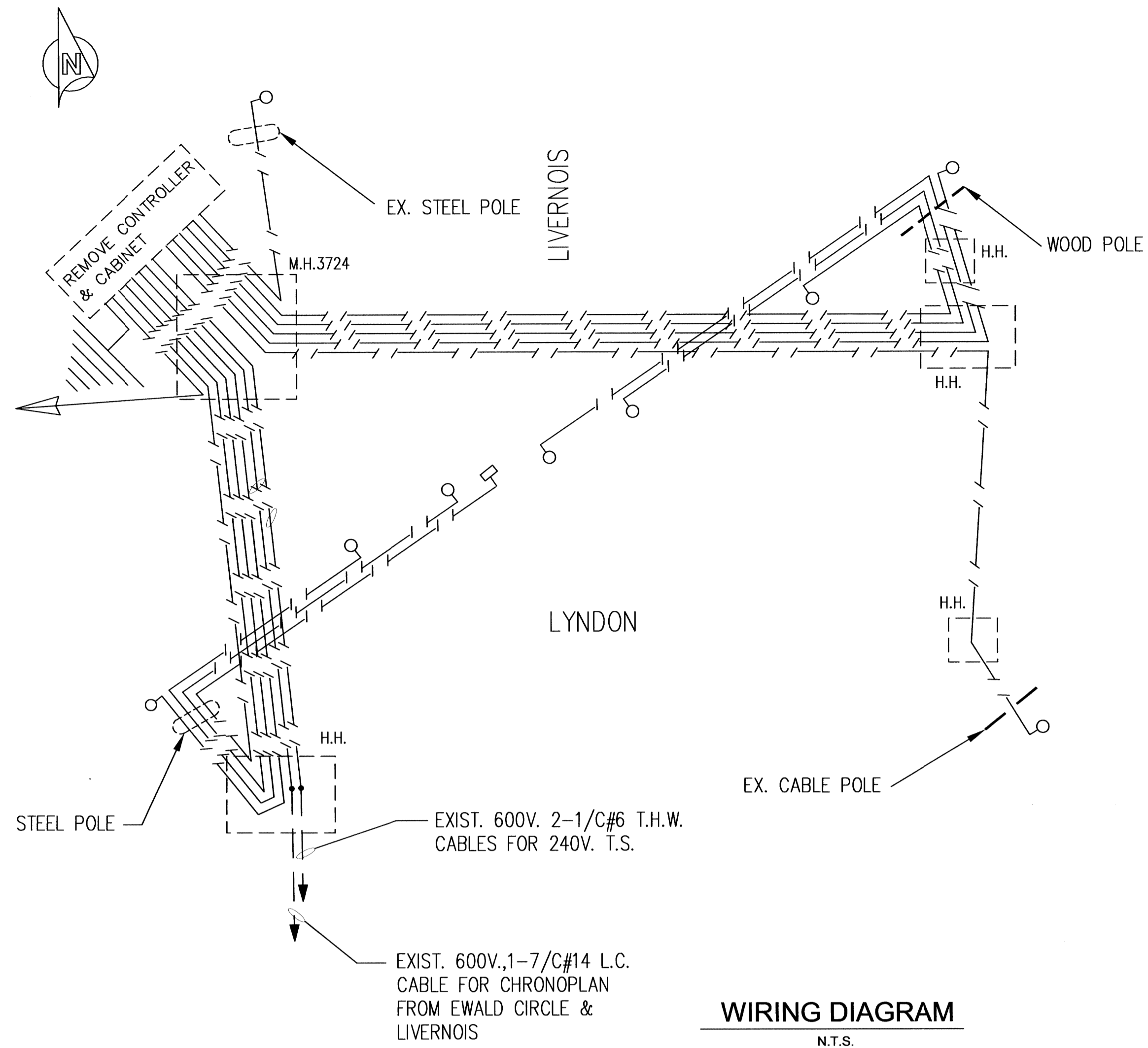
DESIGNED BY: K. Patel	APPROVED:	CHECKED BY:	CHECKED BY:
DRAWN BY: J. Lappin		APPROVED BY:	
TRACED BY:		FILE NO.:	
CHECKED BY: Jubi Chackunkal			

CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

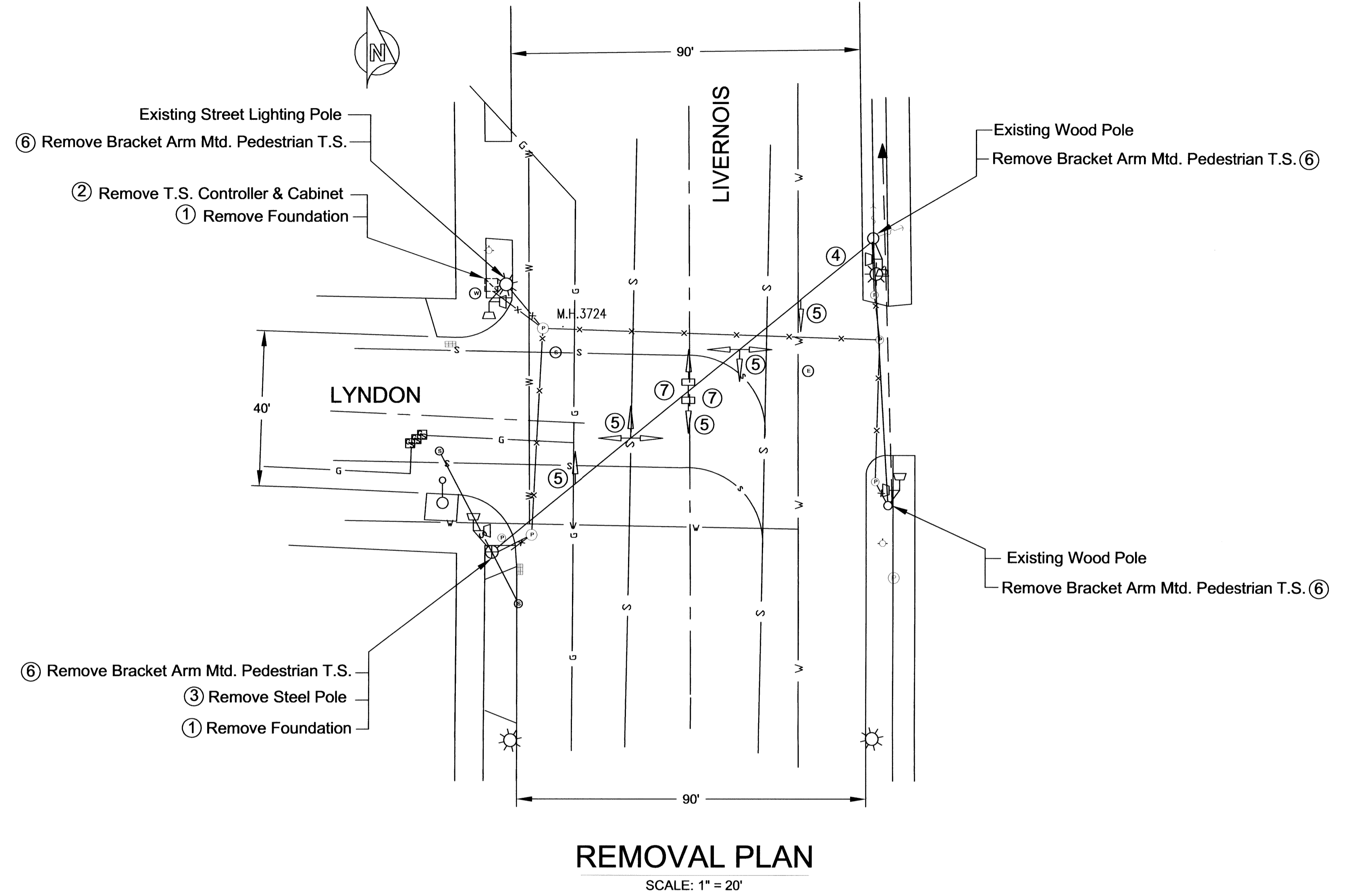
PUBLIC LIGHTING
DEPARTMENT
CITY OF DETROIT

LIVERNOIS AVE. MEDIAN IMPROVEMENTS
PHASE II
EWALD CIRCLE & LIVERNOIS

SHEET 42 OF 62 SHEETS
JULY 17, 2006
DRWG NO. LD-1607.1
JOB NO. 86170 A



WIRING DIAGRAM
N.T.S.



REMOVAL PLAN
SCALE: 1" = 20'

NOTES: REMOVAL PLAN

- ALL REMOVED TRAFFIC SIGNAL AND STREET LIGHTING EQUIPMENT SHALL BE SALVAGED IN REUSABLE CONDITION AND SHALL BECOME PROPERTY OF P.L.D. ALL REMOVED MATERIAL WILL BE STORED ON SITE FOR PICK-UP BY P.L.D. ALL MATERIAL LEFT FOR THE CONTRACTOR WILL BECOME THE RESPONSIBILITY OF THE CONTRACTOR FOR DISPOSAL AWAY FROM THE SITE.
- ALL STREET LIGHTING EQUIPMENT ON REMOVED/ REPLACED WOOD POLES OR T.S. STANDARDS MUST BE TRANSFERRED TO THE NEW WOOD POLES OR T.S. STANDARDS.
- EXISTING TRAFFIC SIGNAL TO REMAIN IN OPERATION UNTIL SUCH TIME THAT THE NEW T.S. IS PUT INTO OPERATION. EXISTING T.S. FACILITIES TO BE REMOVE IMMEDIATELY AFTER NEW T.S. IS PUT INTO OPERATION.
- ALL FOUNDATIONS THAT ARE TO BE REMOVED, SHALL BE REMOVED FULL DEPTH. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVE THAT THE FOUNDATIONS HAVE BEEN COMPLETELY REMOVED.
- CONTACT THE SYSTEM OPERATOR AT (313) 224-0500 OF PLD FOR ELECTRICAL SERVICE CONNECTION.

LIST OF MATERIAL

NO.	ITEMS	QTY
1	Fdn, Rem	2 Ea
2	Controller and Cabinet, Rem	1 Ea
3	Steel Pole, Rem	1 Ea
4	Span Wire, Rem	1 Ea
5	TS, Span Wire Mtd, Rem	5 Ea
6	TS, Pedestrian, Bracket Arm Mtd, Rem	4 Ea
7	Case Sign, Rem	2 Ea

FOR ALL SIGN TRANSFERS PLEASE CONTACT RUBIN MANN SIGN SHOP MANAGER AT (313) 628-2923 3 WEEKS PRIOR TO REMOVING ANY POLE, TO TRANSFER THE EXISTING SIGNS TO THE NEW POLE.

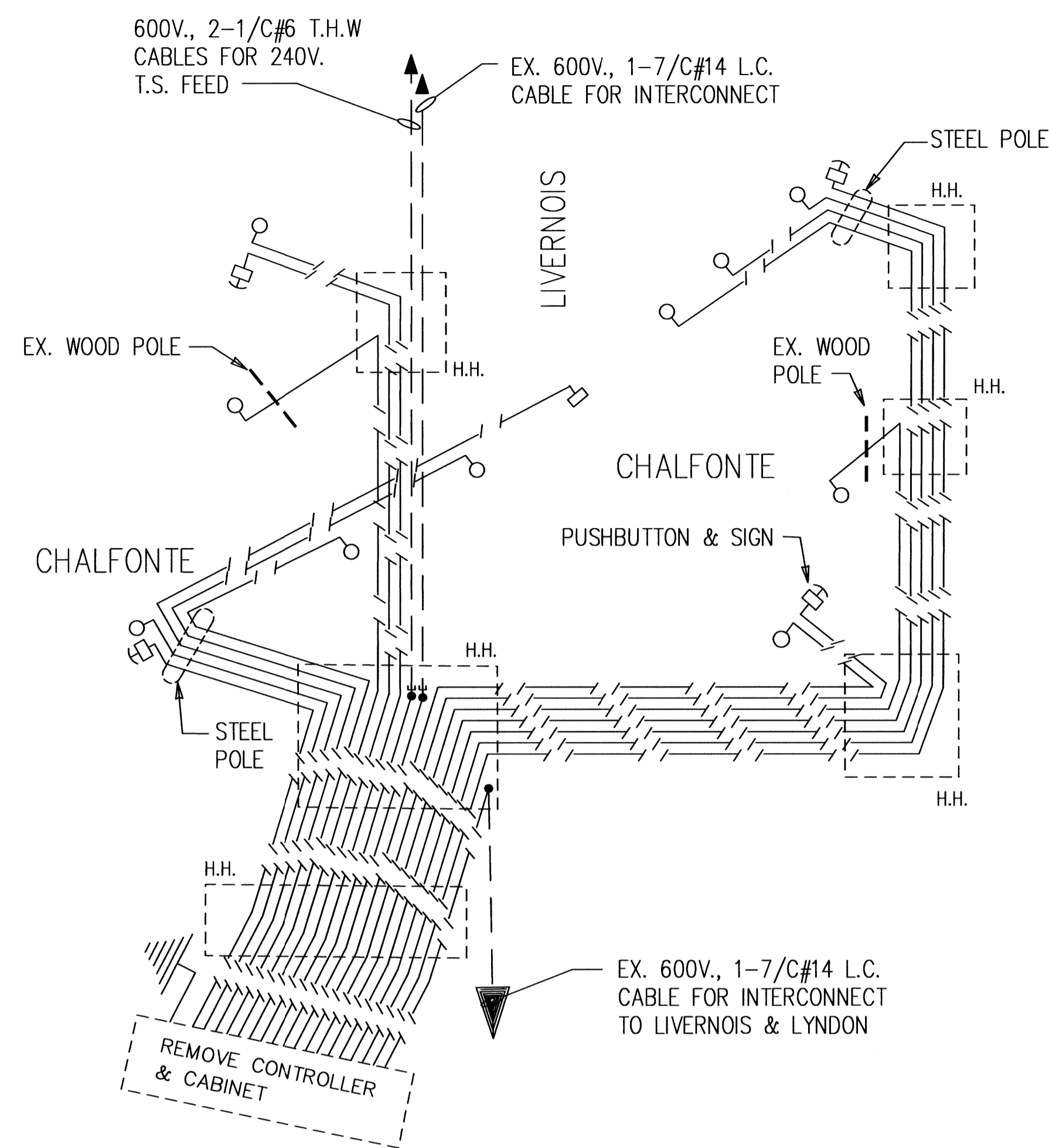
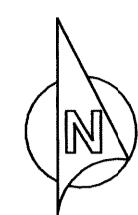


REMOVAL SHEET

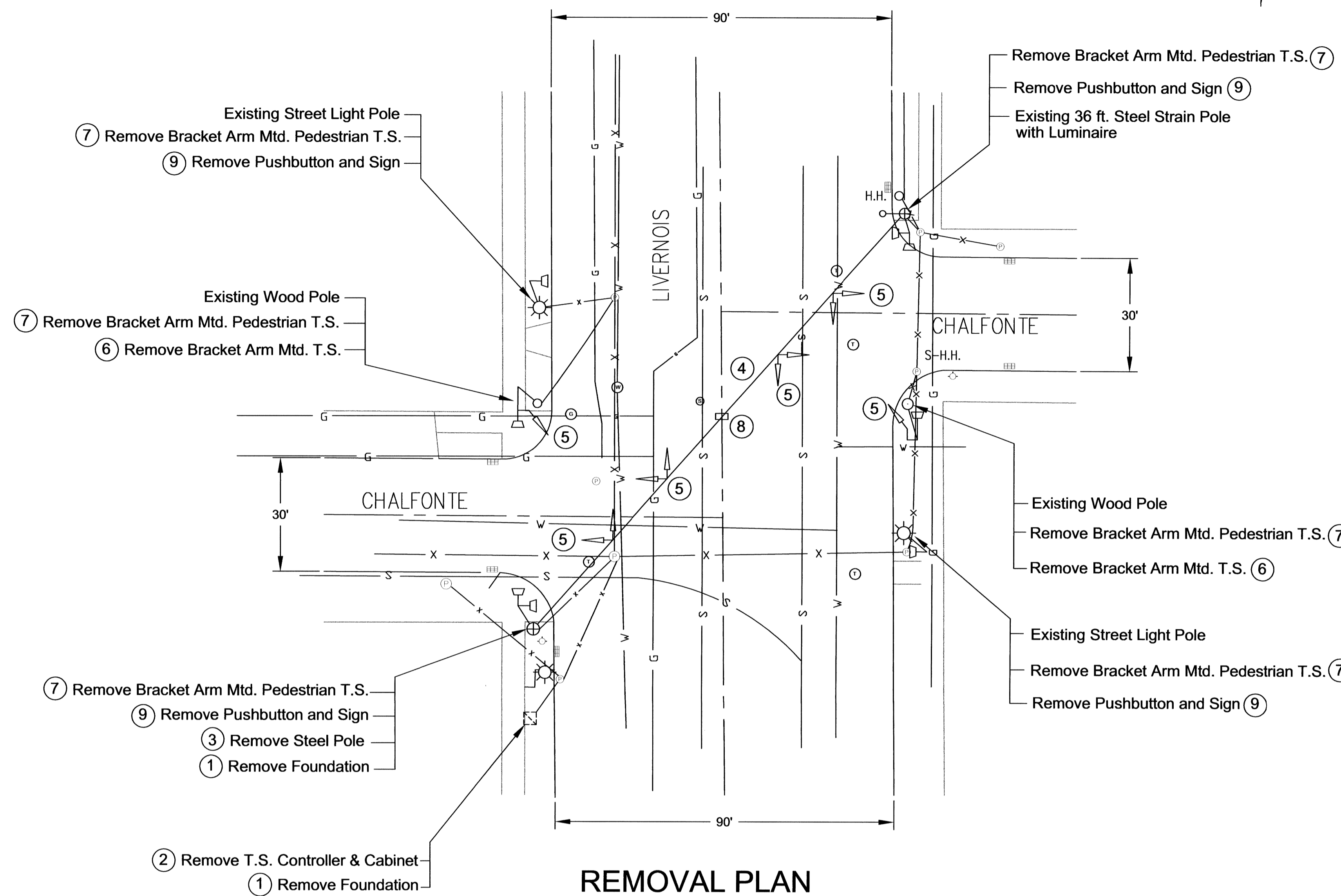
DESIGNED BY K. Patel	APPROVED:	CHECKED BY:	CHECKED BY:	LIVERNOS AVE. MEDIAN IMPROVEMENTS PHASE II LIVERNOS & LYNDON	SHEET 43 OF 62 SHEETS JULY 13, 2006 DRWG NO. LD-1606.1 JOB NO. 86170 A
DRAWN BY J. Lappin		APPROVED BY:	APPROVED BY:		
TRACED BY:		FILE NO:	FILE NO:		
CHECKED BY Jubi Chackunkal					

CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

PUBLIC LIGHTING
DEPARTMENT
CITY OF DETROIT



WIRING DIAGRAM
N.T.S.

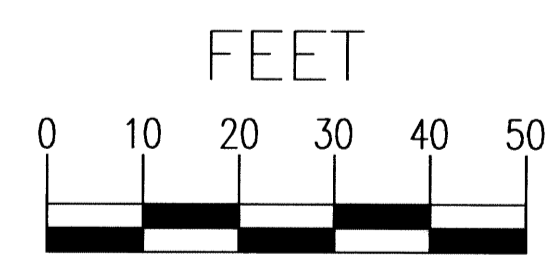


REMOVAL PLAN
SCALE: 1" = 20'

LIST OF MATERIAL		
NO.	ITEMS	QTY
1	Fdn, Rem	2 Ea
2	Controller and Cabinet, Rem	1 Ea
3	Steel Pole, Rem	1 Ea
4	Span Wire, Rem	1 Ea
5	TS, Span Wire Mtd, Rem	4 Ea
6	TS, Bracket Arm Mtd, Rem	2 Ea
7	TS, Pedestrian, Bracket Arm Mtd, Rem	6 Ea
8	Case Sign, Rem	1 Ea
9	Pushbutton, Rem	4 Ea

- NOTES:**
- ALL REMOVED TRAFFIC SIGNAL AND STREET LIGHTING EQUIPMENT SHALL BE SALVAGED IN REUSABLE CONDITION AND SHALL BECOME PROPERTY OF P.L.D. ALL REMOVED MATERIAL WILL BE STORED ON SITE FOR PICK-UP BY P.L.D. ALL MATERIAL LEFT FOR THE CONTRACTOR WILL BECOME THE RESPONSIBILITY OF THE CONTRACTOR FOR DISPOSAL AWAY FROM THE SITE.
 - ALL STREET LIGHTING EQUIPMENT ON REMOVED/ REPLACED WOOD POLES OR T.S. STANDARDS MUST BE TRANSFERRED TO THE NEW WOOD POLES OR T.S. STANDARDS.
 - EXISTING TRAFFIC SIGNAL TO REMAIN IN OPERATION UNTIL SUCH TIME THAT THE NEW T.S. IS PUT INTO OPERATION. EXISTING T.S. FACILITIES TO BE REMOVE IMMEDIATELY AFTER NEW T.S. IS PUT INTO OPERATION.
 - ALL FOUNDATIONS THAT ARE TO BE REMOVED, SHALL BE REMOVED FULL DEPTH. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVE THAT THE FOUNDATIONS HAVE BEEN COMPLETELY REMOVED.
 - CONTACT THE SYSTEM OPERATOR AT (313) 224-0500 OF PLD FOR ELECTRICAL SERVICE CONNECTION.

FOR ALL SIGN TRANSFERS PLEASE CONTACT RUBIN MANN SIGN SHOP MANAGER AT (313) 628-2923 3 WEEKS PRIOR TO REMOVING ANY POLE, TO TRANSFER THE EXISTING SIGNS TO THE NEW POLE.

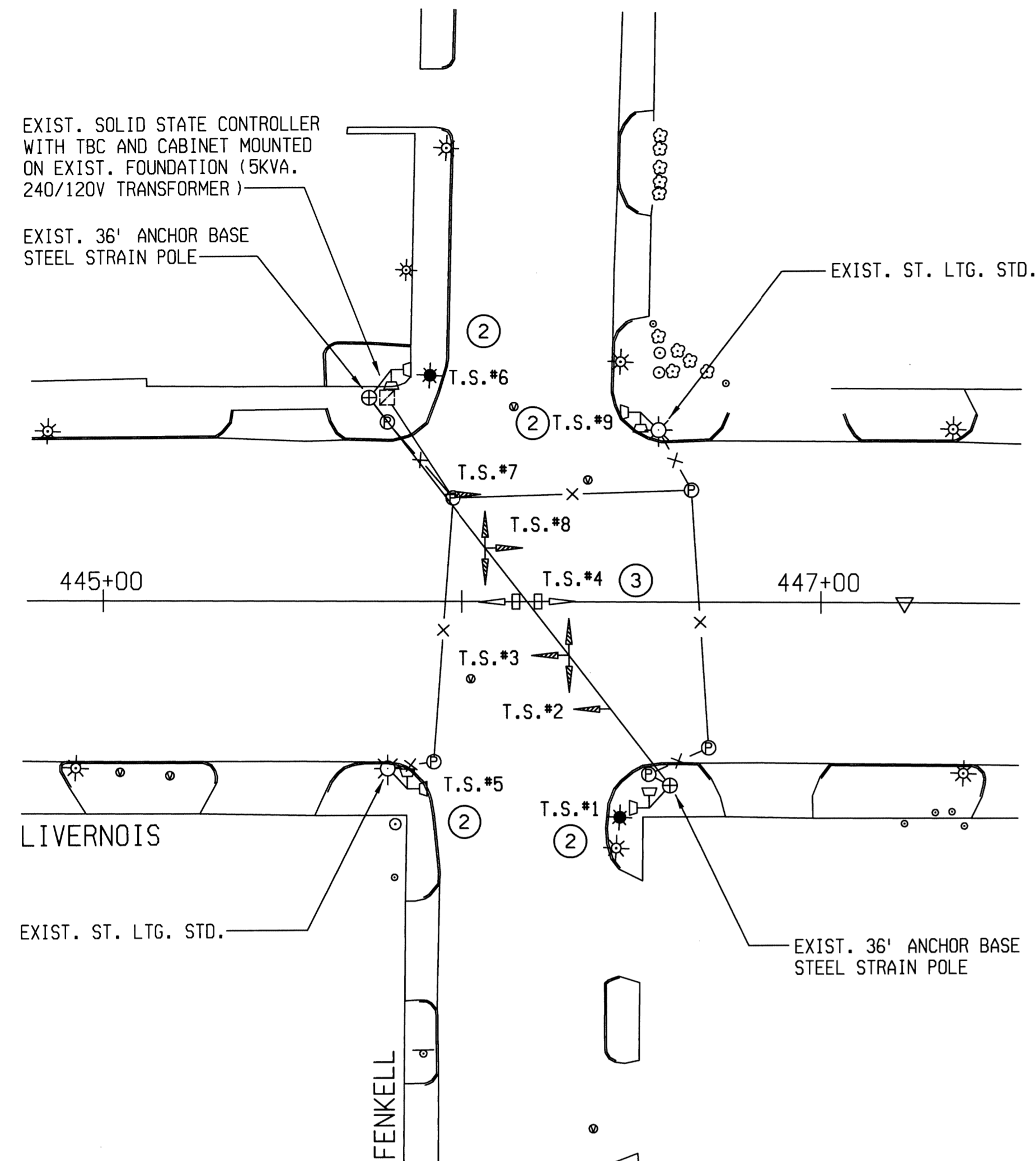


REMOVAL SHEET

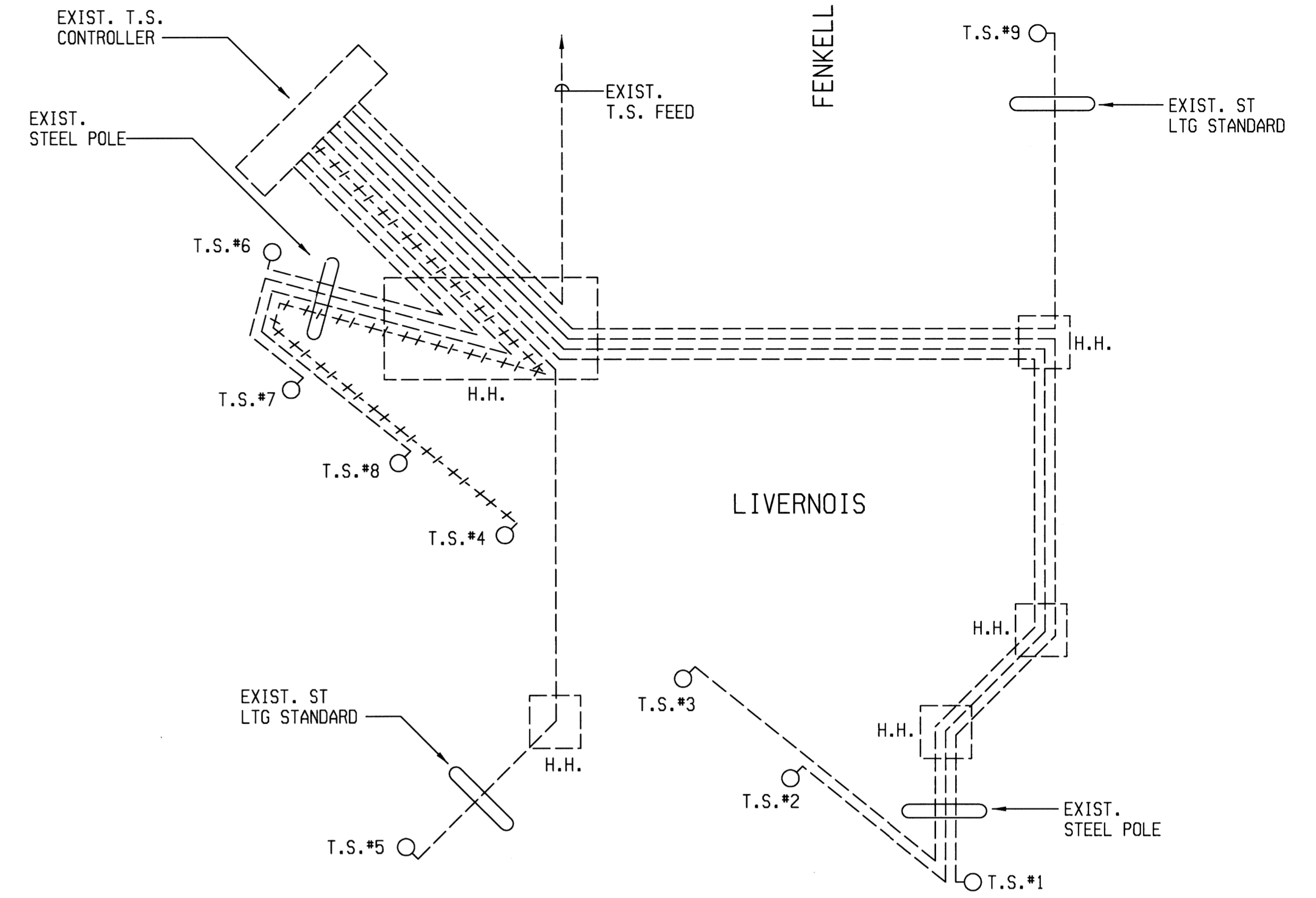
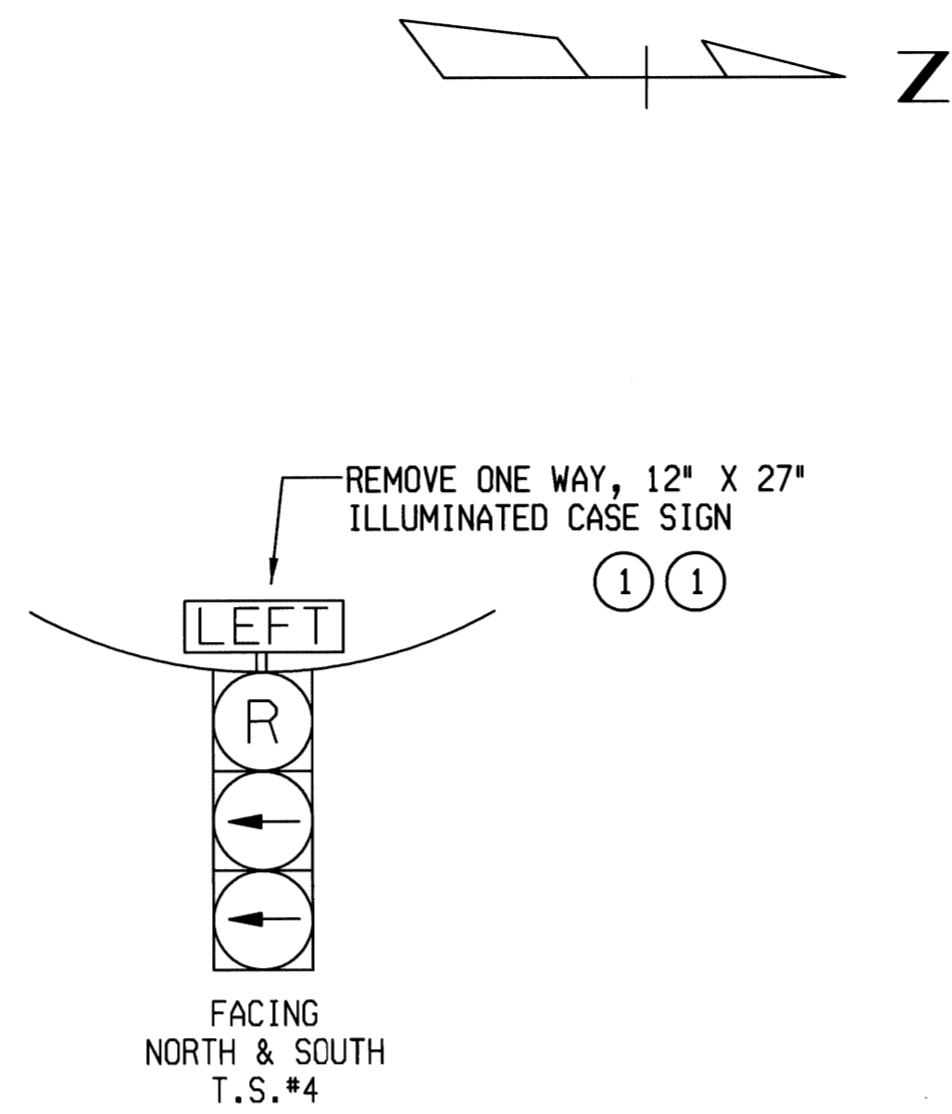
DESIGNED BY: K. Patel DRAWN BY: J. Lappin TRACED BY: CHECKED BY: Jubi Chackunkal	APPROVED: <div style="text-align: center;"> CITY OF DETROIT DEPARTMENT OF PUBLIC WORKS TRAFFIC ENGINEERING DIVISION </div>	CHECKED BY: APPROVED BY: FILE NO.:	<div style="text-align: center;"> PUBLIC LIGHTING DEPARTMENT CITY OF DETROIT </div>	CHECKED BY: APPROVED BY: FILE NO.:	<div style="text-align: center;"> LIVVERNOIS AVE. MEDIAN IMPROVEMENTS PHASE II CHALFONTE & LIVVERNOIS </div>	SHEET 44 OF 62 SHEETS JULY 13, 2006 DRWG NO. LD-1605.1 JOB NO. 86170 A
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JOB NO.: 86170 A CONTROL SECTION NO.: EDFC 82163

PLD:\LIVVERNOIS\PLD-1605 Chalfonte-Livvernois.dwg, 7/10/2006 1:02:11 PM, JPL Design: JPL 10/20/06 by HP, 1:24:0



REMOVAL PLAN
SCALE 1" = 30'



REMOVAL WIRING DIAGRAM

1. NEW T.S. HEADS ARE TO BE BAGGED UNTIL SUCH TIME AS THE NEW T.S. INSTALLATION IS PUT INTO OPERATION. BAGGING & UNBAGGING OF NEW T.S. HEADS SHALL BE INCLUDED IN THE INSTALLATION OF T.S. ON THIS CONTRACT AND WILL NOT BE PAID FOR SEPARATELY. TIME OF BAGGING AND UNBAGGING TO BE DIRECTED BY THE ENGINEER.
2. FOR ALL SIGN TRANSFERS: PLEASE CONTACT RUBIN MANN, SIGN SHOP MANAGER AT (1-313-628-2933) 72 HOURS PRIOR TO REMOVING ANY POLE TO TRANSFER THE EXISTING SIGNS TO THE NEW POLE.
3. CONTRACTOR SHALL USE PLD DETAILS FOR WORK SHOWN ON THIS SHEET.
4. ALL STREET LTG. EQUIPMENT ON REMOVED/REPLACED WOOD POLES, OR T.S. STANDARDS MUST BE TRANSFERRED TO THE NEW WOOD POLES OR T.S. STANDARDS.
5. CONTACT SUNNY JACOBS OR JUBI CHACKUNKAL OF THE CITY OF DETROIT DPW, TRAFFIC ENGINEERING AT (313) 224-1315 OR (313) 628-5604 48 HOURS PRIOR TO ACTIVATION OF NEW T.S.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR PROGRAMMING OF CONTROLLER, WIRING OF THE CABINET & INSTALLATION OF THE TRANSFORMER. TIMING PERMIT TO BE PROVIDED BY THE CITY OF DETROIT TRAFFIC ENGINEERING.
7. CONTACT THE SYSTEM OPERATOR AT (313) 224-0500 OF PLD FOR ELECTRICAL SERVICE CONNECTION.

LIST OF MATERIAL		
NO.	ITEM	QUANTITIES
①	Case Sign, Rem	2 Ea
②	TS, Pedestrian, Bracket Arm Mtd, Rem	4 Ea
③	TS, Span Wire Mtd, Rem	1 Ea

NO.	DESCRIPTION	DATE	BY

PLAN PREPARED BY
MANSELL ASSOCIATES INC.
ENGINEERING CONSULTANTS
33608 Grand River
Farmington, MI 48335
(248) 473-7070

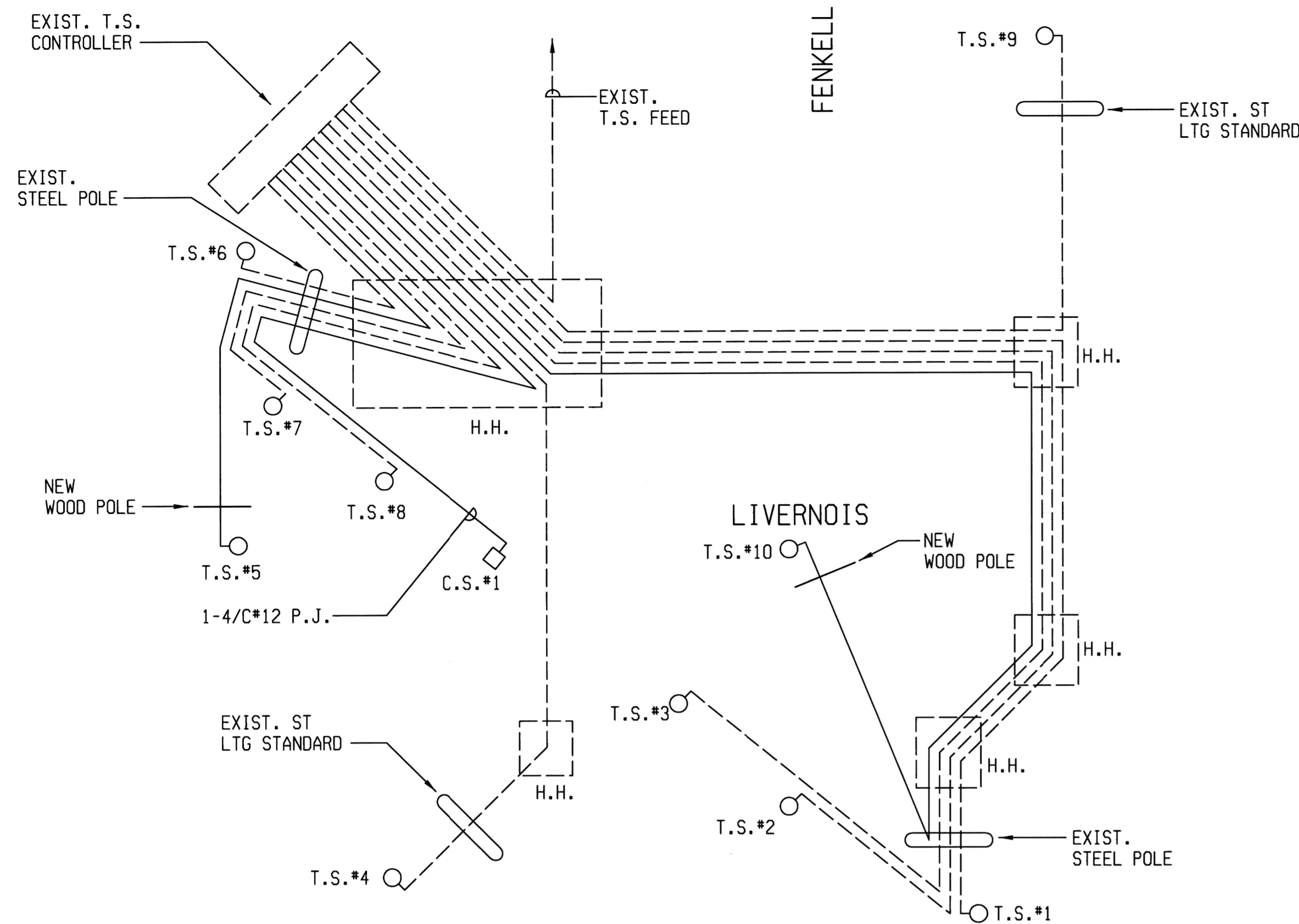


CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

LIVernois AVE MEDIAN IMPROVEMENTS PHASE II
LIVernois & FENKELL

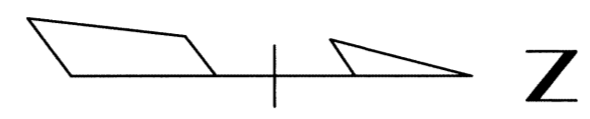
SHEET 45 OF 62 SHEETS
CONTROL SECTION
JOB NUMBER
DATE: 06-15-07

DATE: WORKED ON BY: CHECKED BY: FILE NAME:



ALL CABLES SHALL BE 1-7/C #14 P.J. UNLESS OTHERWISE INDICATED

WIRING DIAGRAM

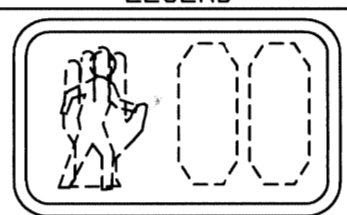


CASE SIGN LEGEND



FACING ALL DIRECTIONS
FOUR-WAY, 24" X 30"
ILLUMINATED CASE SIGN (LED)
C.S.#1

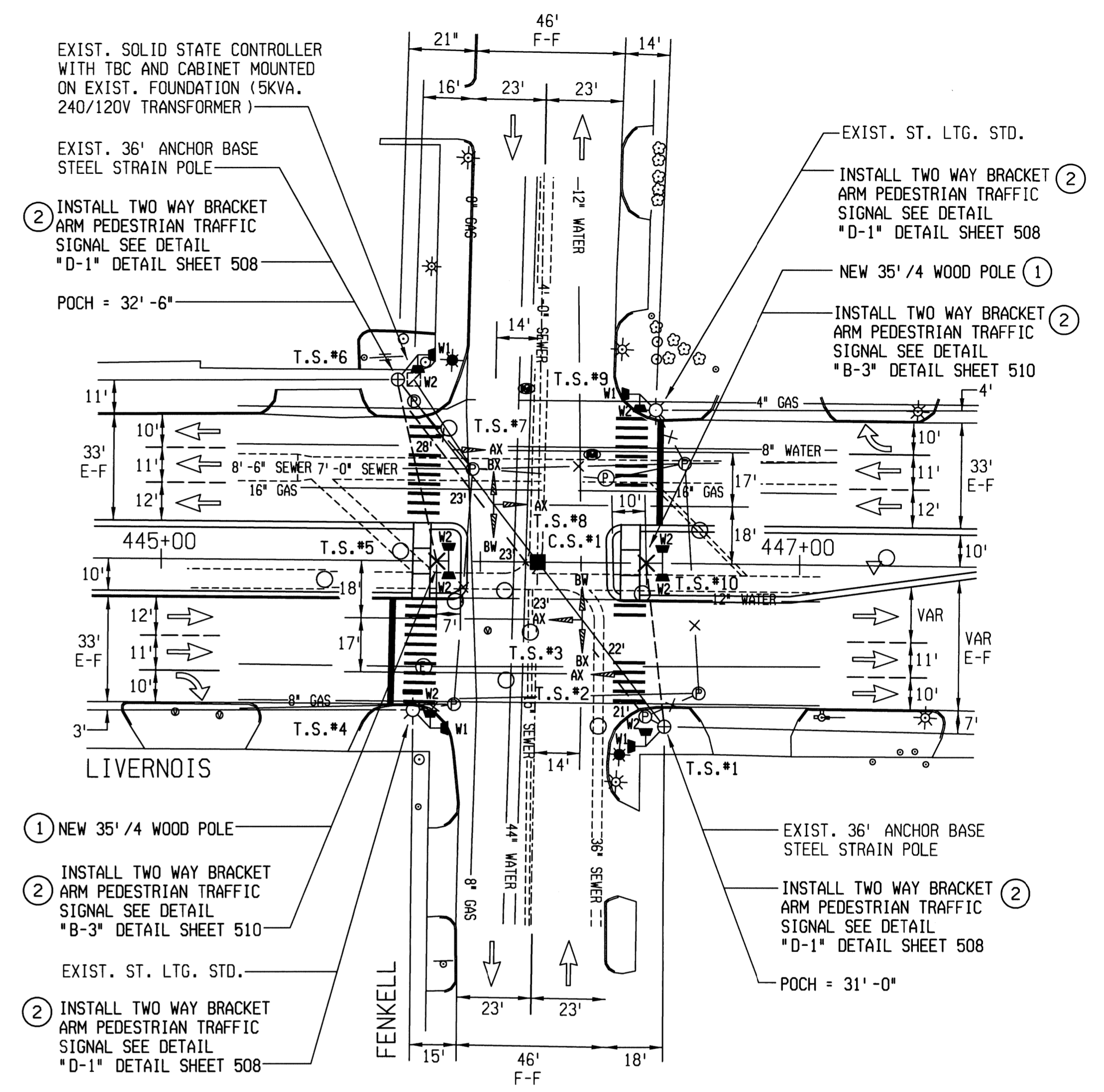
PEDESTRIAN COUNTDOWN LEGEND



FOR REMOVAL OF STREET CAR RAIL AND FOUNDATION SEE ROAD PLANS

CONTRACTOR SHALL ADJUST POLE CONTACT HEIGHTS OF EXISTING SPAN WIRE TO POCH VALUES SHOWN ON PLANS. (INCLUDED IN THE INSTALLATION OF "Case Sign, Four Way, 24 inch by 30 inch (LED)" ON THIS CONTACT.

ALL OVERHEAD CONDUCTOR CABLES SHALL BE SUPPORTED BY A MESSENGER CABLE

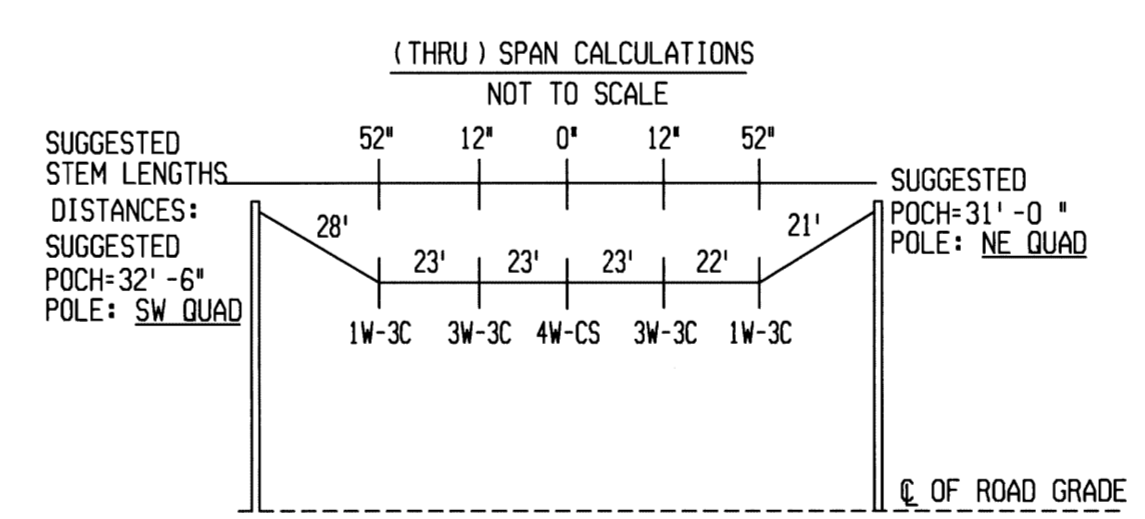


- ① NEW 35' / 4 WOOD POLE
- ② INSTALL TWO WAY BRACKET ARM PEDESTRIAN TRAFFIC SIGNAL SEE DETAIL "B-3" DETAIL SHEET 510
- EXIST. ST. LTG. STD.
- ② INSTALL TWO WAY BRACKET ARM PEDESTRIAN TRAFFIC SIGNAL SEE DETAIL "D-1" DETAIL SHEET 508

PLAN
SCALE 1" = 30'

1. NEW T.S. HEADS ARE TO BE BAGGED UNTIL SUCH TIME AS THE NEW T.S. INSTALLATION IS PUT INTO OPERATION. BAGGING & UNBAGGING OF NEW T.S. HEADS SHALL BE INCLUDED IN THE INSTALLATION OF T.S. ON THIS CONTRACT AND WILL NOT BE PAID FOR SEPARATELY. TIME OF BAGGING AND UNBAGGING TO BE DIRECTED BY THE ENGINEER.
2. FOR ALL SIGN TRANSFERS: PLEASE CONTACT RUBIN MANN, SIGN SHOP MANAGER AT (313) 628-2933 72 HOURS PRIOR TO REMOVING ANY POLE TO TRANSFER THE EXISTING SIGNS TO THE NEW POLE.
3. CONTRACTOR SHALL USE PLD DETAILS FOR WORK SHOWN ON THIS SHEET.
4. ALL STREET LTG. EQUIPMENT ON REMOVED/REPLACED WOOD POLES, OR T.S. STANDARDS MUST BE TRANSFERRED TO THE NEW WOOD POLES OR T.S. STANDARDS.
5. CONTACT SUNNY JACOBS OR JUBI CHACKUNKAL OF THE CITY OF DETROIT DPW, TRAFFIC ENGINEERING AT (313) 224-1315 OR (313) 628-5604 48 HOURS PRIOR TO ACTIVATION OF NEW T.S.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR PROGRAMMING OF CONTROLLER, WIRING OF THE CABINET & INSTALLATION OF THE TRANSFORMER. TIMING PERMIT TO BE PROVIDED BY THE CITY OF DETROIT TRAFFIC ENGINEERING.
7. CONTACT THE SYSTEM OPERATOR AT (313) 224-0500 OF PLD FOR ELECTRICAL SERVICE CONNECTION.

LIST OF MATERIAL		
NO.	ITEM	QUANTITIES
①	Wood Pole, C1 4, 35 foot	2 Ea
②	TS, Pedestrian, Two Way Bracket Arm Mtd (LED) Countdown	6 Ea
③	Case Sign, Four Way, 24 inch by 30 inch (LED)	1 Ea



NOTES:
1. POCH (POLE CONTACT HEIGHT) IS SHOWN ABOVE C. GRADE, FIELD ADJUSTMENTS ARE TO BE MADE FOR ANY DIFFERENCE IN GRADE AT POLE VS. ROAD GRADE.
POCH IS CALCULATED AT 1000 LBS TENSION.

NO.	DESCRIPTION	BY	CHKD	APP'D	DATE

PLAN PREPARED BY
MANSELL ASSOCIATES INC.
ENGINEERING CONSULTANTS
(248) 473-7070
33608 Grand River
Farmington, MI 48335

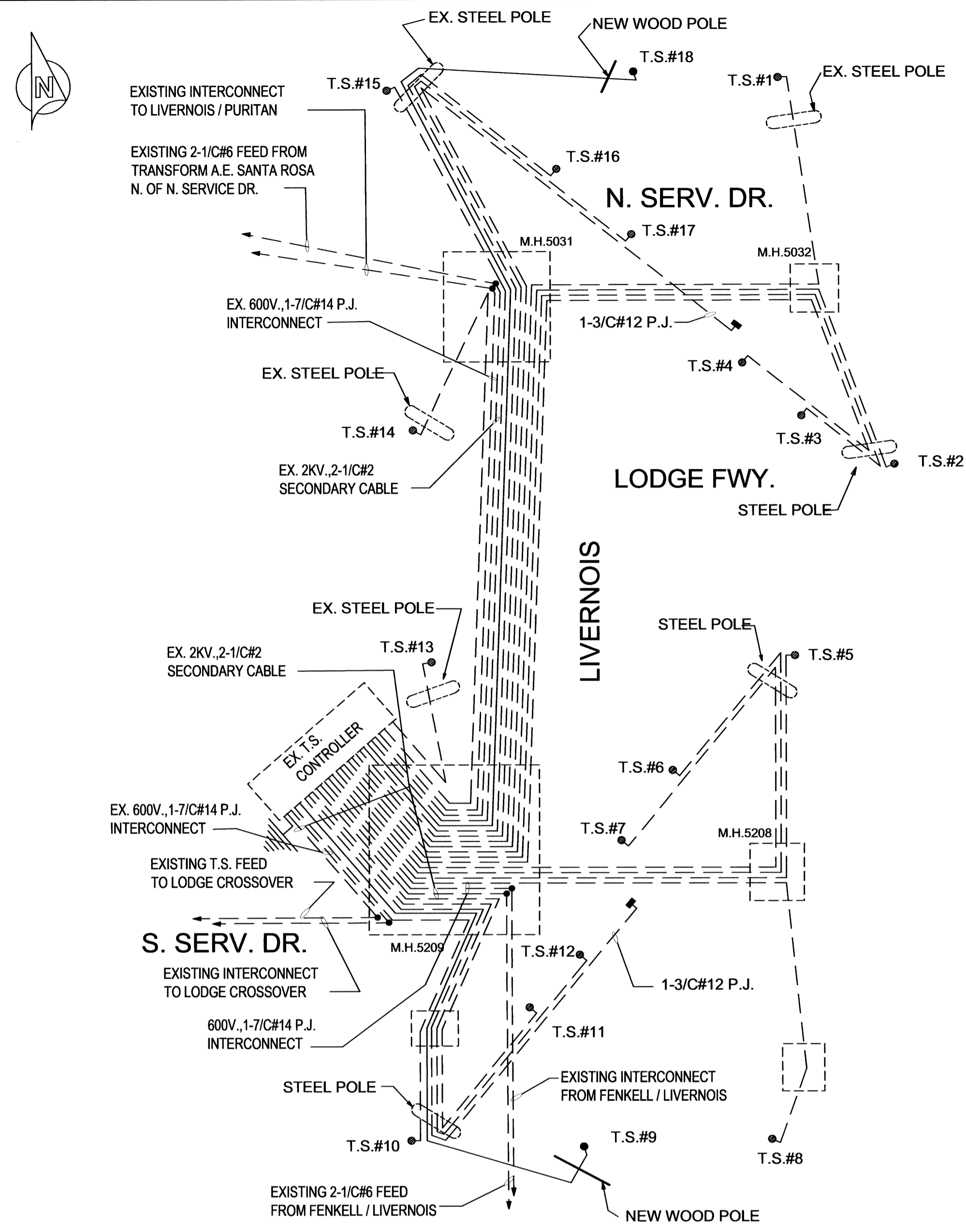


CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

LIVernois AVE MEDIAN IMPROVEMENTS PHASE II
LIVernois & FENKELL

SHEET 46 OF 62 SHEETS
CONTROL SECTION
JOB NUMBER
DATE: 06-15-07

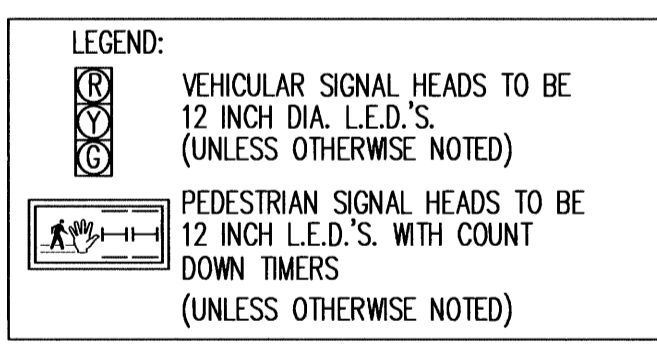
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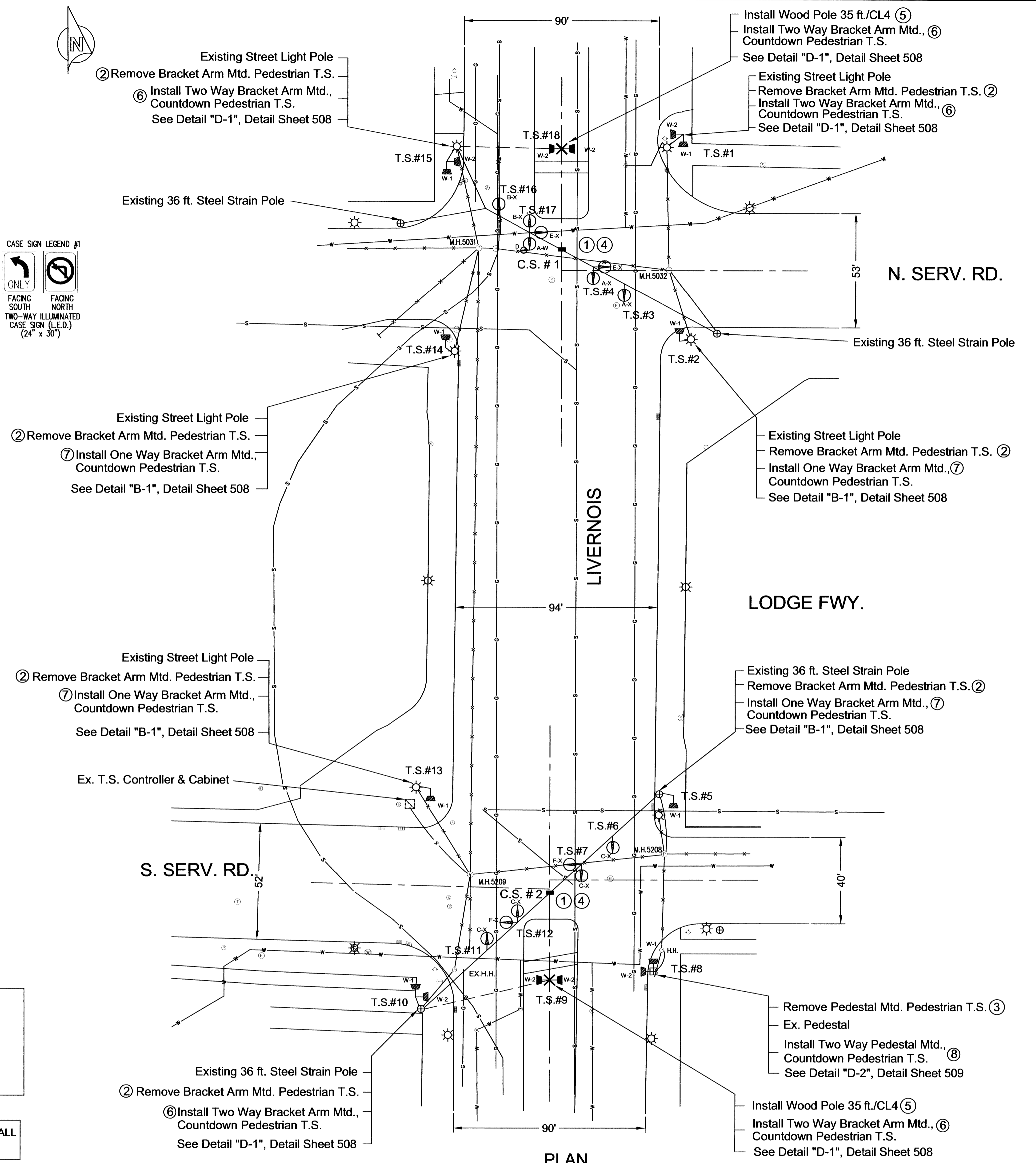
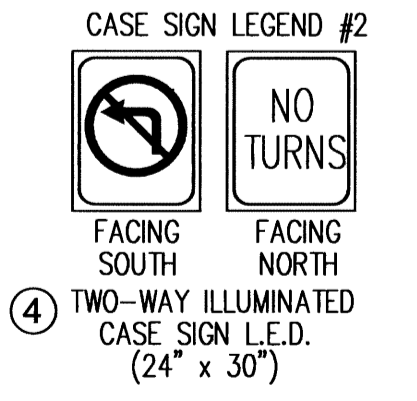
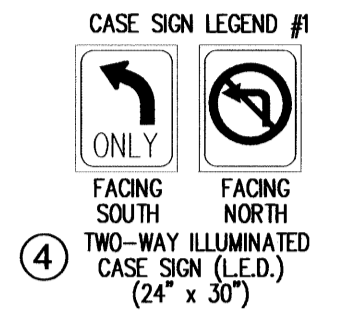
WIRING DIAGRAM
N.T.S.

- NOTES:**
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 - NEW T.S. HEADS TO BE BAGGED UNTIL SUCH TIME AS THE NEW T.S. INSTALLATION IS PUT INTO OPERATION. BAGGING & UNBAGGING OF NEW T.S. HEADS SHALL BE INCLUDED IN THE ITEM SPAN WIRE AND WILL NOT BE PAID FOR SEPARATELY. TIME OF BAGGING AND UNBAGGING TO BE DIRECTED BY THE ENGINEER.
 - FOR ALL SIGN TRANSFERS PLEASE CONTACT RUBIN MANN SIGN SHOP MANAGER AT (313) 628-2923 3 WEEKS PRIOR TO REMOVING ANY POLE, TO TRANSFER THE EXISTING SIGNS TO THE NEW POLE.
 - CONTRACTOR SHALL USE PLD DETAILS FOR WORK SHOWN ON THIS SHEET.
 - ALL STREET LIGHTING EQUIPMENT ON REMOVED/ REPLACED WOOD POLES, OR T.S. STANDARDS MUST BE TRANSFERRED TO THE NEW WOOD POLES OR T.S. STANDARDS.
 - CONTACT CAROLYN DAVIS OF PLD AT (313)-267-7270, 48 HOURS PRIOR TO ACTIVATION OF NEW T.S.
 - CONTACT JUBI CHACKUNKAL OR SUNNY JACOBS OF DPW, TRAFFIC ENGINEERING AT (313) 224-1315 OR (313) 628-5604, 48 HOURS PRIOR TO ACTIVATION OF NEW T.S.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR PROGRAMMING OF CONTROLLER, WIRING OF CABINET & INSTALLATION OF TRANSFORMER. TIMING PERMIT TO BE PROVIDED BY THE CITY OF DETROIT TRAFFIC ENGINEERING.
 - CONTACT THE SYSTEM OPERATOR AT (313) 224-0600 OF PLD FOR ELECTRICAL SERVICE CONNECTION.

LIST OF MATERIAL		
NO.	ITEMS	QTY
1	Case Sign, Rem	2 Ea
2	TS, Pedestrian, Bracket Arm Mtd, Rem	7 Ea
3	TS, Pedestrian, Pedestal Mtd, Rem	1 Ea
4	Case Sign, Two Way, 24 inch by 30 inch (LED)	2 Ea
5	Wood Pole, Cl 4, 35 foot	2 Ea
6	TS, Pedestrian, Two Way Bracket Arm Mtd (LED), Count Down	5 Ea
7	TS, Pedestrian, One Way Bracket Arm Mtd (LED), Count Down	4 Ea
8	TS, Pedestrian, Two Way Pedestal Mtd (LED), Count Down	1 Ea

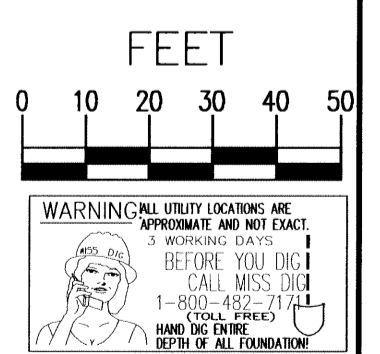


DOWN TIME NOTE:
THE CONTRACTOR SHALL COMPLETE THE SWITCH OVER FROM THE EXISTING T.S. EQUIPMENT TO THE NEW T.S. EQUIPMENT IN ONE WORKING DAY. THE EXISTING T.S. EQUIPMENT SHALL NOT BE TURNED OFF PRIOR TO 9:00 AM. THE NEW T.S. EQUIPMENT SHALL BE BACK IN OPERATION PRIOR TO THE CONTRACTOR LEAVING THE LOCATION. WHILE THE T.S. EQUIPMENT IS NOT IN OPERATION, THE INTERSECTION SHALL BE CONTROLLED WITH "STOP" SIGNS ON LODGE FWY SERVICE DRIVES.



PLAN
SCALE: 1" = 30'

INSTALLATION SHEET



COORD.	DESCRIPTION	DATE	BY	APP'D	DATE
	REVISIONS LOCATED BY COORDINATES ON SHEET				

DESIGNED BY	K. Patel	APPROVED:	
DRAWN BY	J. Lappin		
TRACED BY			
CHECKED BY	Jubi Chackunkal		

CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

CHECKED BY:
APPROVED BY:
FILE NO:

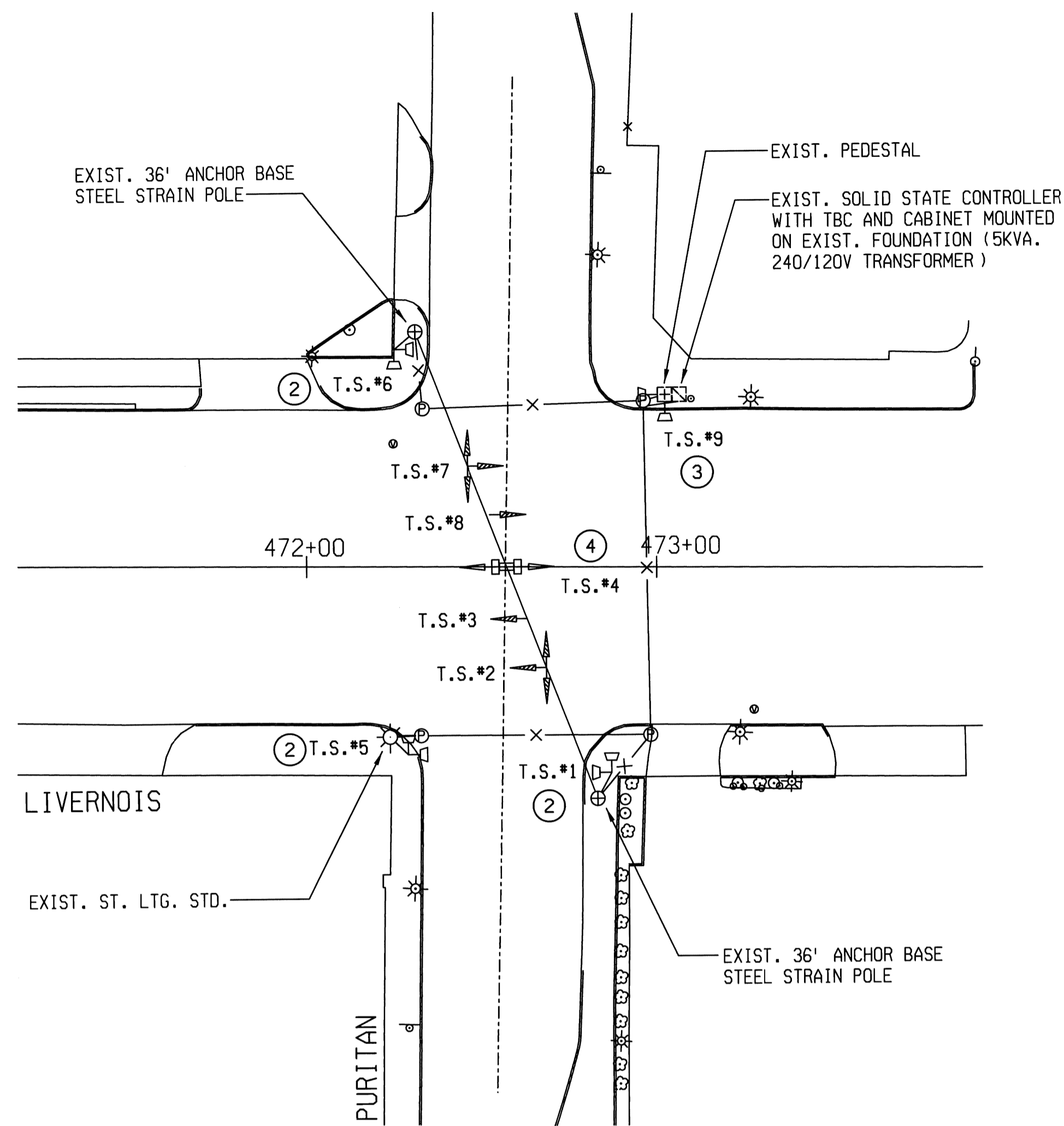
PUBLIC LIGHTING
DEPARTMENT
CITY OF DETROIT

CHECKED BY:
APPROVED BY:
FILE NO:

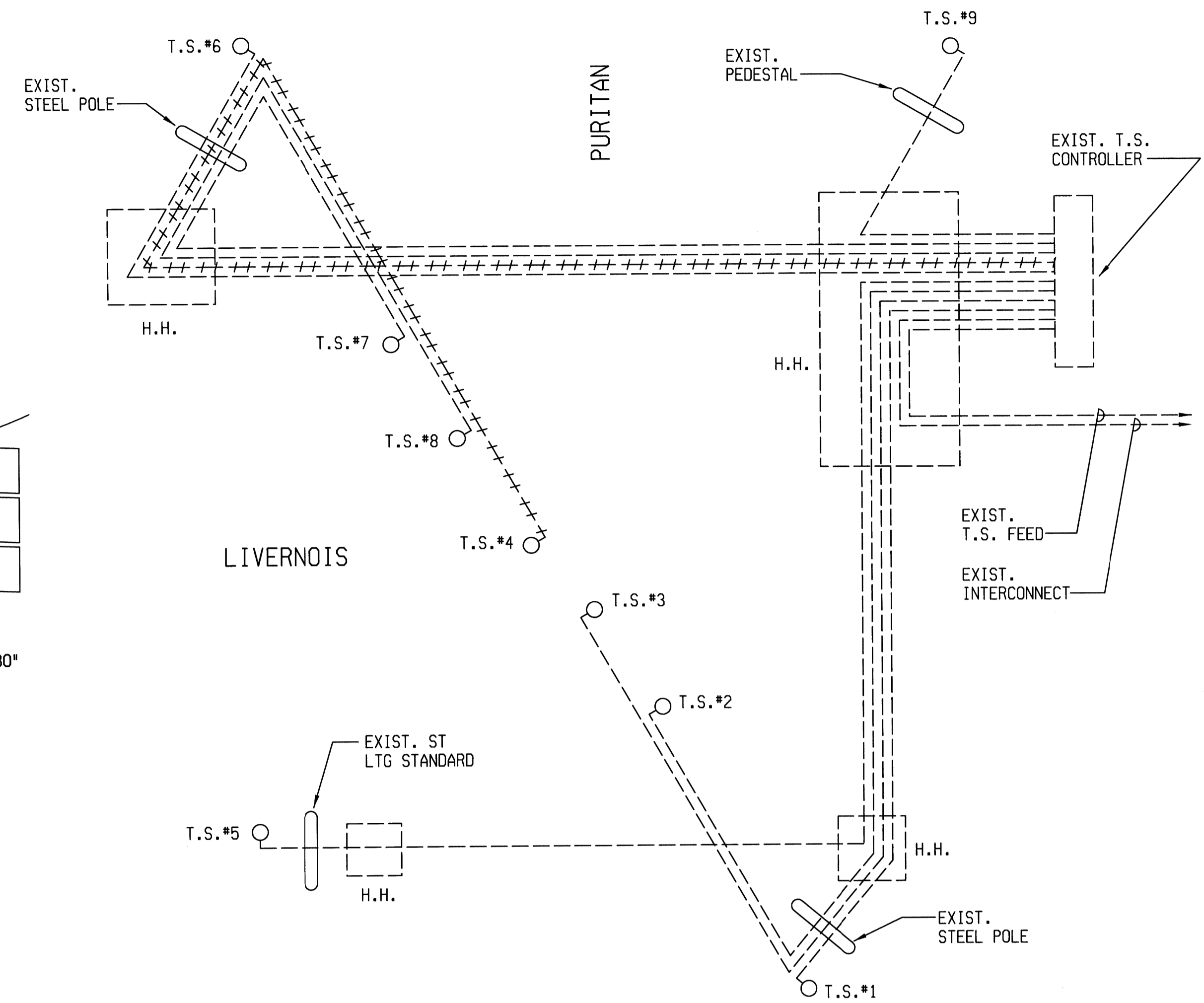
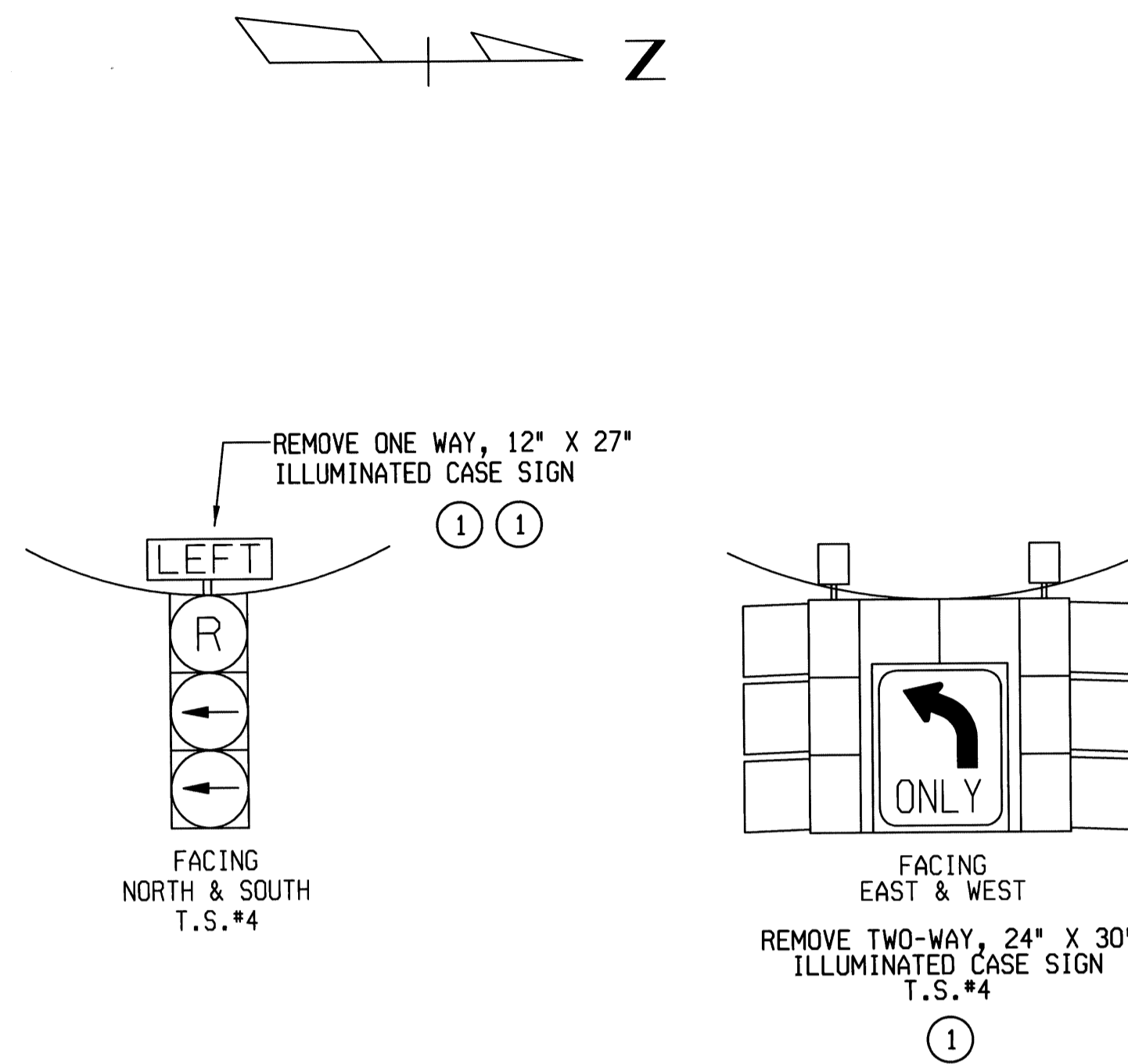
LIVERNOIS AVE. MEDIAN IMPROVEMENTS
PHASE II
LIVERNOIS & LODGE FWY. SERVICE DR.

CYCLIC WATTS: 918 WATTS STEADY WATTS: 202 WATTS
SHEET 47 OF 62 SHEETS
JULY 28, 2006
DRWG NO. LD-1603.2
JOB NO. 86170 A

JOB NO.: 86170 A CONTROL SECTION NO.: EDFC 82163



REMOVAL PLAN
SCALE 1" = 30'



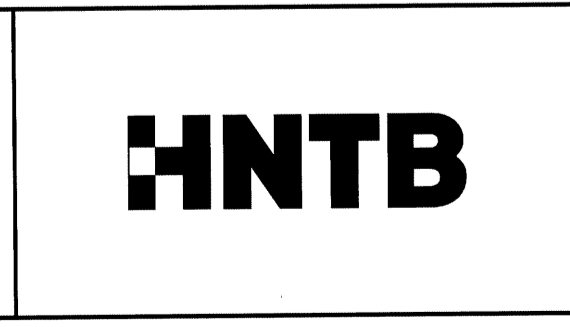
REMOVAL WIRING DIAGRAM

1. NEW T.S. HEADS ARE TO BE BAGGED UNTIL SUCH TIME AS THE NEW T.S. INSTALLATION IS PUT INTO OPERATION. BAGGING & UNBAGGING OF NEW T.S. HEADS SHALL BE INCLUDED IN THE INSTALLATION OF T.S. ON THIS CONTRACT AND WILL NOT BE PAID FOR SEPARATELY. TIME OF BAGGING AND UNBAGGING TO BE DIRECTED BY THE ENGINEER.
2. FOR ALL SIGN TRANSFERS: PLEASE CONTACT RUBIN MANN, SIGN SHOP MANAGER AT (1-313-628-2933) 72 HOURS PRIOR TO REMOVING ANY POLE TO TRANSFER THE EXISTING SIGNS TO THE NEW POLE.
3. CONTRACTOR SHALL USE PLD DETAILS FOR WORK SHOWN ON THIS SHEET.
4. ALL STREET LTG. EQUIPMENT ON REMOVED/REPLACED WOOD POLES, OR T.S. STANDARDS MUST BE TRANSFERRED TO THE NEW WOOD POLES OR T.S. STANDARDS.
5. CONTACT SUNNY JACOBS OR JUBI CHACKUNKAL OF THE CITY OF DETROIT DPW, TRAFFIC ENGINEERING AT (313) 224-1315 OR (313) 628-5604 48 HOURS PRIOR TO ACTIVATION OF NEW T.S.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR PROGRAMMING OF CONTROLLER, WIRING OF THE CABINET & INSTALLATION OF THE TRANSFORMER. TIMING PERMIT TO BE PROVIDED BY THE CITY OF DETROIT TRAFFIC ENGINEERING.
7. CONTACT THE SYSTEM OPERATOR AT (313) 224-0500 OF PLD FOR ELECTRICAL SERVICE CONNECTION.

LIST OF MATERIAL			
NO.	ITEM	QUANTITIES	ITEM CODE
①	Case Sign, Rem	3 Ea	8200020
②	TS, Pedestrian, Bracket Arm Mtd, Rem	3 Ea	8200180
③	TS, Pedestrian, Pedestal Mtd, Rem	1 Ea	8200181
④	TS, Span Wire Mtd, Rem	1 Ea	8200182

DESCRIPTION	DATE	BY	CHKD	APPROV

PLAN PREPARED BY
MANSELL ASSOCIATES INC.
 ENGINEERING CONSULTANTS
 33608 Grand River Farmington, MI 48335
 (248) 473-7070

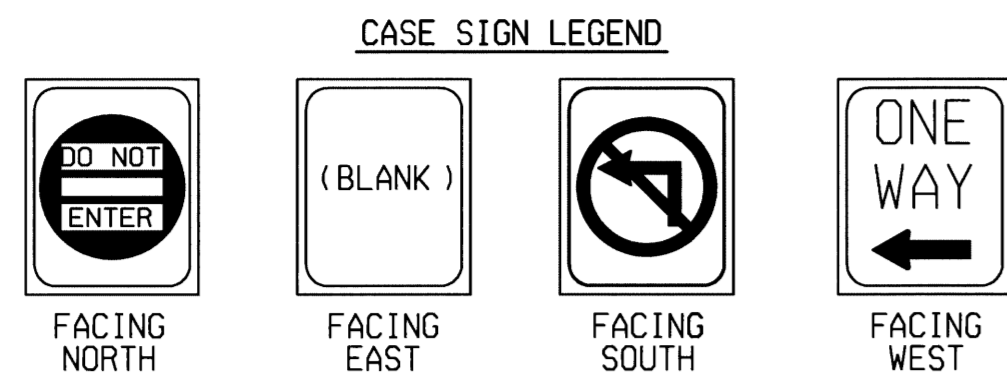


CITY OF DETROIT
 DEPARTMENT OF PUBLIC WORKS
 TRAFFIC ENGINEERING DIVISION

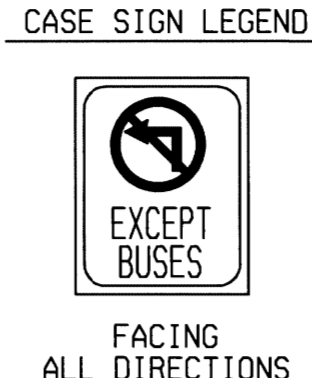
LIVERNOIS AVE MEDIAN IMPROVEMENTS PHASE II
 LIVERNOIS AT PURITAN

SHEET 48 OF 62 SHEETS
CONTROL SECTION
JOB NUMBER
DATE: 06-15-07

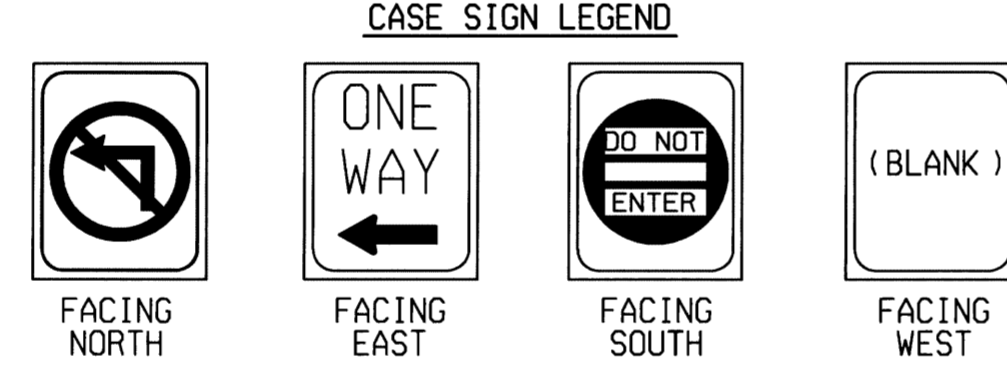
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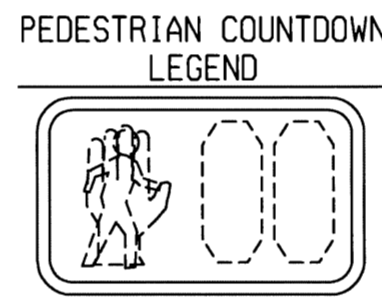
FOUR-WAY, 24" X 30" ILLUMINATED CASE SIGN (LED) C.S.#3



FOUR-WAY, 24" X 30" ILLUMINATED CASE SIGN (LED) C.S.#1



FOUR-WAY, 24" X 30" ILLUMINATED CASE SIGN (LED) C.S.#2



NEW 35' / 4 WOOD POLE
INSTALL ONE WAY BRACKET ARM TRAFFIC SIGNAL SEE DETAIL "A-1" DETAIL SHEET 508

NEW 35' / 4 WOOD POLE
FIT UP WOOD POLE AS A T.S. CABLE POLE
INSTALL TWO WAY BRACKET ARM PEDESTRIAN TRAFFIC SIGNAL SEE DETAIL "B-3" DETAIL SHEET 510
EXIST. ST. LTG. STD.
INSTALL TWO WAY BRACKET ARM PEDESTRIAN TRAFFIC SIGNAL SEE DETAIL "D-1" DETAIL SHEET 508

EXIST. PEDESTAL
INSTALL TWO WAY PEDESTAL BRACKET ARM PEDESTRIAN TRAFFIC SIGNAL SEE DETAIL "D-2" DETAIL SHEET 509
EXIST. SOLID STATE CONTROLLER WITH TBC AND CABINET MOUNTED ON EXIST. FOUNDATION (5KVA. 240/120V TRANSFORMER)
NEW 35' / 4 WOOD POLE
FIT UP WOOD POLE AS A T.S. CABLE POLE
INSTALL TWO WAY BRACKET ARM PEDESTRIAN TRAFFIC SIGNAL SEE DETAIL "B-3" DETAIL SHEET 510
1-3" DIRECT BORE
6" GAS (DEAD)
33' E-F
10'
11'
12'
17'
18'
19'
24" WATER
12" WATER
BUILD NEW ROUND HANDHOLE TO ACCOMMODATE NEW AND EXISTING CONDUIT
EXIST. 36" ANCHOR BASE STEEL STRAIN POLE
INSTALL TWO WAY BRACKET ARM PEDESTRIAN TRAFFIC SIGNAL SEE DETAIL "D-1" DETAIL SHEET 508
POCH = 32' - 0"

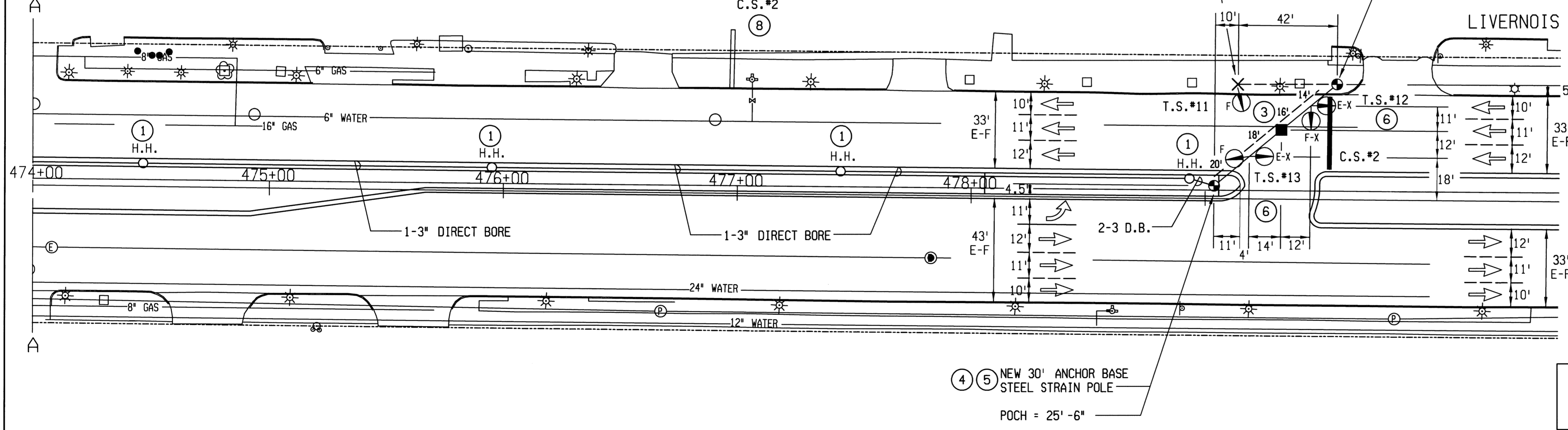
PLAN SCALE 1" = 30'

1. NEW T.S. HEADS ARE TO BE BAGGED UNTIL SUCH TIME AS THE NEW T.S. INSTALLATION IS PUT INTO OPERATION. BAGGING & UNBAGGING OF NEW T.S. HEADS SHALL BE INCLUDED IN THE INSTALLATION OF T.S. ON THIS CONTRACT AND WILL NOT BE PAID FOR SEPARATELY. TIME OF BAGGING AND UNBAGGING TO BE DIRECTED BY THE ENGINEER.
2. FOR ALL SIGN TRANSFERS: PLEASE CONTACT RUBIN MANN, SIGN SHOP MANAGER AT (313) 628-2933 72 HOURS PRIOR TO REMOVING ANY POLE TO TRANSFER THE EXISTING SIGNS TO THE NEW POLE.
3. CONTRACTOR SHALL USE PLD DETAILS FOR WORK SHOWN ON THIS SHEET.
4. ALL STREET LTG. EQUIPMENT ON REMOVED/REPLACED WOOD POLES, OR T.S. STANDARDS MUST BE TRANSFERRED TO THE NEW WOOD POLES OR T.S. STANDARDS.
5. CONTACT SUNNY JACOBS OR JUBI CHACKUNKAL OF THE CITY OF DETROIT DPW, TRAFFIC ENGINEERING AT (313) 224-1315 OR (313) 628-5604 48 HOURS PRIOR TO ACTIVATION OF NEW T.S.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR PROGRAMMING OF CONTROLLER, WIRING OF THE CABINET & INSTALLATION OF THE TRANSFORMER. TIMING PERMIT TO BE PROVIDED BY THE CITY OF DETROIT TRAFFIC ENGINEERING.
7. CONTACT THE SYSTEM OPERATOR AT (313) 224-0500 OF PLD FOR ELECTRICAL SERVICE CONNECTION.

FOR REMOVAL OF STREET CAR RAIL AND FOUNDATION SEE ROAD PLANS

CONTRACTOR SHALL ADJUST POLE CONTACT HEIGHTS OF EXISTING SPAN WIRE TO POCH VALUES SHOWN ON PLANS. (INCLUDED IN THE INSTALLATION OF "Case Sign, Four Way, 24 inch by 30 inch (LED)" ON THIS CONTACT.

ALL OVERHEAD CONDUCTOR CABLES SHALL BE SUPPORTED BY A MESSENGER CABLE



NO.	DESCRIPTION	DATE

PLAN PREPARED BY
MANSELL ASSOCIATES INC.
ENGINEERING CONSULTANTS
33608 Grand River Farmington, MI 48335
(248) 473-7070



CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

LIVERNOIS AVE MEDIAN IMPROVEMENTS PHASE II
LIVERNOIS AT PURITAN & XOVERS NORTH & SOUTH

SHEET 49 OF 62 SHEETS
CONTROL SECTION
JOB NUMBER
DATE: 06-15-07

DATE: WORKED ON BY: CHECKED BY: FILE NAME:

ALL CABLES SHALL BE 1-7/C #14 P.J. UNLESS OTHERWISE INDICATED

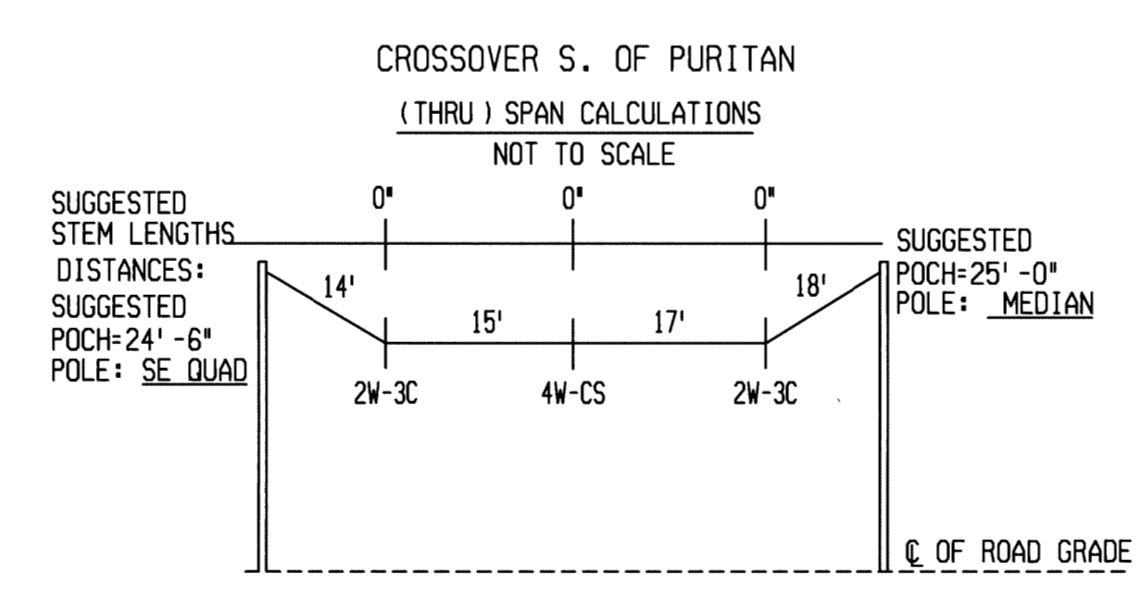
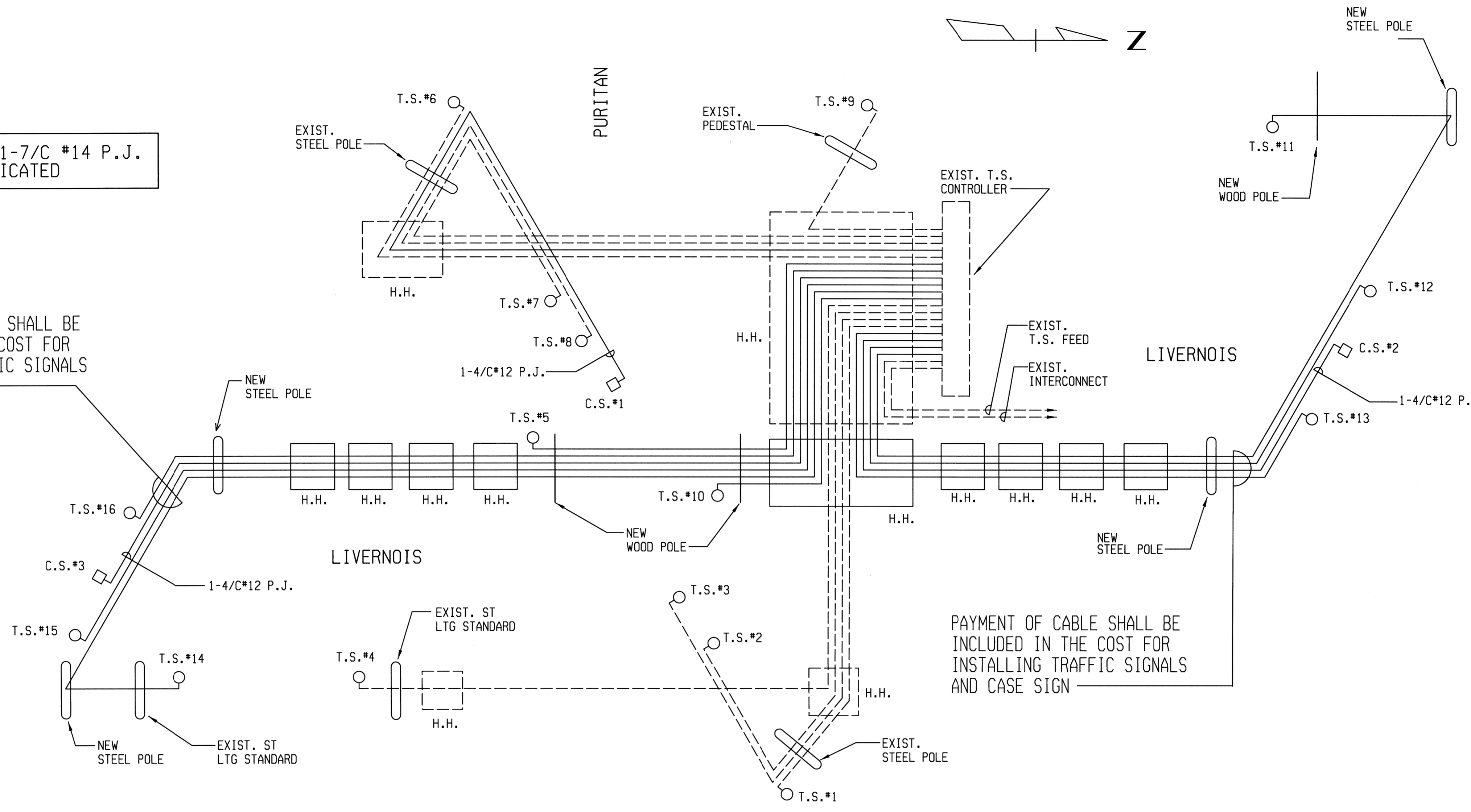
PAYMENT OF CABLE SHALL BE INCLUDED IN THE COST FOR INSTALLING TRAFFIC SIGNALS AND CASE SIGN

PAYMENT OF CABLE SHALL BE INCLUDED IN THE COST FOR INSTALLING TRAFFIC SIGNALS AND CASE SIGN

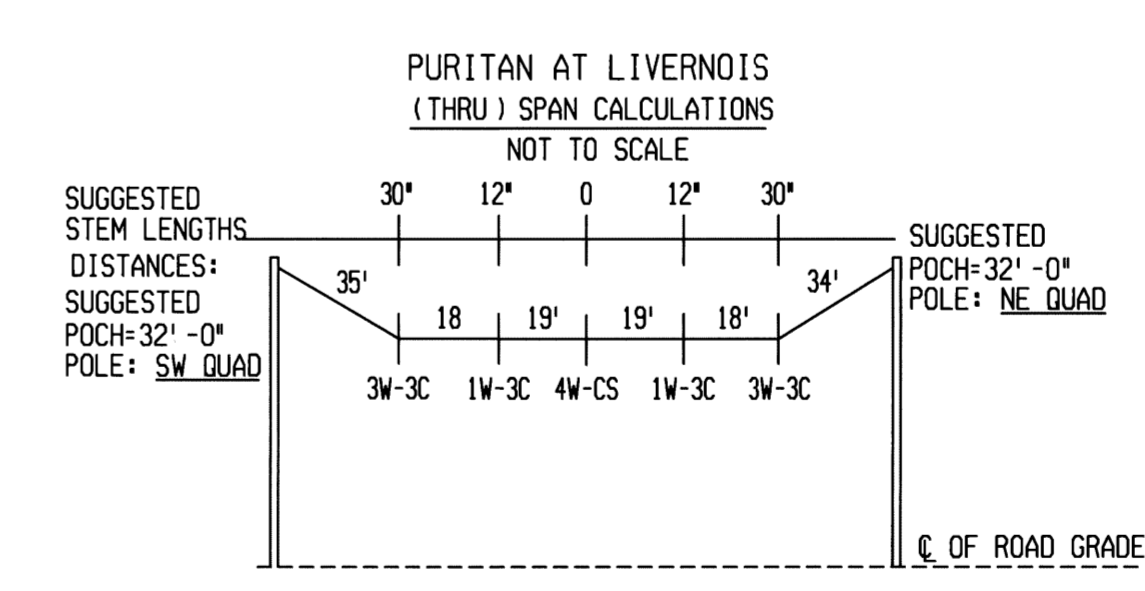
1. NEW T.S. HEADS ARE TO BE BAGGED UNTIL SUCH TIME AS THE NEW T.S. INSTALLATION IS PUT INTO OPERATION. BAGGING & UNBAGGING OF NEW T.S. HEADS SHALL BE INCLUDED IN THE INSTALLATION OF T.S. ON THIS CONTRACT AND WILL NOT BE PAID FOR SEPARATELY. TIME OF BAGGING AND UNBAGGING TO BE DIRECTED BY THE ENGINEER.
2. FOR ALL SIGN TRANSFERS: PLEASE CONTACT RUBIN MANN, SIGN SHOP MANAGER AT (313) 628-2933 72 HOURS PRIOR TO REMOVING ANY POLE TO TRANSFER THE EXISTING SIGNS TO THE NEW POLE.
3. CONTRACTOR SHALL USE PLD DETAILS FOR WORK SHOWN ON THIS SHEET.
4. ALL STREET LTG. EQUIPMENT ON REMOVED/REPLACED WOOD POLES, OR T.S. STANDARDS MUST BE TRANSFERRED TO THE NEW WOOD POLES OR T.S. STANDARDS.
5. CONTACT SUNNY JACOBS OR JUBI CHACKUNKAL OF THE CITY OF DETROIT DPW, TRAFFIC ENGINEERING AT (313) 224-1315 OR (313) 628-5604 48 HOURS PRIOR TO ACTIVATION OF NEW T.S.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR PROGRAMMING OF CONTROLLER, WIRING OF THE CABINET & INSTALLATION OF THE TRANSFORMER. TIMING PERMIT TO BE PROVIDED BY THE CITY OF DETROIT TRAFFIC ENGINEERING.
7. CONTACT THE SYSTEM OPERATOR AT (313) 224-0500 OF PLD FOR ELECTRICAL SERVICE CONNECTION.

LIST OF MATERIAL			
NO.	ITEM	QUANTITIES	ITEM CODE
①	Hh, Round	9 Ea	8190260
②	Wood Pole, Fit Up, TS Cable Pole	2 Ea	8190501
③	Span Wire	2 Ea	8200140
④	Strain Pole, Steel, Anchor Base, 30 foot	4 Ea	8200155
⑤	Strain Pole, Steel, Anchor Fdn	4 Ea	8200165
⑥	TS, Two Way Span Wire Mtd (LED)	4 Ea	8200322
⑦	TS, One Way Bracket Arm Mtd (LED)	2 Ea	8200333
⑧	Case Sign, Four Way, 24 inch by 30 inch (LED)	3 Ea	8207050
⑨	Wood Pole, Cl 4, 35 foot	3 Ea	8190472
⑩	TS, Pedestrian, Two Way Bracket Arm Mtd (LED) Countdown	5 Ea	8207050
⑪	TS, Pedestrian, Two Way Pedestal Mtd (LED) Countdown	1 Ea	8207050
○	Conduit, DB, 1, 3 inch	40 Ft	8190029
○	Conduit, DB, 2, 3 inch	30 Ft	8190032
○	Conduit, Directional Bore, 3 inch	1120 Ft	8190044

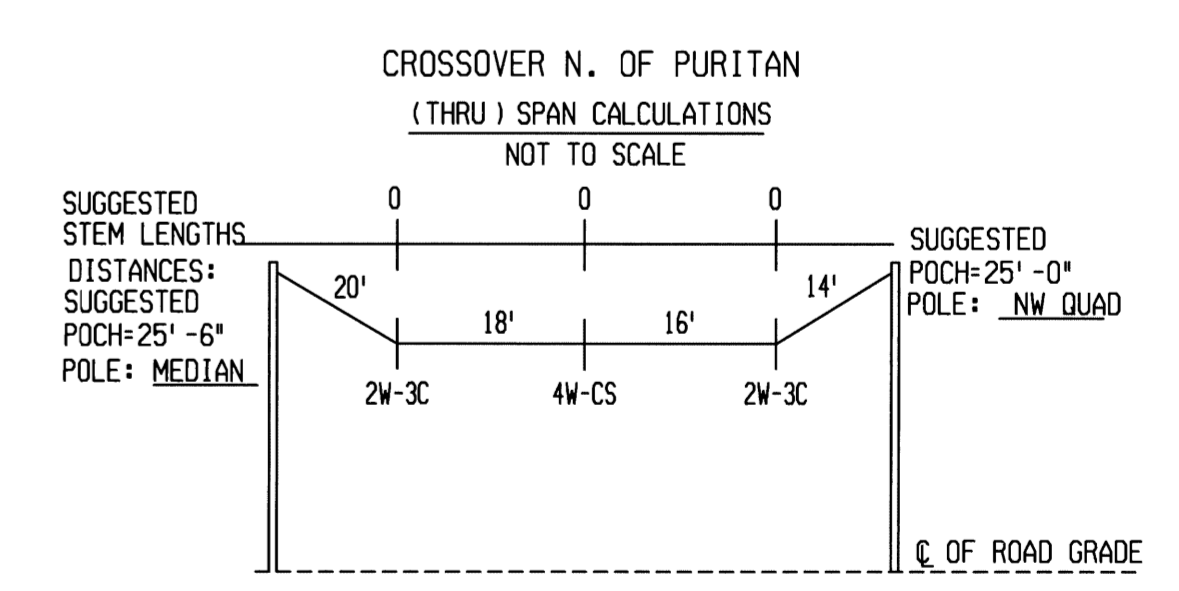
WIRING DIAGRAM



NOTES:
1. POCH (POLE CONTACT HEIGHT) IS SHOWN ABOVE C. GRADE, FIELD ADJUSTMENTS ARE TO BE MADE FOR ANY DIFFERENCE IN GRADE AT POLE VS. ROAD GRADE.
POCH IS CALCULATED AT 1000 lbs TENSION.



NOTES:
1. POCH (POLE CONTACT HEIGHT) IS SHOWN ABOVE C. GRADE, FIELD ADJUSTMENTS ARE TO BE MADE FOR ANY DIFFERENCE IN GRADE AT POLE VS. ROAD GRADE.
POCH IS CALCULATED AT 1000 lbs TENSION.



NOTES:
1. POCH (POLE CONTACT HEIGHT) IS SHOWN ABOVE C. GRADE, FIELD ADJUSTMENTS ARE TO BE MADE FOR ANY DIFFERENCE IN GRADE AT POLE VS. ROAD GRADE.
POCH IS CALCULATED AT 1000 lbs TENSION.

DESCRIPTION	DRN	CKD	APPD	DATE

PLAN PREPARED BY
MANSELL ASSOCIATES INC.
ENGINEERING CONSULTANTS
(248) 473-7070
33608 Grand River
Farmington, MI 48335

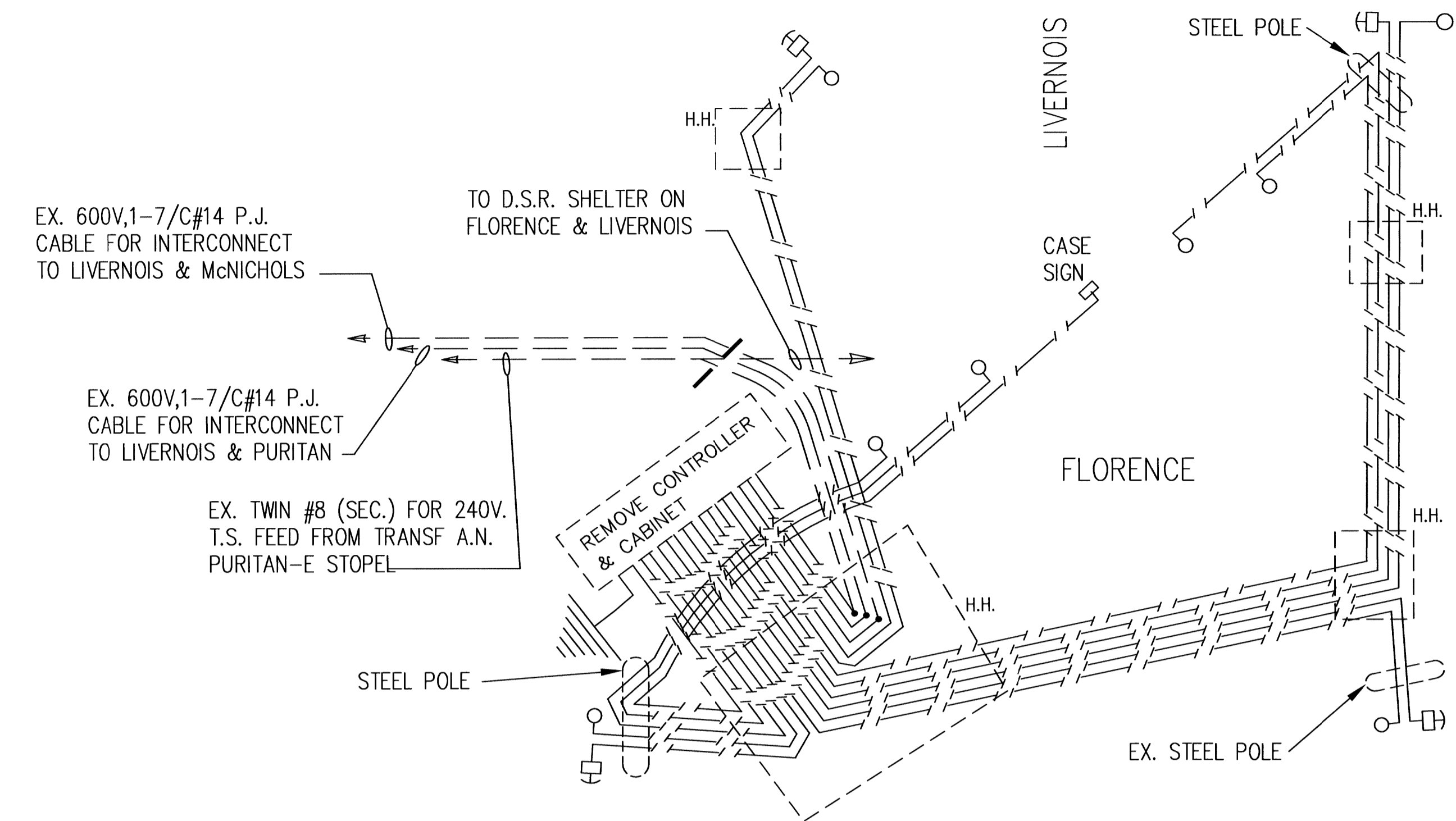


CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

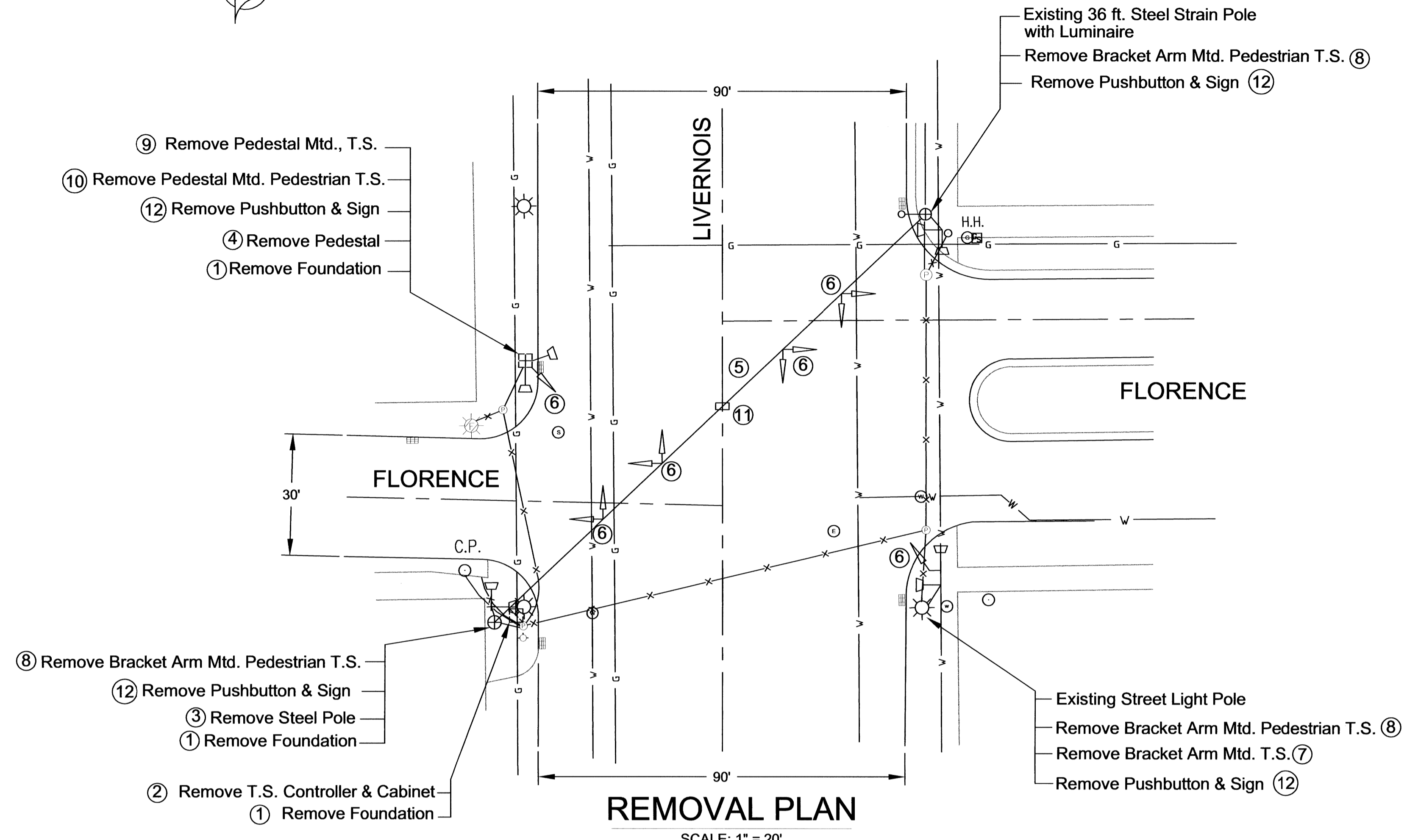
LIVERNOIS AVE MEDIAN IMPROVEMENTS PHASE II
LIVERNOIS AT PURITAN & X-OVERS NORTH & SOUTH

SHEET 50 OF 62 SHEETS
CONTROL SECTION
JOB NUMBER
DATE: 06-15-07

CHECKED BY: _____ DATE: _____ WORKED ON BY: _____ DATE: _____



WIRING DIAGRAM
N.T.S.



REMOVAL PLAN
SCALE: 1" = 20'

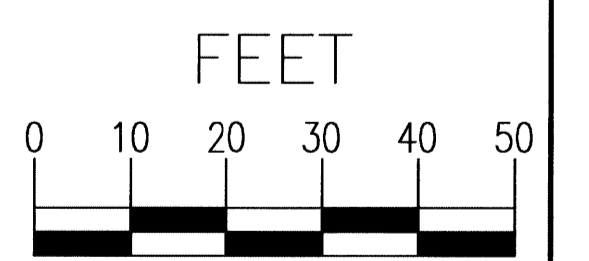
LIST OF MATERIAL

NO.	ITEMS	QTY
1	Fdn, Rem	3 Ea
2	Controller and Cabinet, Rem	1 Ea
3	Steel Pole, Rem	1 Ea
4	Pedestal, Rem	1 Ea
5	Span Wire, Rem	1 Ea
6	TS, Span Wire Mtd, Rem	4 Ea
7	TS, Bracket Arm Mtd, Rem	1 Ea
8	TS, Pedestrian, Bracket Arm Mtd, Rem	3 Ea
9	TS, Pedestal Mtd, Rem	1 Ea
10	TS, Pedestrian, Pedestal Mtd, Rem	1 Ea
11	Case Sign, Rem	1 Ea
12	Pushbutton, Rem	4 Ea

NOTES: REMOVAL PLAN

- ALL REMOVED TRAFFIC SIGNAL AND STREET LIGHTING EQUIPMENT SHALL BE SALVAGED IN REUSABLE CONDITION AND SHALL BECOME PROPERTY OF P.L.D. ALL REMOVED MATERIAL WILL BE STORED ON SITE FOR PICK-UP BY P.L.D. ALL MATERIAL LEFT FOR THE CONTRACTOR WILL BECOME THE RESPONSIBILITY OF THE CONTRACTOR FOR DISPOSAL AWAY FROM THE SITE.
- ALL STREET LIGHTING EQUIPMENT ON REMOVED/ REPLACED WOOD POLES OR T.S. STANDARDS MUST BE TRANSFERRED TO THE NEW WOOD POLES OR T.S. STANDARDS.
- EXISTING TRAFFIC SIGNAL TO REMAIN IN OPERATION UNTIL SUCH TIME THAT THE NEW T.S. IS PUT INTO OPERATION. EXISTING T.S. FACILITIES TO BE REMOVE IMMEDIATELY AFTER NEW T.S. IS PUT INTO OPERATION.
- ALL FOUNDATIONS THAT ARE TO BE REMOVED, SHALL BE REMOVED FULL DEPTH. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVE THAT THE FOUNDATIONS HAVE BEEN COMPLETELY REMOVED.
- CONTACT THE SYSTEM OPERATOR AT (313) 224-0500 OF PLD FOR ELECTRICAL SERVICE CONNECTION.

FOR ALL SIGN TRANSFERS PLEASE CONTACT RUBIN MANN SIGN SHOP MANAGER AT (313) 628-2923 3 WEEKS PRIOR TO REMOVING ANY POLE, TO TRANSFER THE EXISTING SIGNS TO THE NEW POLE.



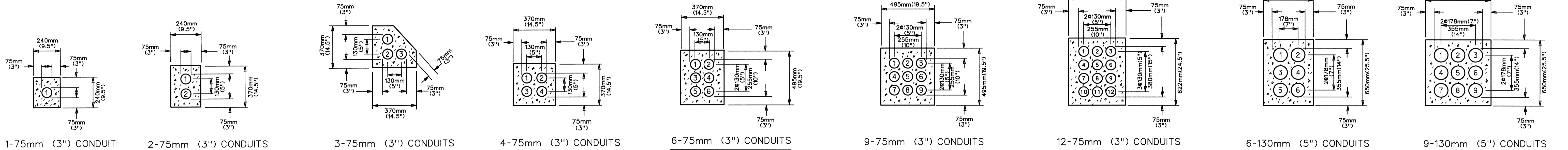
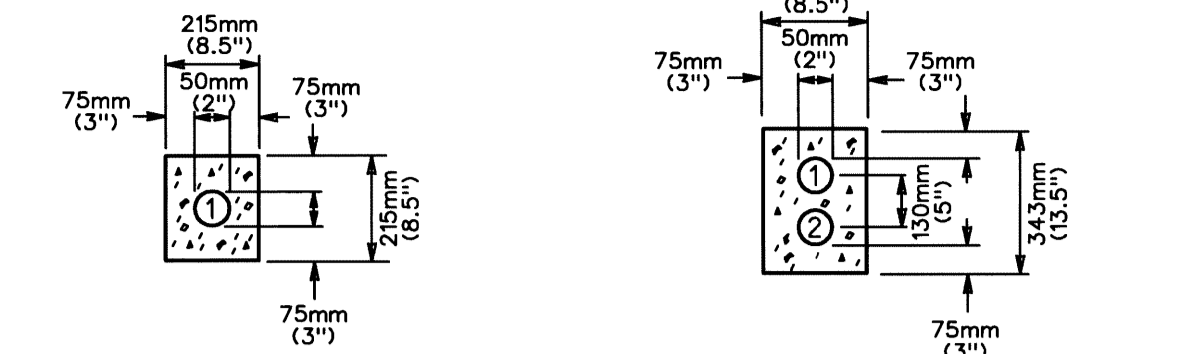
REMOVAL SHEET

DESIGNED BY K. Patel DRAWN BY J. Lappin TRACED BY CHECKED BY Jubi Chackunkal	APPROVED:  CITY OF DETROIT DEPARTMENT OF PUBLIC WORKS TRAFFIC ENGINEERING DIVISION	CHECKED BY: APPROVED BY: FILE NO.:	PUBLIC LIGHTING DEPARTMENT CITY OF DETROIT	CHECKED BY: APPROVED BY: FILE NO.:	LIVERNOIS AVE. MEDIAN IMPROVEMENTS PHASE II FLORENCE & LIVERNOIS	SHEET 51 OF 62 SHEETS JULY 17, 2006 DRWG NO. LD-0387.2 JOB NO. 86170 A
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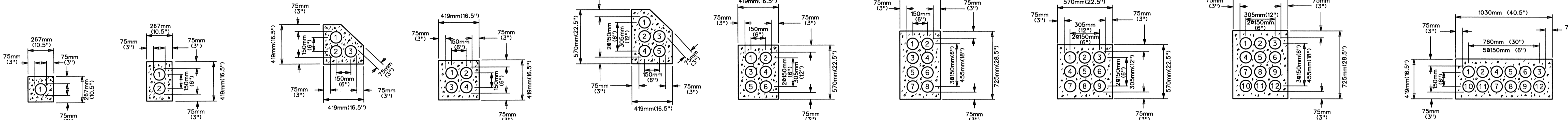
NO.	DESCRIPTION	DRN	CKD	APPD	DATE
Final Submittal					
G.I. Submittal					

JOB NO.: 86170 A CONTROL SECTION NO.: EDFC 82163

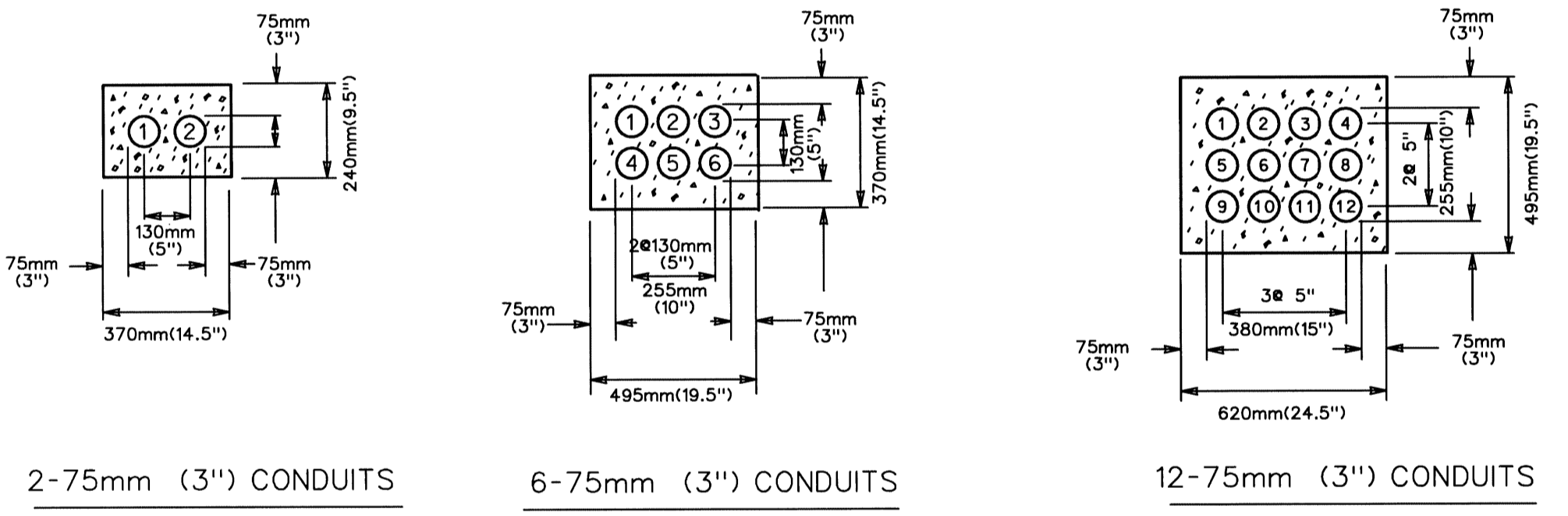
1-50mm (2") CONDUIT 2-50mm (2") CONDUITS



1-75mm (3") CONDUIT 2-75mm (3") CONDUITS 3-75mm (3") CONDUITS 4-75mm (3") CONDUITS 6-75mm (3") CONDUITS 9-75mm (3") CONDUITS 12-75mm (3") CONDUITS 6-130mm (5") CONDUITS 9-130mm (5") CONDUITS

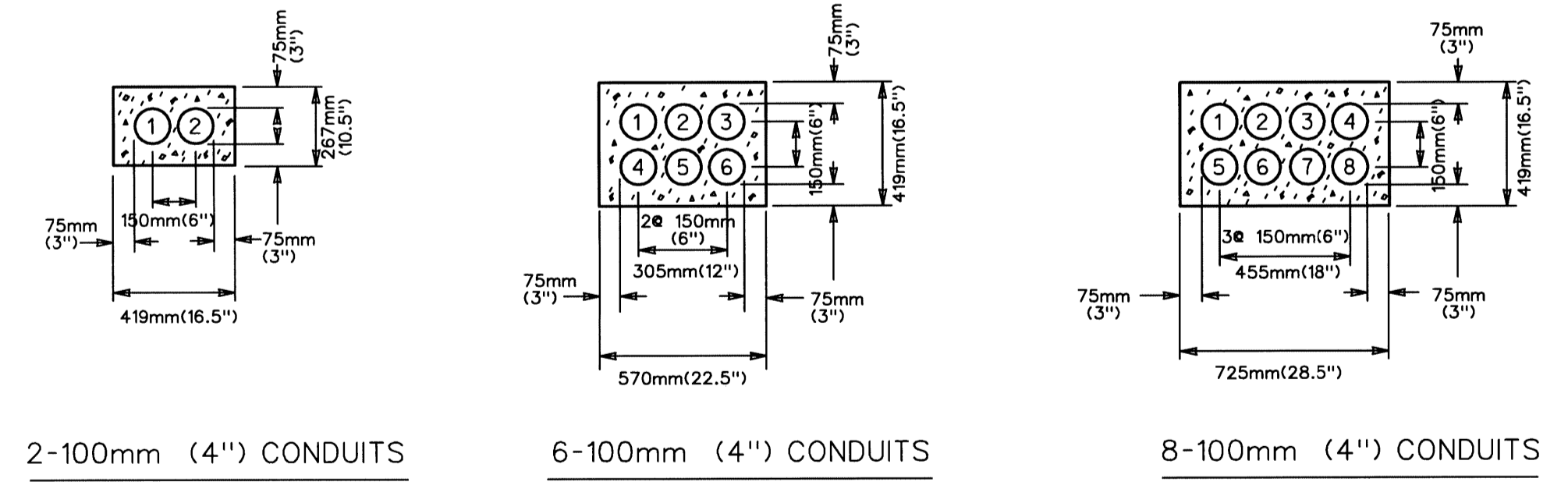


1-100mm (4") CONDUIT 2-100mm (4") CONDUITS 3-100mm (4") CONDUITS 4-100mm (4") CONDUITS 5-100mm (4") CONDUITS 6-100mm (4") CONDUITS 8-100mm (4") CONDUITS 9-100mm (4") CONDUITS 12-100mm (4") CONDUITS 12-100mm (4") CONDUITS IN BRIDGE APPROACH



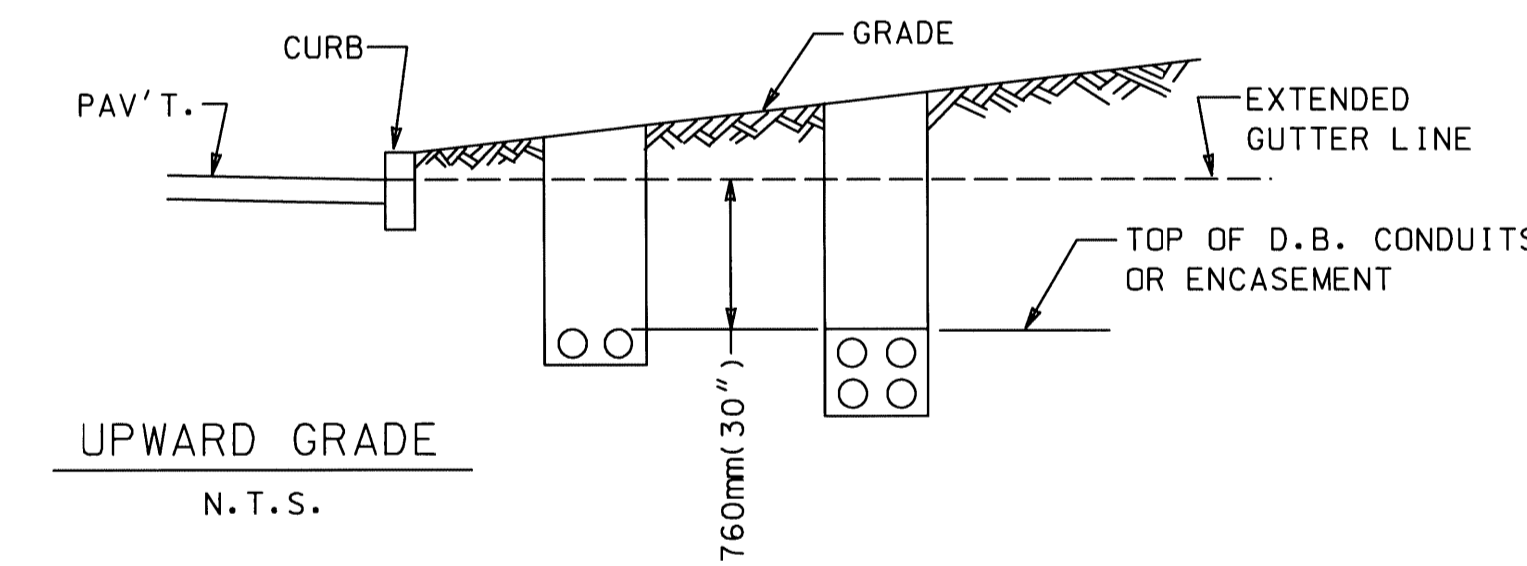
2-75mm (3") CONDUITS 6-75mm (3") CONDUITS 12-75mm (3") CONDUITS

ALTERNATE ARRANGEMENT OF 75mm (3") CONDUIT
(TO SUIT FIELD CONDITIONS)
(TO BE APPROVED BY THE ENGINEER)

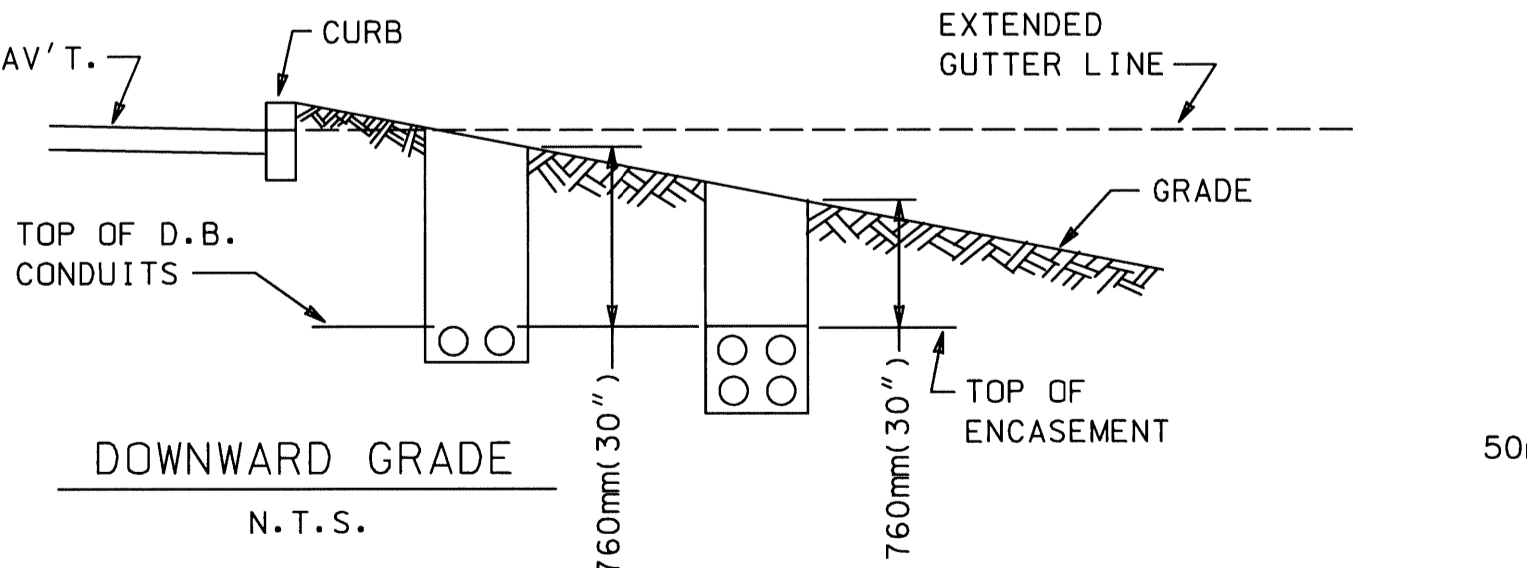


2-100mm (4") CONDUITS 6-100mm (4") CONDUITS 8-100mm (4") CONDUITS

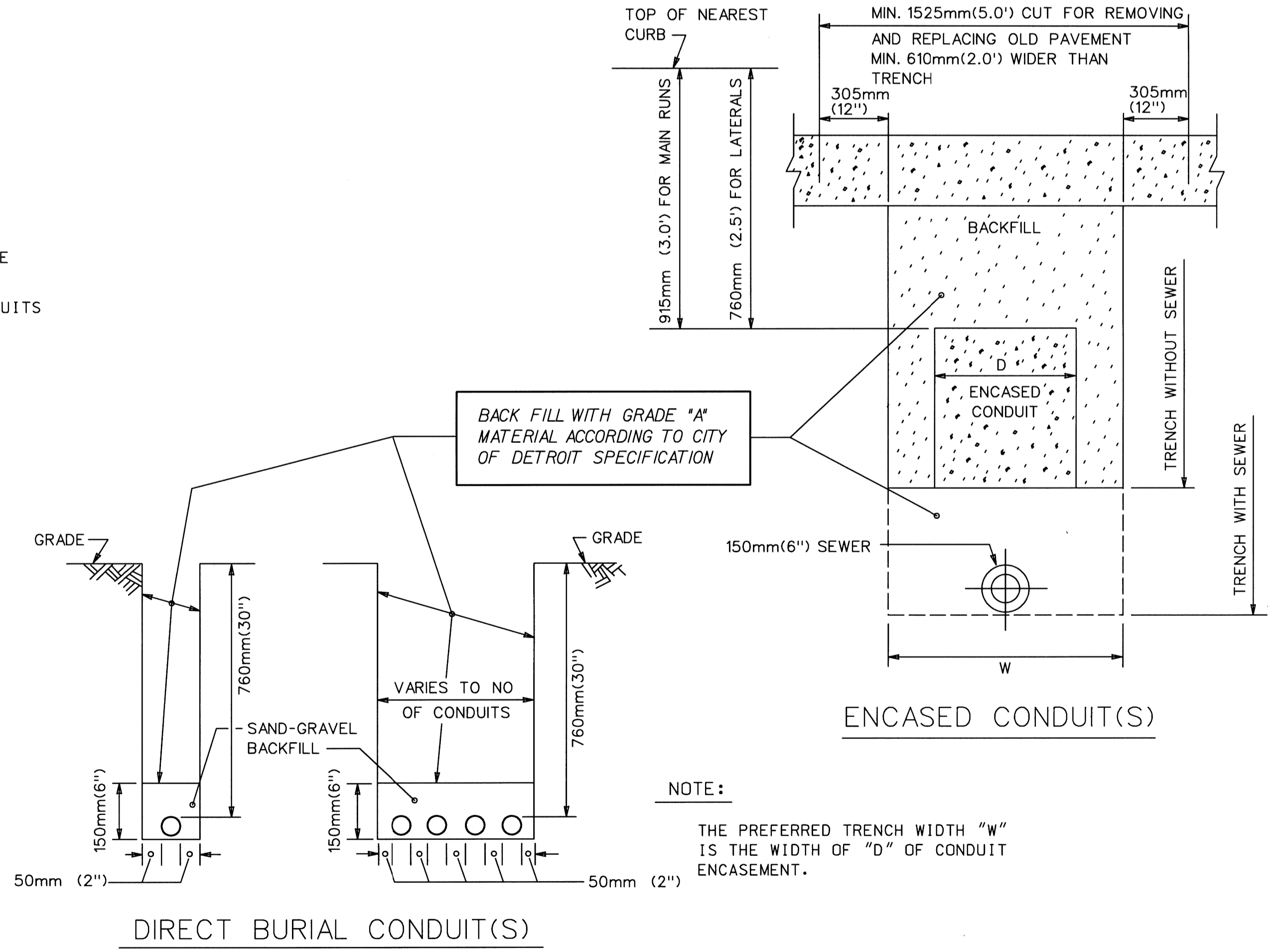
ALTERNATE ARRANGEMENT OF 100mm (4") CONDUIT
(TO SUIT FIELD CONDITIONS)
(TO BE APPROVED BY THE ENGINEER)



UPWARD GRADE
N.T.S.



DOWNWARD GRADE
N.T.S.



NOTE:
THE PREFERRED TRENCH WIDTH "W"
IS THE WIDTH OF "D" OF CONDUIT
ENCASUREMENT.

DISK FILE: 10\PLD\MTR

REV	Date	Description	Chkd. by

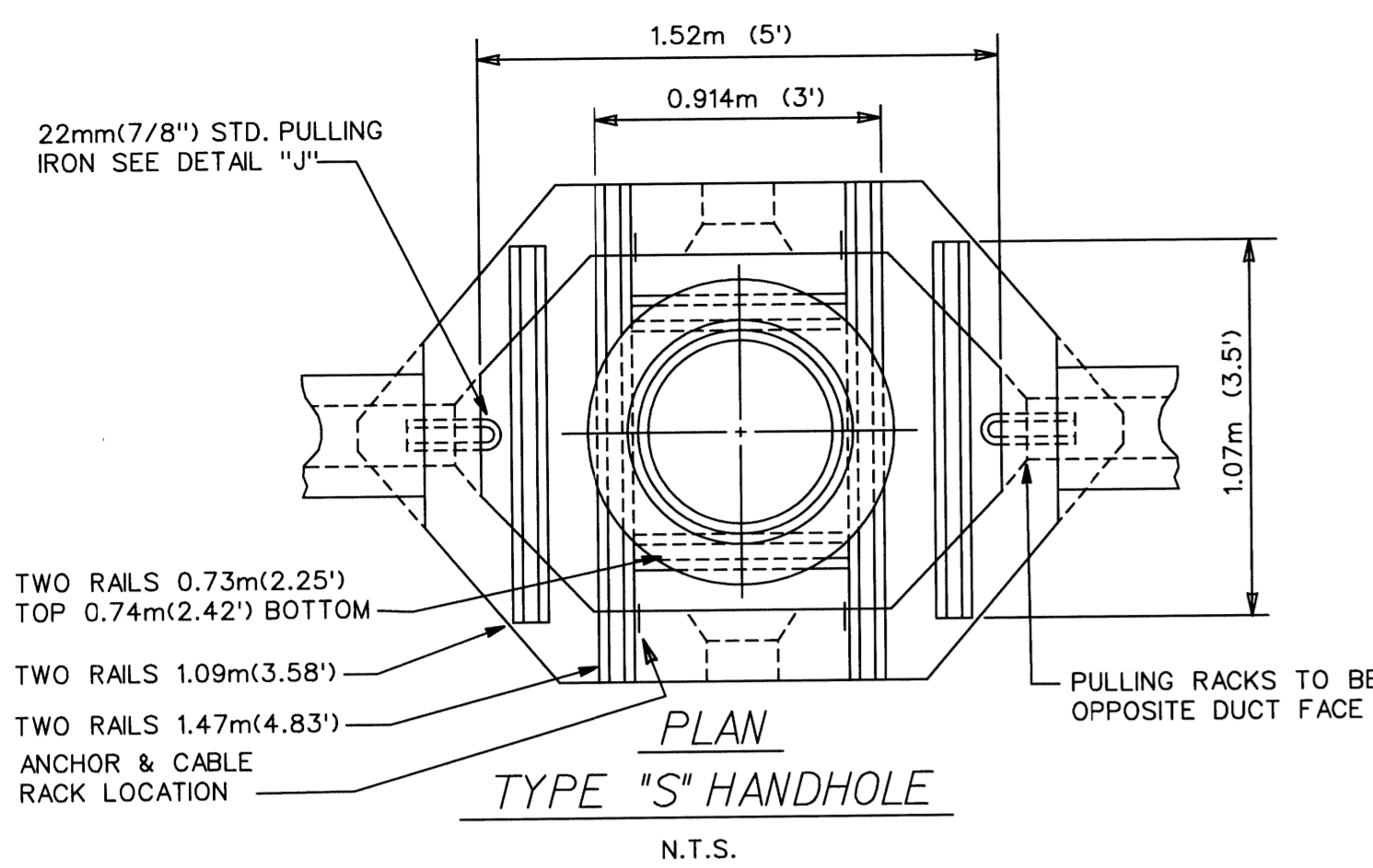
LIVERNOIS AVE MEDIAN IMPROVEMENTS PHASE II
MISCELLANEOUS CONDUIT SECTIONS

MANSSELL ASSOCIATES INC.
ENGINEERING CONSULTANTS
33608 Grand River
Farmington, MI 48335
(248) 474-7070

Drawn	M.A.I.	Scale	No Scale
Checked		Checked by	
Drwg. No.	OF	Approved by	
File No.	M4188		

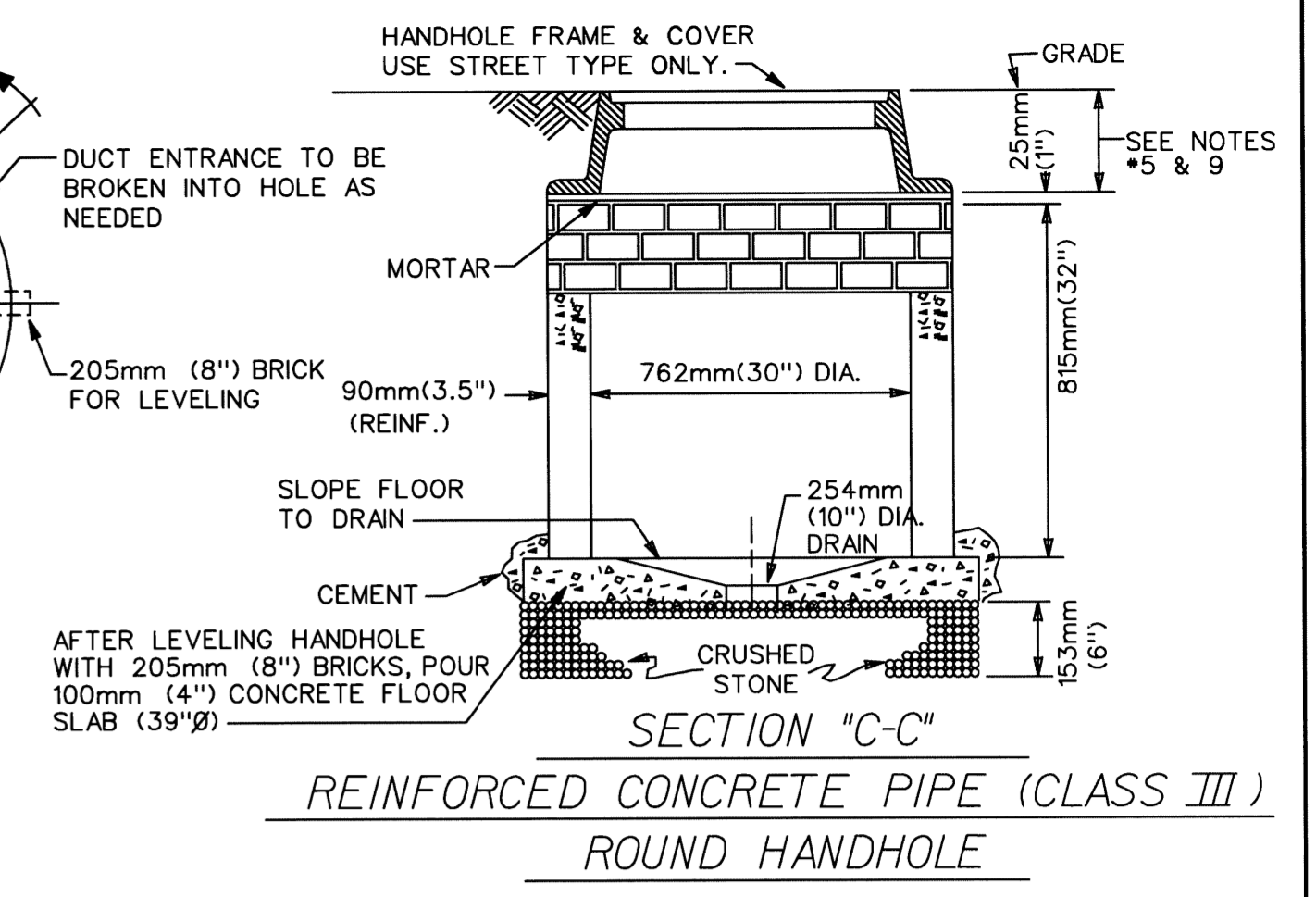
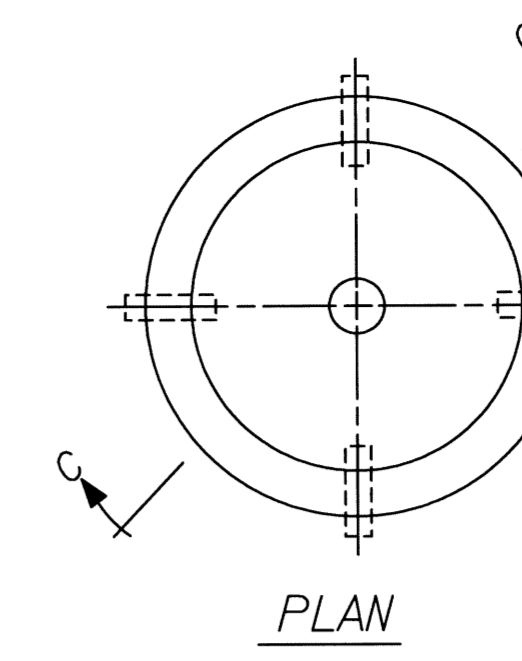
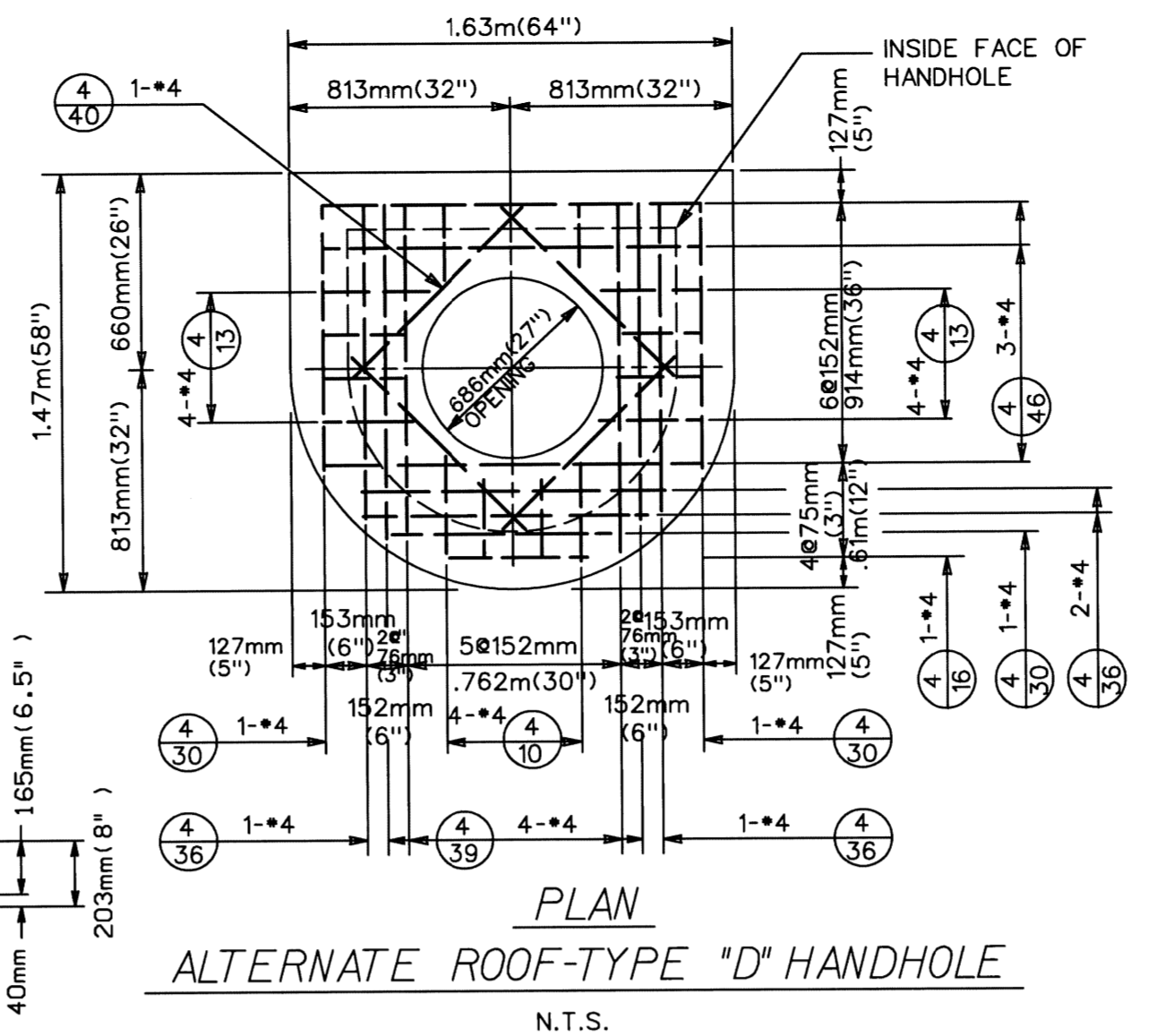
PUBLIC LIGHTING
DEPARTMENT
CITY OF DETROIT

101
PLD File No.
Sheet No.
52 of 62
Date
06-15-07



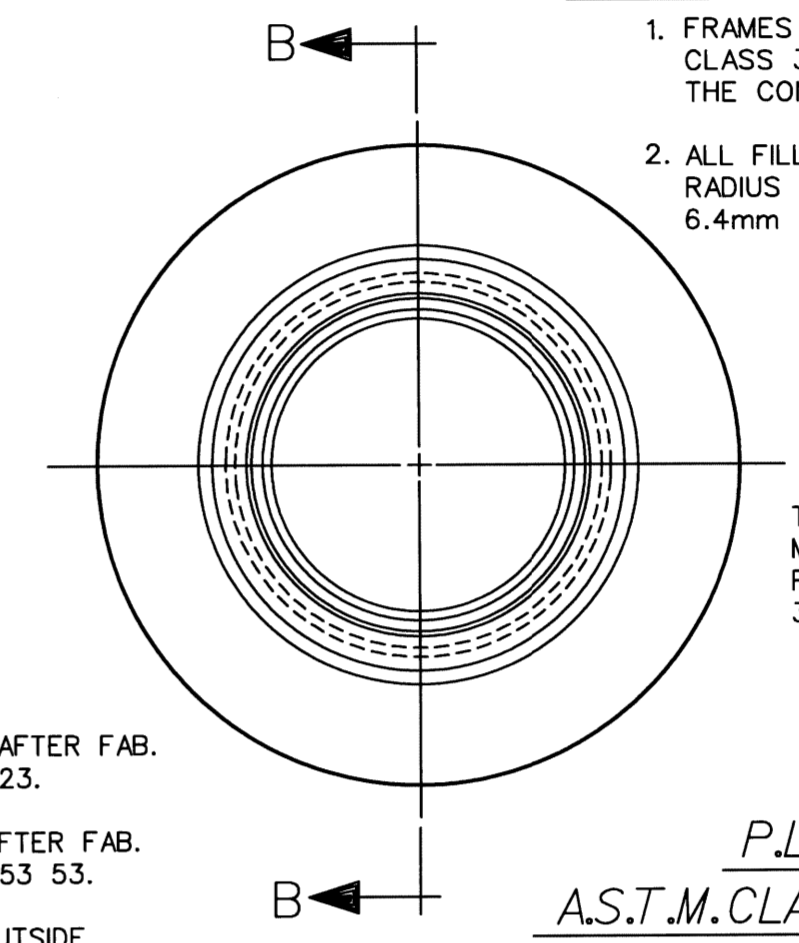
TYPE "S" HANDHOLE TABLE FOR #5 BARS		
MARK	NO.	LENGTH
5-50	2	1.52m(5')
5-46	8	1.37m(4.5')
5-36	4	1.07m(3.5')
5-30	6	609mm(2')
5-19	10	533mm(2')
5-10	8	304mm(1')

TYPE "D" HANDHOLE TABLE FOR #4 BARS		
MARK	NO.	LENGTH
4-46	3	1.37m(4.5')
4-40	4	1.22m(4')
4-39	4	1.4m(4.5')
4-36	4	1.07m(3.5')
4-30	3	914mm(3')
4-16	1	457mm(1.5')
4-13	8	381mm(1.25')
4-10	4	305mm(1')

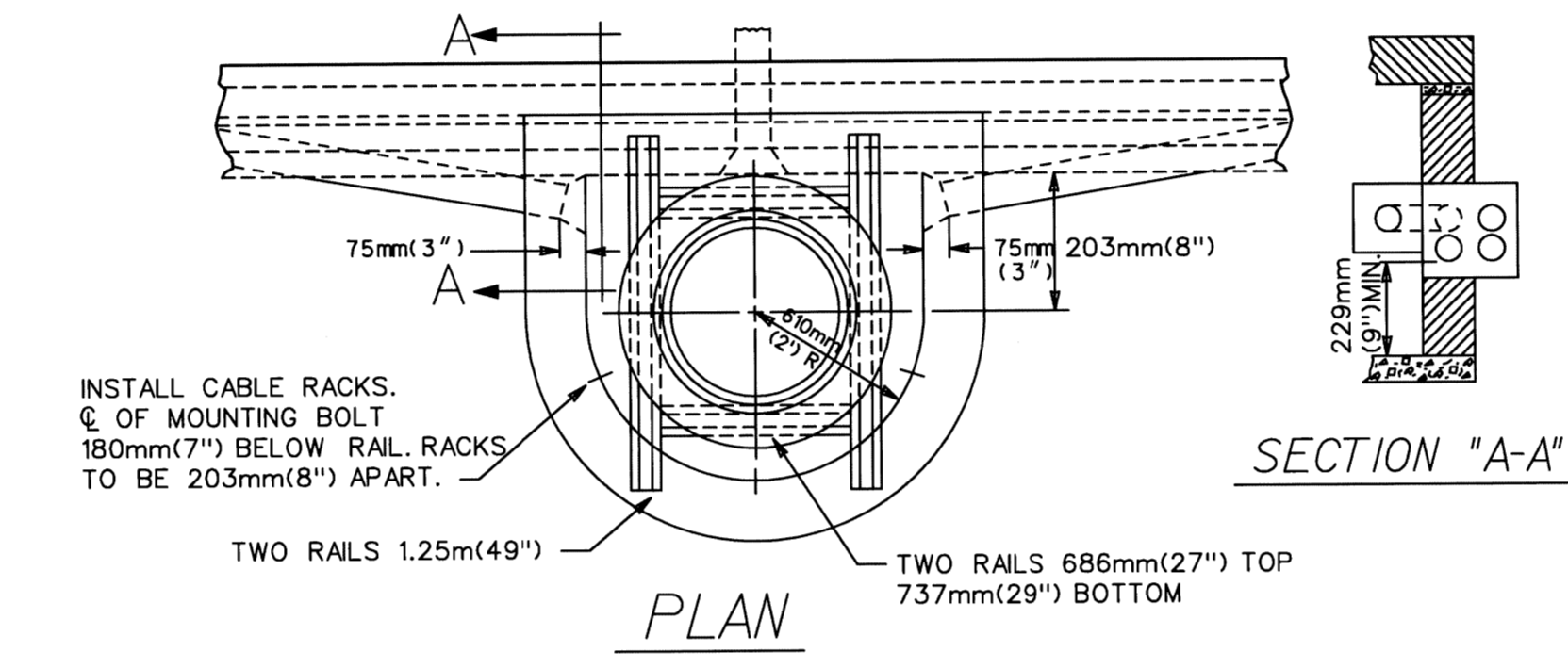
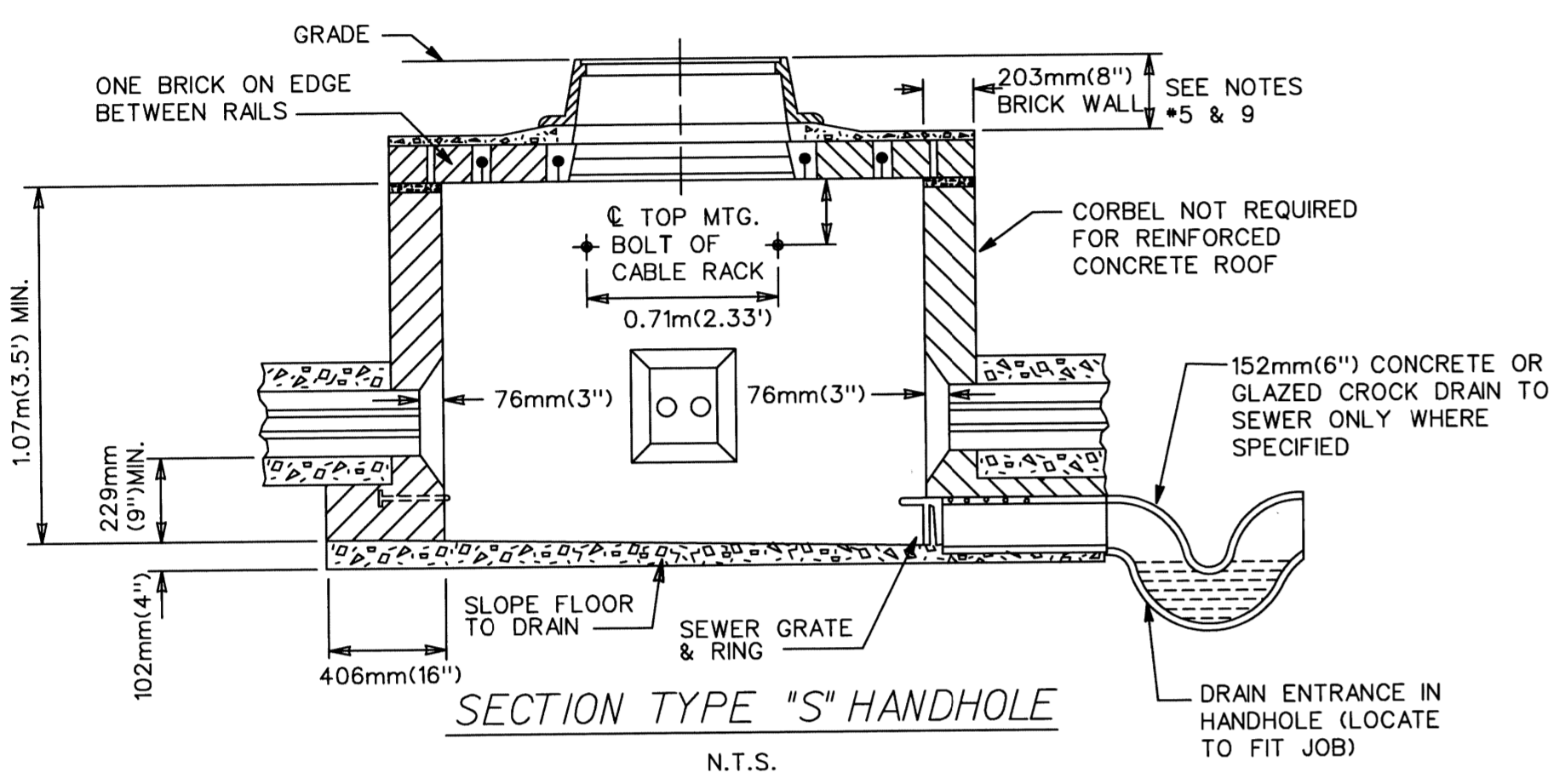


NOTE:
BELL ENDS ARE REQUIRED ON EACH CONDUIT BROKEN OUT IN HANDHOLE. TYPE AND SIZE SHALL BE IDENTICAL TO CONDUIT TYPE AND SIZE.

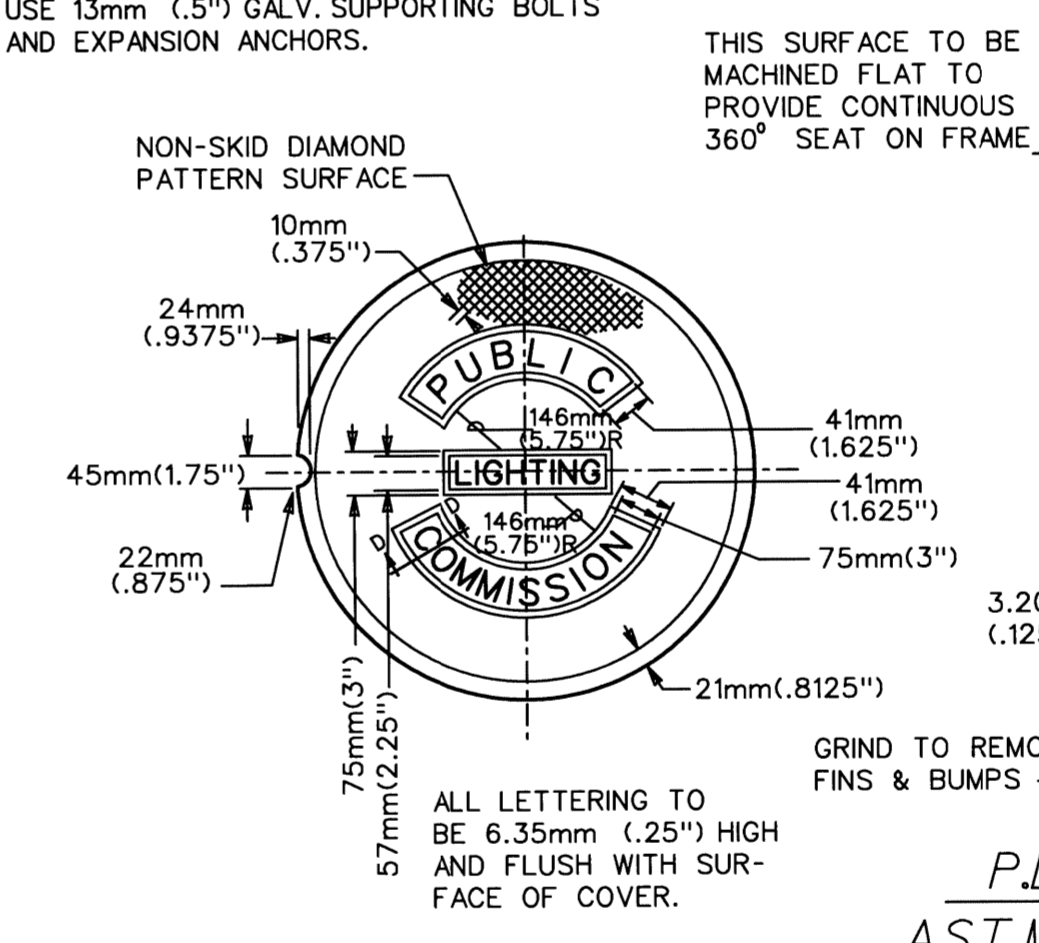
NOTE:
1. FRAMES MAY BE A.S.T.M. CLASS 30 GRAY IRON IF THE CONTRACTOR SO ELECTS.
2. ALL FILLETS ARE 13mm (.5") RADIUS & ALL ROUNDS ARE 6.4mm (.25") RADIUS



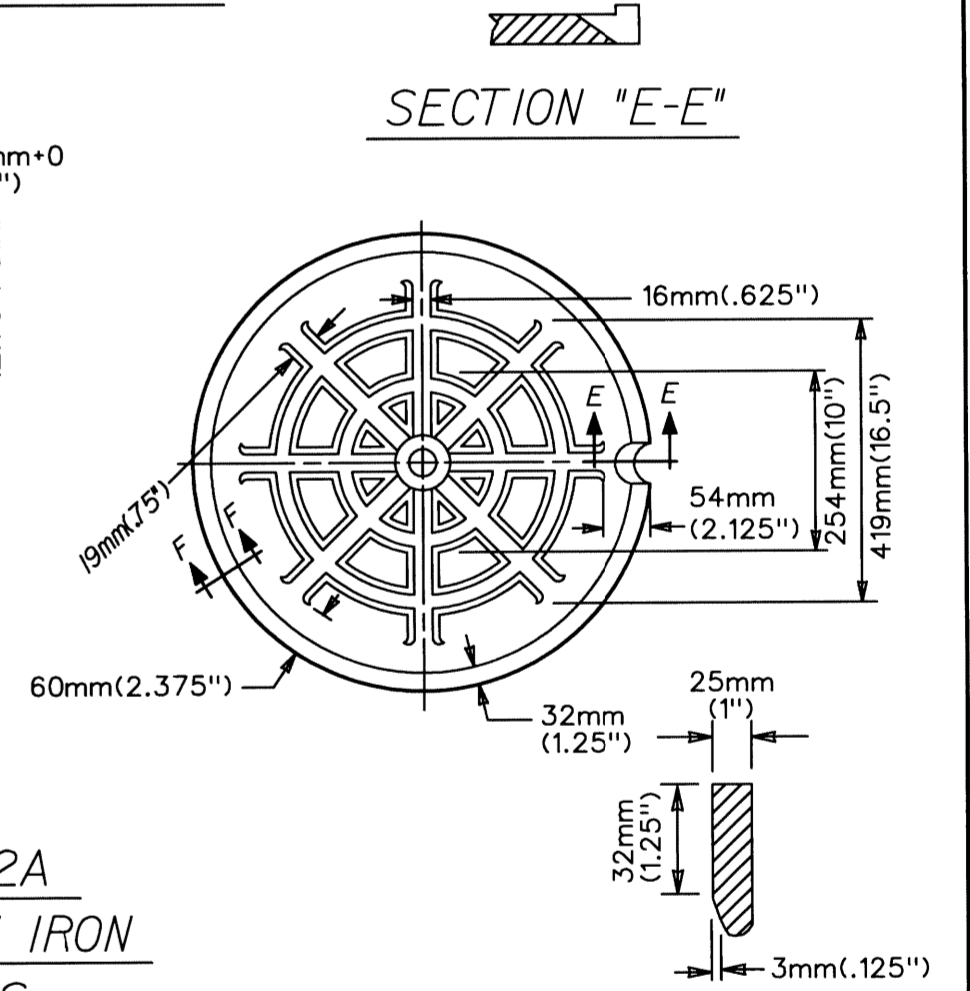
P.L.C. PATTERN NO. 1A
A.S.T.M. CLASS 20 OR 30 GRAY IRON
APPROX. 251 LBS.
HANDHOLE FRAME



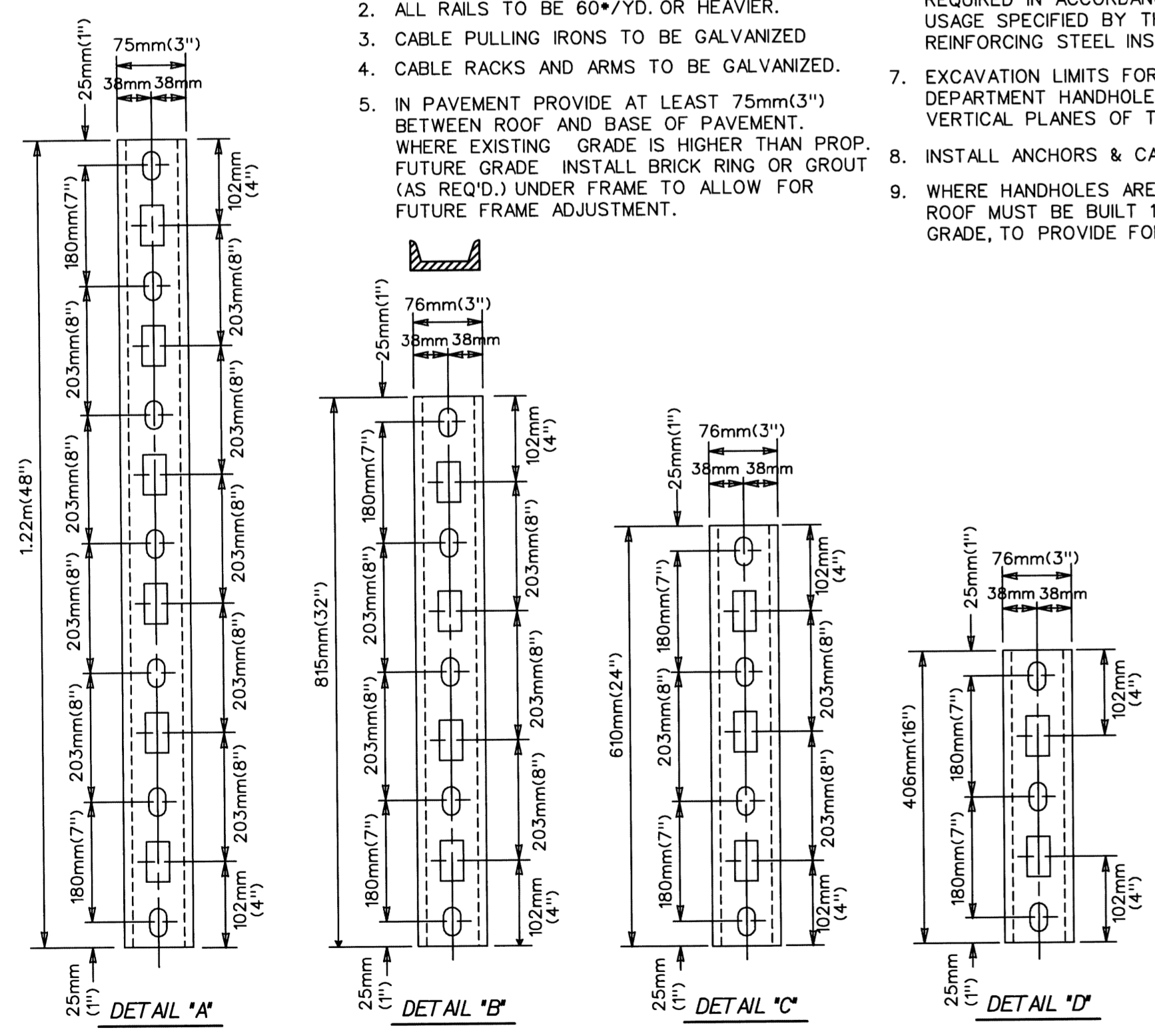
NOTE:
CABLE RACKS SHALL BE GALV. AFTER FAB. IN ACCORDANCE WITH ASTM A-123.
CABLE ARMS SHALL BE GALV. AFTER FAB. IN ACCORDANCE WITH ASTM A-153 53.
ARMS MUST FIT ON INSIDE & OUTSIDE OF RACKS & MUST ALLOW INSULATOR TO FIT LOOSELY.
USE 13mm (.5") GALV. SUPPORTING BOLTS AND EXPANSION ANCHORS.



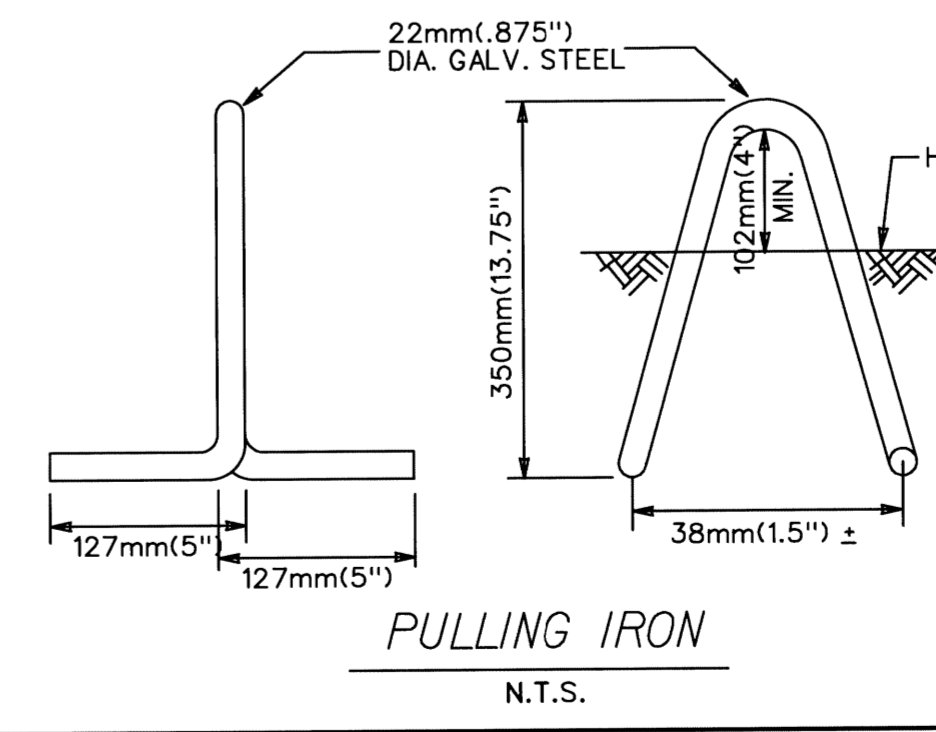
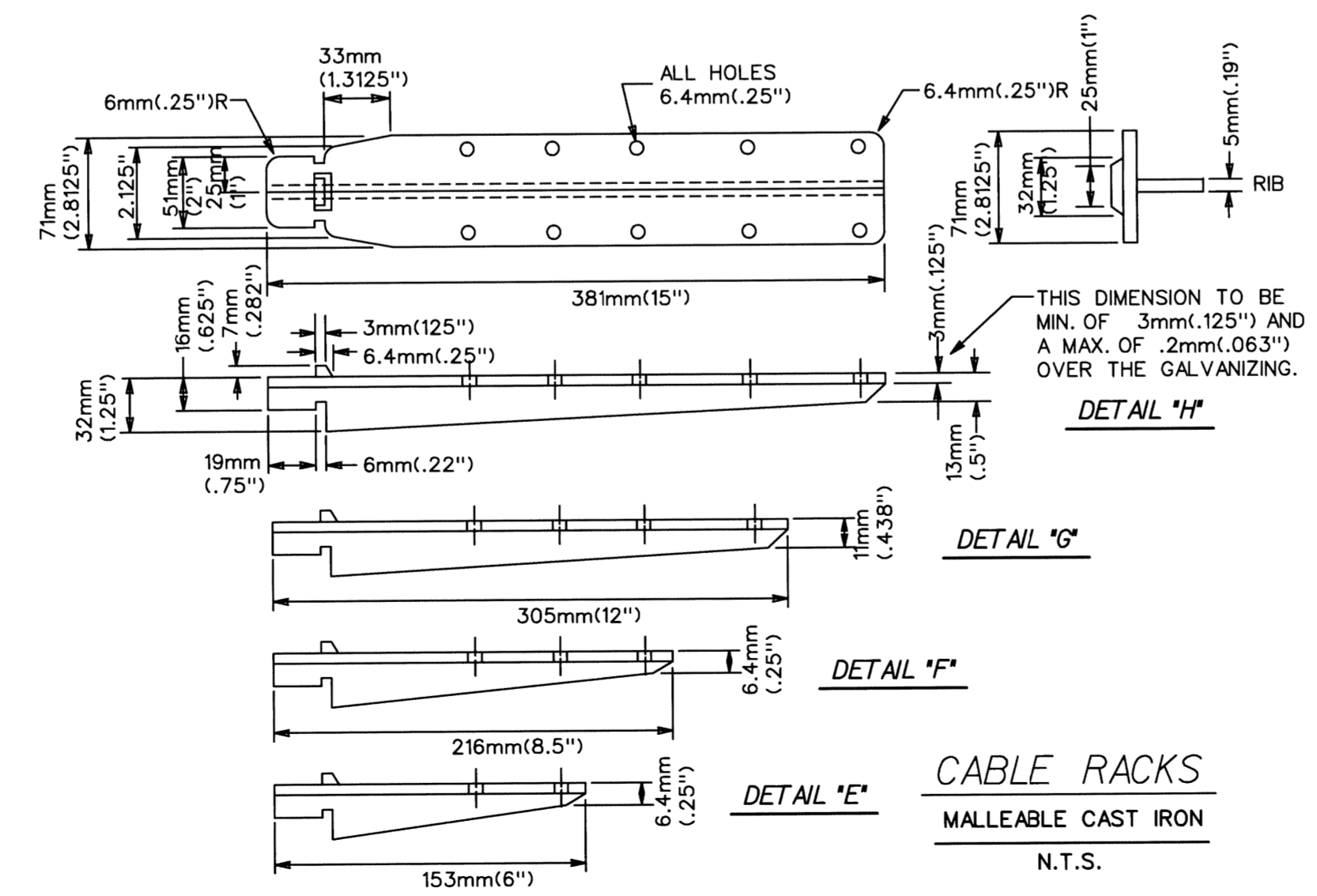
P.L.C. PATTERN NO. 2A
A.S.T.M. CLASS 30 GRAY IRON
APPROX. WT. 145 LBS.
STREET TYPE COVER
TO BE USED IN STREETS & DRIVES



- NOTE:
- DUCT ENTRANCE TO BE BUILT AS REQUIRED.
 - ALL RAILS TO BE 60*YD. OR HEAVIER.
 - CABLE PULLING IRONS TO BE GALVANIZED
 - CABLE RACKS AND ARMS TO BE GALVANIZED.
 - 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.
 - BAR NUMBERS DENOTE THE SIZE OF BAR REQUIRED IN ACCORDANCE WITH CURRENT USAGE SPECIFIED BY THE CONCRETE REINFORCING STEEL INSTITUTE.
 - EXCAVATION LIMITS FOR PUBLIC LIGHTING DEPARTMENT HANDHOLES SHALL BE ON VERTICAL PLANES OF THE FOOTING OUTLINE.
 - INSTALL ANCHORS & CABLE-RACKS AS SHOWN.
 - WHERE HANDHOLES ARE LOCATED BACK OF CURBS ROOF MUST BE BUILT 1205mm (8") BELOW CURB GRADE, TO PROVIDE FOR FUTURE WIDENING.



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



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

Date Description Chkd. by Date Description Chkd. by Date Description Chkd. by Date Description Chkd. by Date Description Chkd. by	LIVERNOIS AVE MEDIAN IMPROVEMENTS PHASE II		Mansell Associates Inc. ENGINEERING CONSULTANTS 33608 Grand River Farmington, MI 48335 (248) 472-7070	Drawn M.A.I. Scale No Scale Checked by Drwg. No. OF File No. M4188	PUBLIC LIGHTING DEPARTMENT CITY OF DETROIT	PLD File No. Sheet No. 53 of 62 Date 06-15-07
	HANDHOLE			Approved by	CITY OF DETROIT	Date
				Approved by	CITY OF DETROIT	Date
				Approved by	CITY OF DETROIT	Date
				Approved by	CITY OF DETROIT	Date

DISK FILE: 103PLD.MTR

Date	Description	Chkd. by

LIVERNOIS AVE MEDIAN IMPROVEMENTS PHASE II

CABLE & WIRE SPECIFICATIONS, DETAILS

USE	VOLT RATING NO.	ITEM NO.	CONDUCTOR	SYNTHETIC RUBBER	IMPREG-NATED PAPER	POLYETHYLENE	POLYVINYL-CHLORIDE	SHIELD OVER INSULATED CONDUCTORS	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		
			*4/0-#2/0AWG. M.H.D., UNCOATED 7/STR. COPPER A.S.T.M. B1														1.6mm (.063") BLACK NEOPRENE	
			*2-AWG. H.D., UNCOATED SOLID COPPER A.S.T.M. B1															.6mm (.032") POLYETHYLENE
			*2-AWG. H.D., UNCOATED SOLID COPPER A.S.T.M. B1															1.2mm (.047") BLACK POLYETHYLENE
			*2-AWG. H.D., UNCOATED SOLID COPPER A.S.T.M. B1															1.6mm (.063") BLACK POLYETHYLENE
SPECIAL EVENT FEEDER,	2000V.	6																
MULT. ST. LTG.	2000V.	7																
TRAFFIC SIGNAL SECONDARY	2000V.	8																
RECEPTACLE 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) PREPARED WHITE AS BEFORE PRINTED 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) FIBRE B CONSTRUCTION												
DISTRIBUTION CABLES	5000V. BELTED	11	3/C 350 MCM UNCOATED, SOFT COPPER AEIC	2.2mm (.085") PER CONDUCTOR OIL VISCOSITY AT 100° C (212 F)						11.4mm (.45") OVERALL OIL VISCOSITY AT 100° C (212 F)		2.4mm (.095") COPPER BEARING LEAD	2.3mm (.090") HEAT & LIGHT STABILIZED BLACK HIGH MOLECULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH					
		12	3/C#2/0AWG. UNCOATED, SOFT COPPER AEIC	2.2mm (.085") PER CONDUCTOR OIL VISCOSITY AT 100° C (212 F)							11.4mm (.45") OVERALL OIL VISCOSITY AT 100° C (212 F)		2.2mm (.085") COPPER BEARING LEAD	2mm (.08") HEAT & LIGHT STABILIZED BLACK HIGH MOLECULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH				
		13	3/C#2AWG. ROUND, SOFT UNCOATED COPPER AEIC	2.2mm (.085") PER CONDUCTOR OIL VISCOSITY AT 100° C (212 F)							11.4mm (.45") OVERALL OIL VISCOSITY AT 100° C (212 F)		2mm (.08") COPPER BEARING LEAD	2mm (.08") HEAT & LIGHT STABILIZED BLACK HIGH MOLECULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH				
		14	3/C 350 MCM UNCOATED, SOFT COPPER AEIC	2.54mm (.10") PER CONDUCTOR OIL VISCOSITY AT 100° C (212 F)							11.4mm (.45") OVERALL OIL VISCOSITY AT 100° C (212 F)		2.4mm (.095") COPPER BEARING LEAD	2.3mm (.090") HEAT & LIGHT STABILIZED BLACK HIGH MOLECULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH				
		15	3/C#2AWG. UNCOATED, SOFT COPPER AEIC	2.54mm (.10") PER CONDUCTOR OIL VISCOSITY AT 100° C (212 F)							11.4mm (.45") OVERALL OIL VISCOSITY AT 100° C (212 F)		2.2mm (.085") COPPER BEARING LEAD	2.3mm (.090") HEAT & LIGHT STABILIZED BLACK HIGH MOLECULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH				
		16	3/C 350 MCM UNCOATED, SOFT COPPER AEIC	2.54mm (.10") PER CONDUCTOR OIL VISCOSITY AT 100° C (212 F)							11.4mm (.45") OVERALL OIL VISCOSITY AT 100° C (212 F)		2.2mm (.085") COPPER BEARING LEAD	2mm (.08") HEAT & LIGHT STABILIZED BLACK HIGH MOLECULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH				
		17	1/C#8 AWG. UNCOATED, SOFT COPPER ASTM B3	4.8mm (.188") HIGH MOLE- CULAR NAT- URAL OVER CONDUCTOR				1.2mm (.047") 60°C BLACK						1.6mm (.063") PURE				
		18	1/C#8 AWG. UNCOATED, SOFT COPPER ASTM B3	4.8mm (.188") HIGH MOLE- CULAR NAT- URAL OVER CONDUCTOR				1.2mm (.047") 60°C BLACK						1.6mm (.063") PURE				
		19	2400V. SHIELDED	3/C 350 MCM UNCOATED, SOFT COPPER * AEIC	5.8mm (.230") PER CONDUCTOR OIL VISCOSITY AT 100° C (212 F)									2.8mm (.11") COPPER BEARING LEAD	2.8mm (.11") HEAT & LIGHT STABILIZED BLACK HIGH MOLECULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH			
		20	2400V. SHIELDED	3/C 350 MCM UNCOATED, SOFT COPPER * AEIC	5.8mm (.230") PER CONDUCTOR OIL VISCOSITY AT 100° C (212 F)									2.7mm (.105") COPPER BEARING LEAD	2.8mm (.11") HEAT & LIGHT STABILIZED BLACK HIGH MOLECULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH			
21	2400V. SHIELDED	3/C #2/0 AWG. UNCOATED, SOFT COPPER * AEIC	6.2mm (.245") PER CONDUCTOR OIL VISCOSITY AT 100° C (212 F)									2.5mm (.10") COPPER BEARING LEAD	2.3mm (.09") HEAT & LIGHT STABILIZED BLACK HIGH MOLECULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH					
22	—	*14 AWG. SOLID, SOFT UNCOATED COPPER, NO. OF CONDUCTOR AS REQ'D. ASTM B3																
23	—	*14 AWG. SOLID, SOFT UNCOATED COPPER, NO. OF CONDUCTOR AS REQ'D. ASTM B3																
24	7500V. IN DUCT	8/C SERIES ST. LTG. IN DUCT	8/C#8 AWG. UNCOATED, SOFT COPPER															
25	—	OVERHEAD FLEXIBLE TRAINER WIRE (SHIELDED)	1/C#2 AWG. & LARGER, SOFT CLASS G OR H STANDING TINNED COPPER															
			ASTM B173													1.6mm (.063") GENERAL PURPOSE OR HEAVY DUTY BLACK NEOPRENE		

COLOR CODED AS FOLLOWS:
 RED - A CIRCUIT
 BLACK - B CIRCUIT
 WHITE - NEUTRAL

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 EXCEEDS 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.

ACCORDING TO SPECIFICATIONS

SPECIAL INSTRUCTION
 1.6mm (.063") OF 30% HEAVEA RUBBER AND ONE LAYER OF LAPPED FILLED COTTON TAPE OVER EACH CONDUCTOR CENTRAL CONDUCTOR HAS ADDITIONAL 4.2mm (.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 Ø. 115 INCH COPPER BEARING LEAD BENEATH OVERALL).

* * * BINDER TAPE OVER SHIELDED INSULATED CONDUCTOR AND BRONZE TAPE INTERCALATED WITH PAPER TAPE (212 F) METALIZED PAPER TAPE

MANSSELL ASSOCIATES INC.
 ENGINEERING CONSULTANTS
 33608 Grand River
 Farmington, MI. 48335
 (248) 473-7070

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File No.	M4188		

PUBLIC LIGHTING DEPARTMENT
 CITY OF DETROIT

1. DISTRIBUTION AND TRANSMISSION CABLES

ALL TRANSMISSION CABLES, (24 KV., ITEMS 11-16 INCLUSIVE) ARE FOR CIRCUITS WITH GROUNDED NEUTRAL, AND SHALL CONFORM STRICTLY WITH THE LATEST REVISION OF THE A.E.I.C. "SPECIFICATION FOR IMPREGNATED PAPER INSULATED, LEAD COVERED SOLID TYPE CABLE", 9TH EDITION, DATED APRIL, 1954, AND CONSTRUCTION OPTIONS AS NOTED IN SHEET 1. ALL DISTRIBUTION CABLES, (7 & 5 KV, ITEMS 19 & 21 INCLUSIVE) ARE FOR CIRCUITS WITH UNDERGROUND NEUTRAL AND SHALL ALSO CONFORM WITH THE ABOVE SPECIFICATION, WITH CONSTRUCTION OPTIONS AS NOTED IN TABLE 1.

2. OVERHEAD LINE WIRE

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

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

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

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

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

INSULATIONS

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

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

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

		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° C (212± 1.8° F)	120, MAX. 80, MIN. 168 HRS., 120° C (248± 1.8° F)	75, MIN. 48 HRS., 100° C (212± 1.8° F)	—	60, MIN. 168 HRS., 100° C (212± 1.8° F)
	ELONGATION % OF ORIGINAL	* 65, MIN. 168 HRS., 100° C (212± 1.8° F)	** 75, MIN. 168 HRS., 120° C (248± 1.8° F)	75, MIN. 48 HRS., 100° C (212± 1.8° F)	—	60, MIN. 168 HRS., 100° C (212± 1.8° F)
OXYGEN PRESSURE TEST	TENSILE STRENGTH % OF ORIGINAL	—	—	—	50, MIN. 168 HRS., 80° C (176± 1.8° F)	—
	ELONGATION % OF ORIGINAL	—	—	—	50, MIN. 168 HRS., 80° C (176± 1.8° F)	—
AIR PRESSURE HEAT TEST	TENSILE STRENGTH % OF ORIGINAL	—	—	—	50, MIN. 20 HRS., 127° C (260± 1.8° F)	50, MIN. 40 HRS., 127° C (260± 1.8° F)
	ELONGATION % OF ORIGINAL	—	—	—	50, MIN. 20 HRS., 127° C (260± 1.8° F)	50, MIN. 40 HRS., 127° C (260± 1.8° F)
HEAT DISTORTION 12± 1° C (250± 1.8° F)	% OF ORIGINAL	50, MAX.	25, MAX.	—	—	—
OIL IMMERSION 4 HRS., 70° C (158± 1.8° F)	TENSILE STRENGTH % OF ORIGINAL	* 85, MIN.	** 85, MIN.	—	—	—
	ELONGATION % OF ORIGINAL	* 85, MIN.	** 85, MIN.	—	—	—
HEAT SHOCK 12± 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 15.0° 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	—	—	—
	—	10, MAX.	10, MAX.	—	5, MAX.	—
ACCELERATED WATER ABSORPTION REQUIREMENT	ELECTRIC-AL METHOD	% CAPACITANCE INCREASE 1-14 DAYS-10, MAX. 7-14 DAYS-5, MAX.	1-14 DAYS-4.0, MAX. 7-14 DAYS-2.0, MAX.	—	1-14 DAYS-10.0, MAX. 7-14 DAYS-4.0, MAX.	1-14 DAYS-5.0, MAX. 7-14 DAYS-3.0, MAX.
	OR GRAVIMETRIC METHOD	TEMP. 50 ± 1° C (122± 1.8° F) 20 MILLIGRAMS PER SQ. 25.4mm(1") MAX.	75 ± 1° C (167± 1.8° F) 10 MILLIGRAMS PER SQ. 25.4mm(1") MAX.	—	75 ± 1° C (167± 1.8° F) 20 MILLIGRAMS PER SQ. 25.4mm(1") MAX.	75 ± 1° C (167± 1.8° F) 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-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.

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° C (176± 1.8° F)	TENSILE STRENGTH % OF ORIGINAL	50, MIN.	50, MIN.	—	—
AIR PRESSURE HEAT TEST 20 HRS. 127° 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. 18 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. 18 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 12± 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 S-61-402	IPCEA INTERIM REVISION #1 PUB. S-54-401 SEPT. 1959

DISK FILE: 206PLD.MTR

REV	Date	Description	Chkd. by

LIVERNOIS AVE MEDIAN IMPROVEMENTS PHASE II
 CABLE & WIRE SPECIFICATIONS

MANSSELL ASSOCIATES INC.
 ENGINEERING CONSULTANTS
 33608 Grand River
 Farmington, MI. 48335
 (248) 473-7070

Drawn	M.A.I.	Scale	No Scale
Checked		Checked by	
Drwg. No.	OF	Approved by	
File No.	M4188		

PUBLIC LIGHTING DEPARTMENT
 CITY OF DETROIT

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 (76.2mm) 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 80 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 X 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) MINUTES. 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 WIPE 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.

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 AEC
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, TENSILE 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.

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.		.635mm(.025") CLASS B POLYETHYLENE (ASTM D 1351)			CORRUGATED, LONGITUDINAL, ANNEALED, .1mm (.004") COPPER	BLACK POLYETHYLENE (ASTM D 2308). THICKNESSES OVER CORE AND MESSENGER AND WEB DIMENSIONS IN ACCORDANCE WITH REA SPECIFICATION PE-38.	
28	IN DUCT 600V.	#6 OR #19 AWG, SOLID, UNCOATED COPPER (ASTM B3)-NUMBER OF PAIRS AS REQUIRED		12.5 PERCENT MINIMUM LAP, POLYETHYLENE TEREPHTHALATE		BLACK POLY-ETHYLENE (ASTM D 2308) .254mm(.010") MIN. .76mm(.030") MAX. THICKNESS	BLACK POLYETHYLENE (ASTM D 2308). THICKNESSES IN ACCORDANCE WITH PARAGRAPH 3.6.7, 3.7 AND TABLE IV OF FED. SPEC. J.C.111.	
29	IN DUCT 600V.		.79mm(.031") DIOCTYL PHTHALATE PLASTICIZED PVC (ASTM D 2219)				LEAD-ANTIMONY THICKNESS PER ITEM 26 EXCEPT 1.6mm (.063") MIN. THICKNESS	
30	DIRECT BURIAL 600V.	#6 OR #19 AWG, SOLID, TINNED COPPER (ASTM B 33)-NUMBER OF PAIRS AS REQUIRED					COMMERCIAL 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

LIVERNOIS AVE MEDIAN IMPROVEMENTS PHASE II

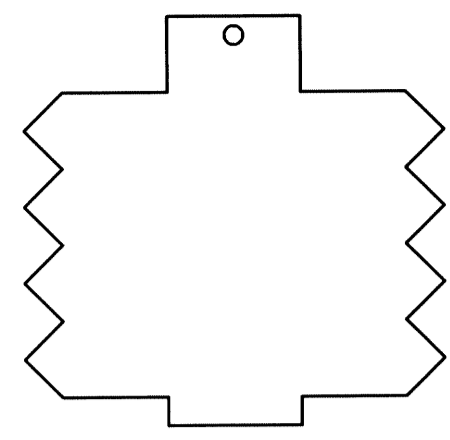
CABLE & WIRE SPECIFICATIONS

MANSSELL ASSOCIATES INC.
ENGINEERING CONSULTANTS
33608 Grand River
Farmington, MI. 48335
(248) 473-7070

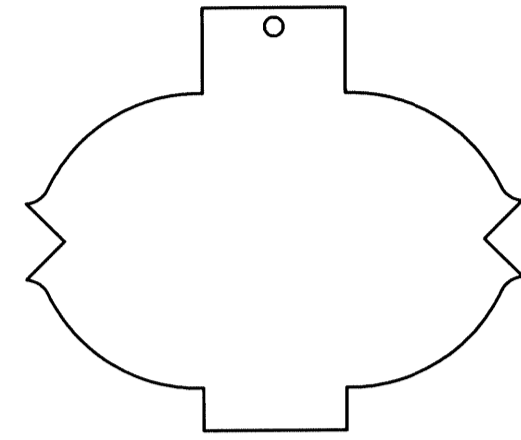
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PUBLIC LIGHTING DEPARTMENT
CITY OF DETROIT

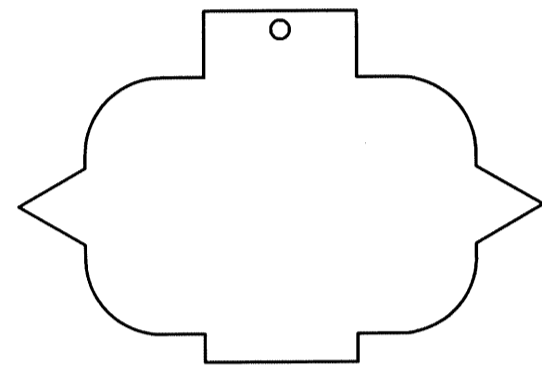
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Sheet No.	56 of 62
Date	06-15-07



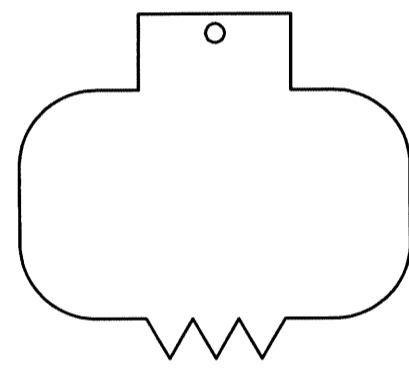
24,000 VOLT TRUNK LINE



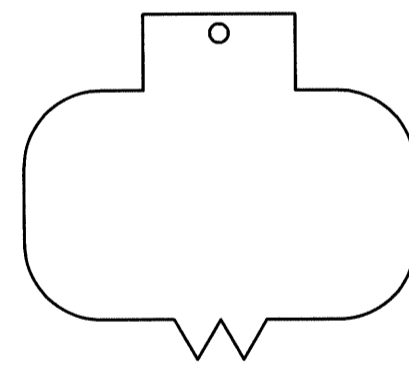
24,000 VOLT FEEDER



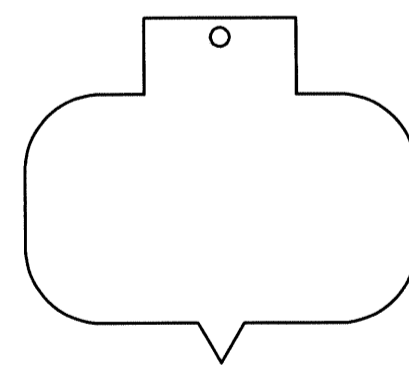
13200 VOLT FEEDER



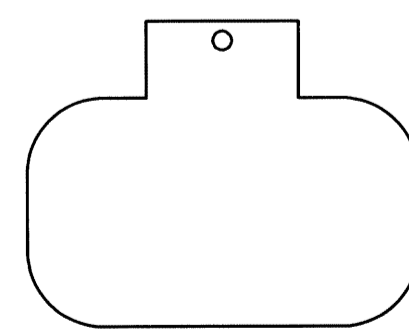
7200 VOLT FEEDER



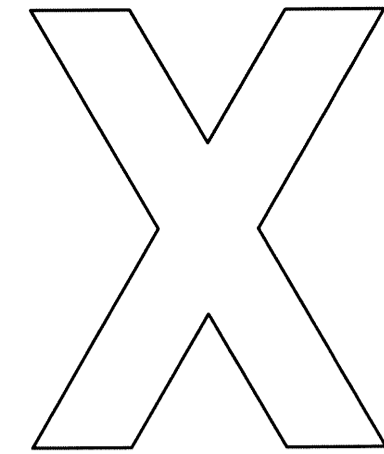
4800 & 5500 VOLT FEEDER



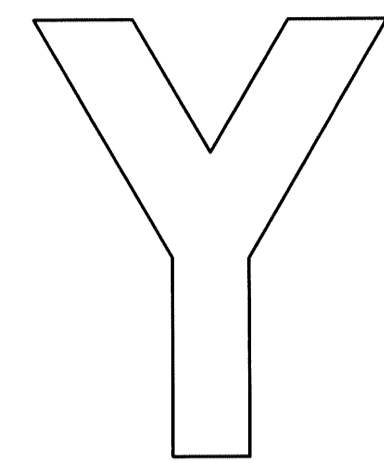
2400 VOLT FEEDER



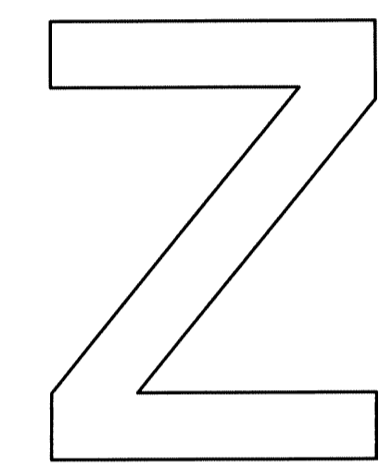
MISCELLANEOUS



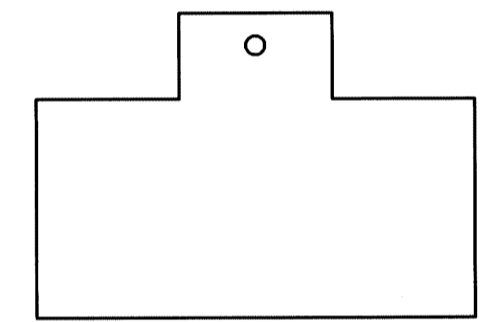
O.H. LINE PHASE TAG



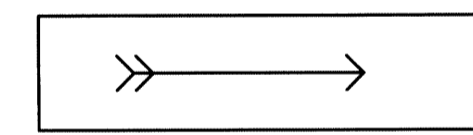
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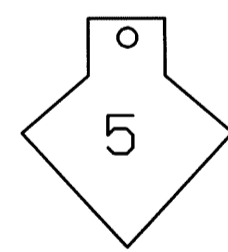
O.H. LINE PHASE TAG



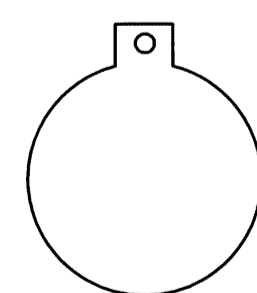
SUPERVISORY CONTROL



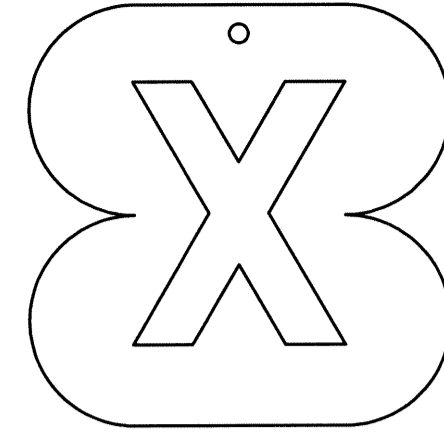
CIRCUIT DIRECTION



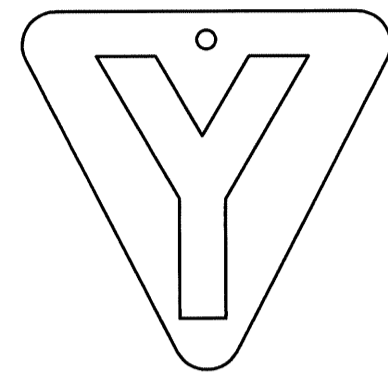
ST. LTG. COND. NO. (FROM 8/C CABLE)



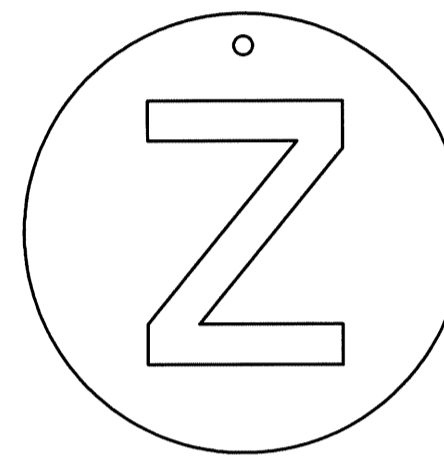
ST. LTG. CIRC. NUMBER



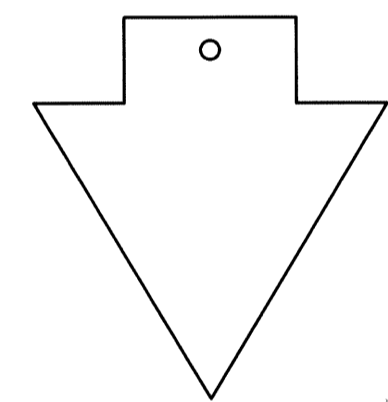
O.H. LINE OR POTHEAD PHASE TAG



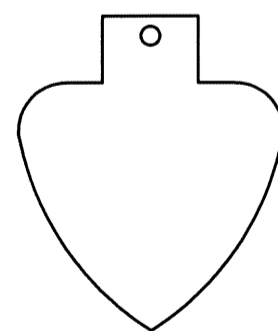
O.H. LINE OR POTHEAD PHASE TAG



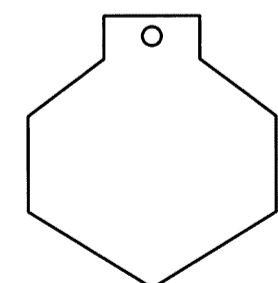
O.H. LINE OR POTHEAD PHASE TAG



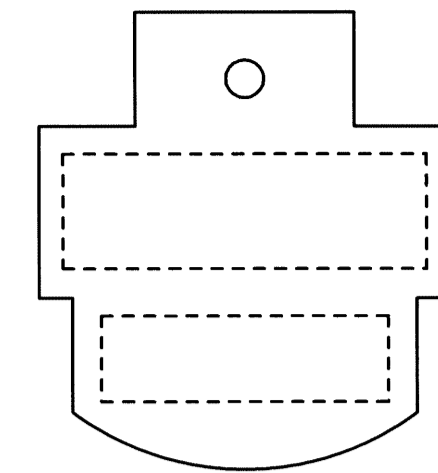
DEAD CABLE



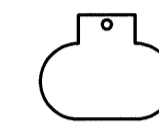
8/C COND. CABLE



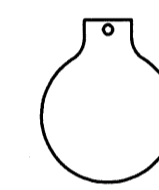
MULTIPLE LTG, CONTROL



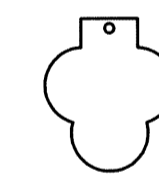
MULTIPLE STREET LIGHTING ALL VOLTAGES



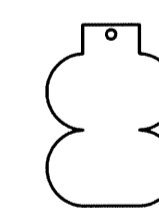
MULTIPLE INC. LTG.



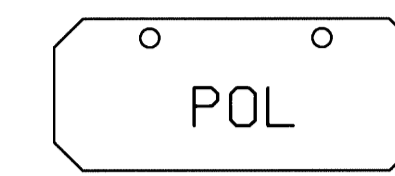
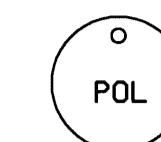
TRAFFIC SIGNALS



SECONDARY POWER TO SAFETY ISLANDS & TRAFFIC SIGNALS



TRAFFIC SIGNAL CHRONOLIZER



COMMUNICATION

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

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

NOTE :

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

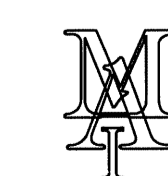
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REV	Date	Description	Chkd. by

LIVERNOIS AVE MEDIAN IMPROVEMENTS PHASE II

CABLE TAGS DETAILS

MANSELL ASSOCIATES INC.

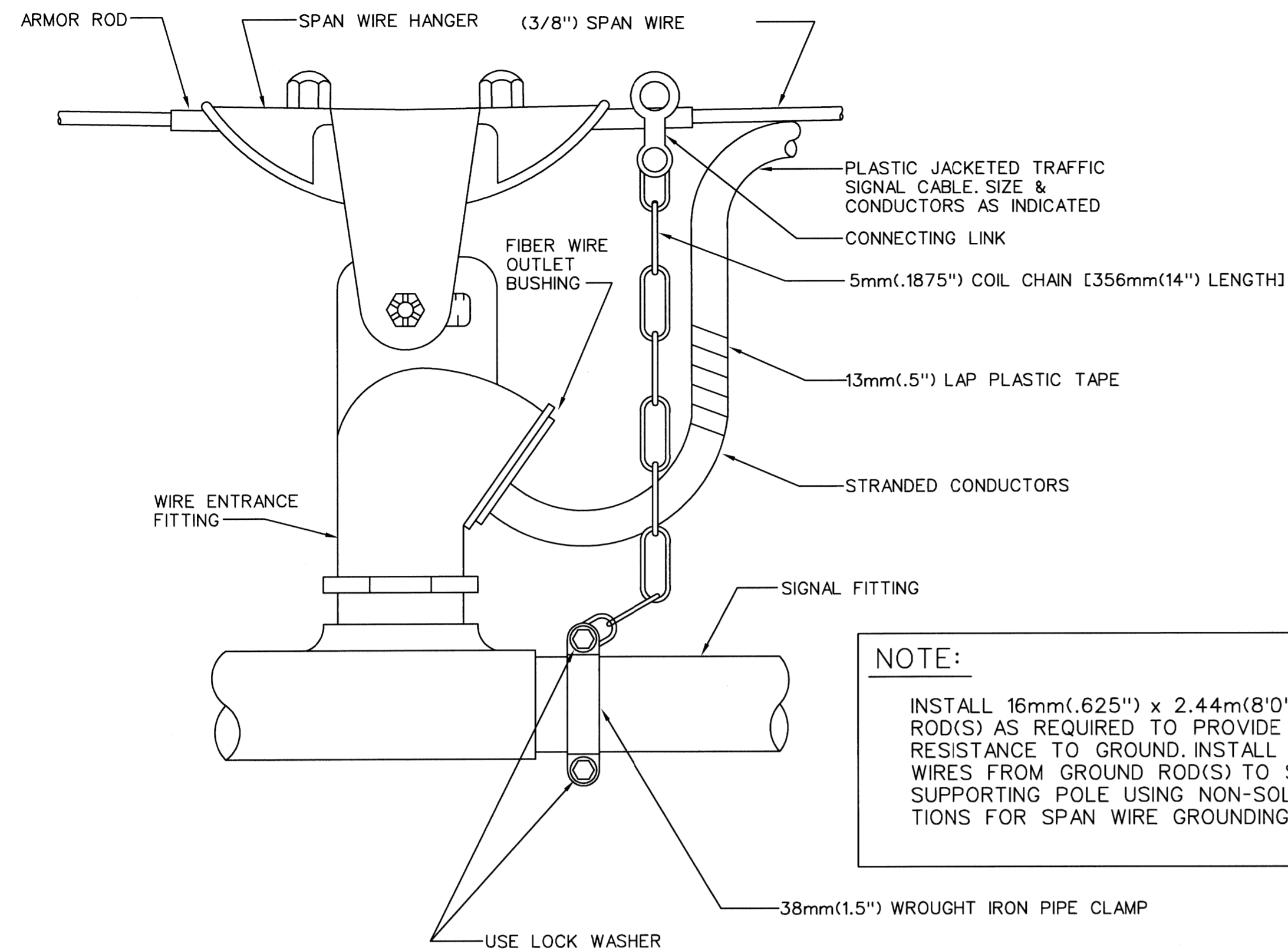


ENGINEERING CONSULTANTS
33608 Grand River
Farmington, MI 48335
(248) 473-7070

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Drwg. No.	OF	Approved by	
File No.	M4188		

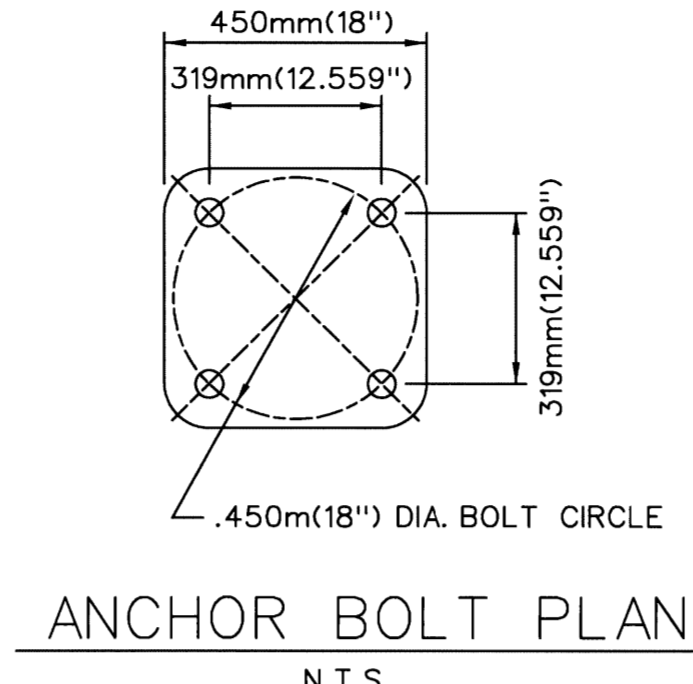
PUBLIC LIGHTING DEPARTMENT
CITY OF DETROIT

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Date	06-15-07

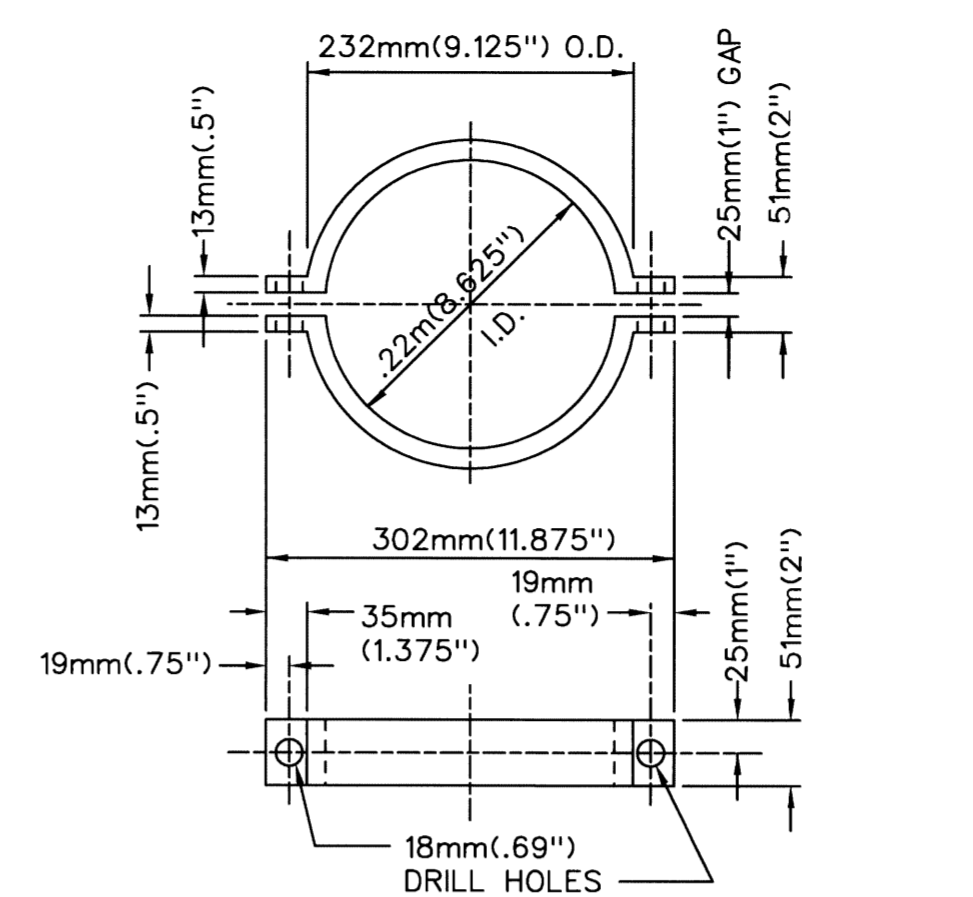


SPAN WIRE FITTING & WEATHER CAP
N.T.S.

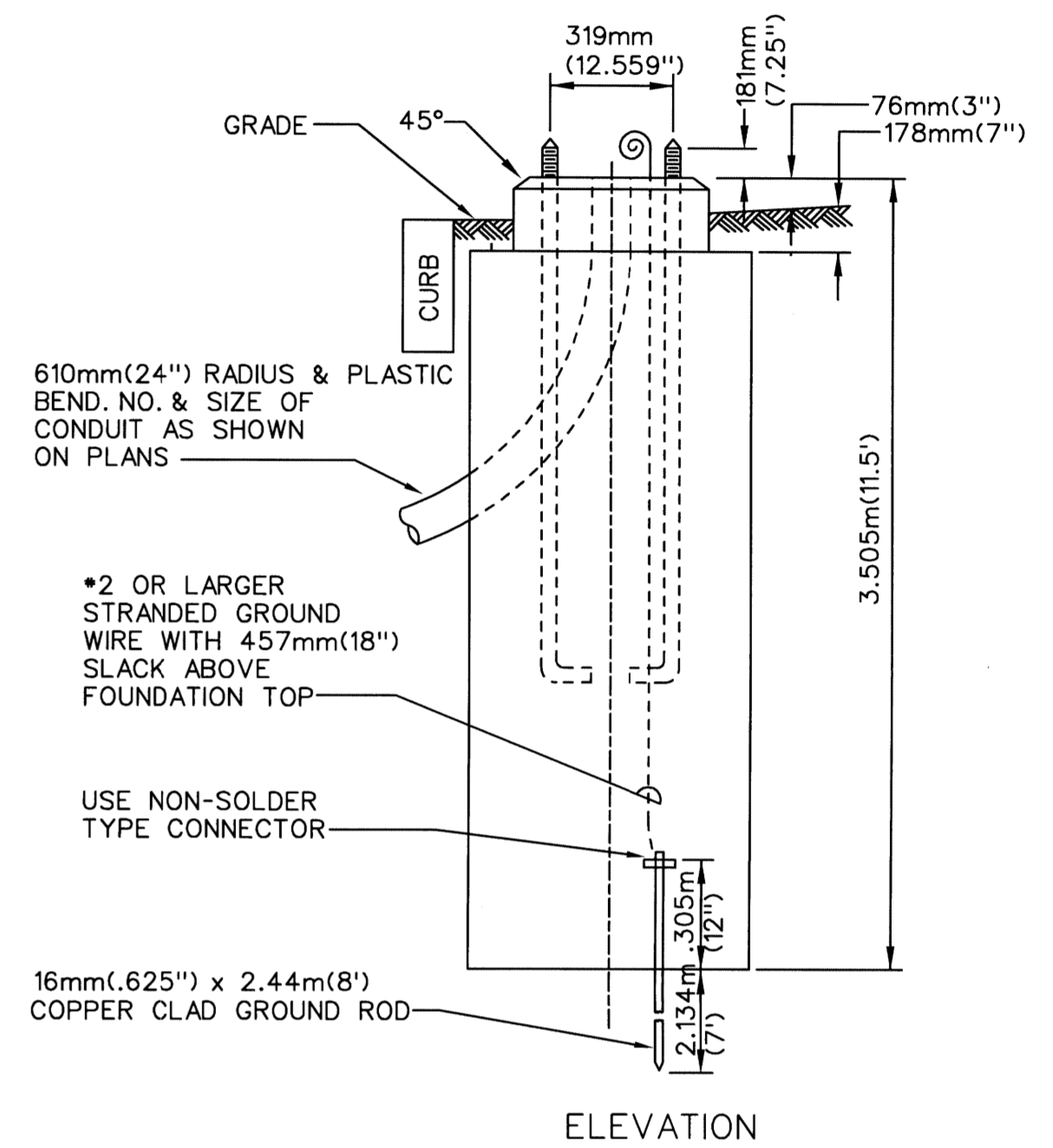
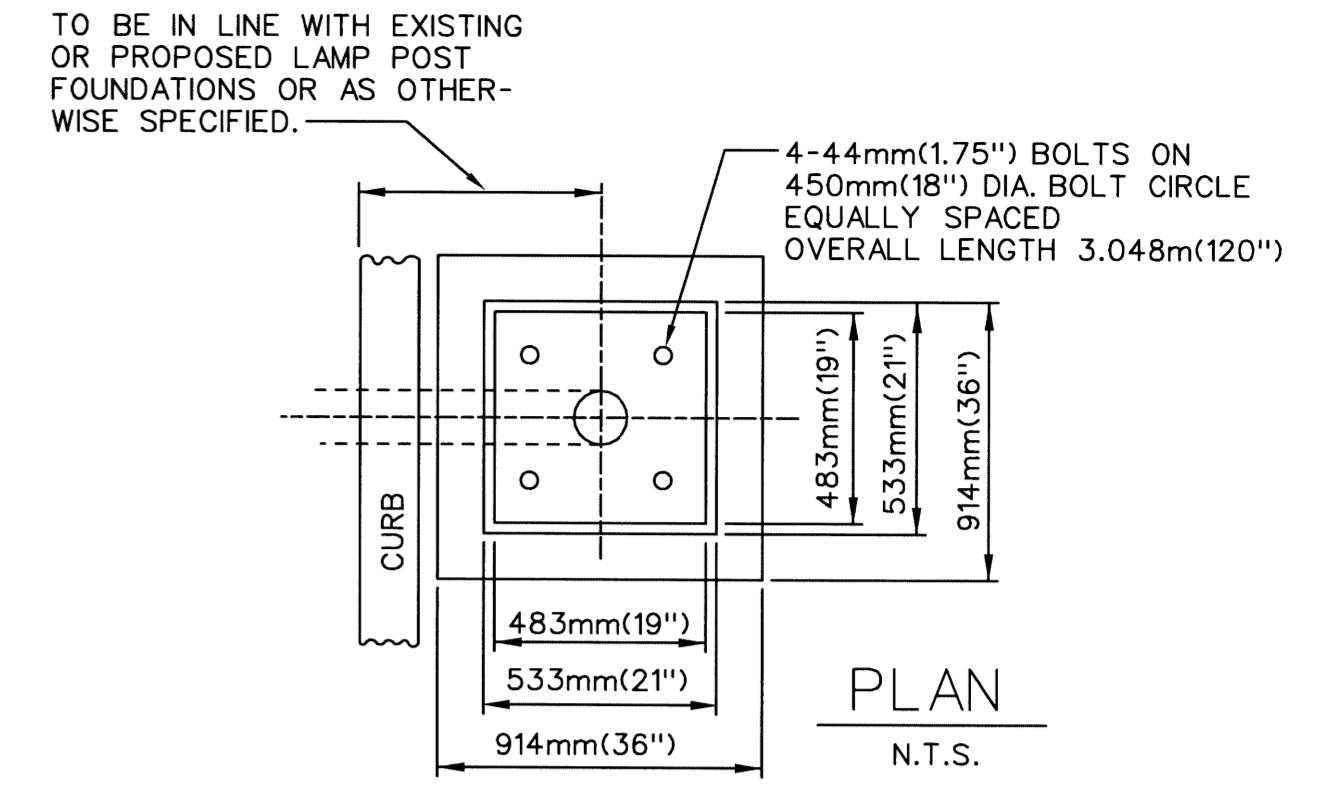
NOTE:
INSTALL 16mm(.625") x 2.44m(8'0") COPPER CLAD GROUND ROD(S) AS REQUIRED TO PROVIDE LESS THAN 10 OHM RESISTANCE TO GROUND. INSTALL #2 COPPER GROUND WIRES FROM GROUND ROD(S) TO SPAN WIRE AT EACH SUPPORTING POLE USING NON-SOLDER TYPE CONNECTIONS FOR SPAN WIRE GROUNDING.



ANCHOR BOLT PLAN
N.T.S.

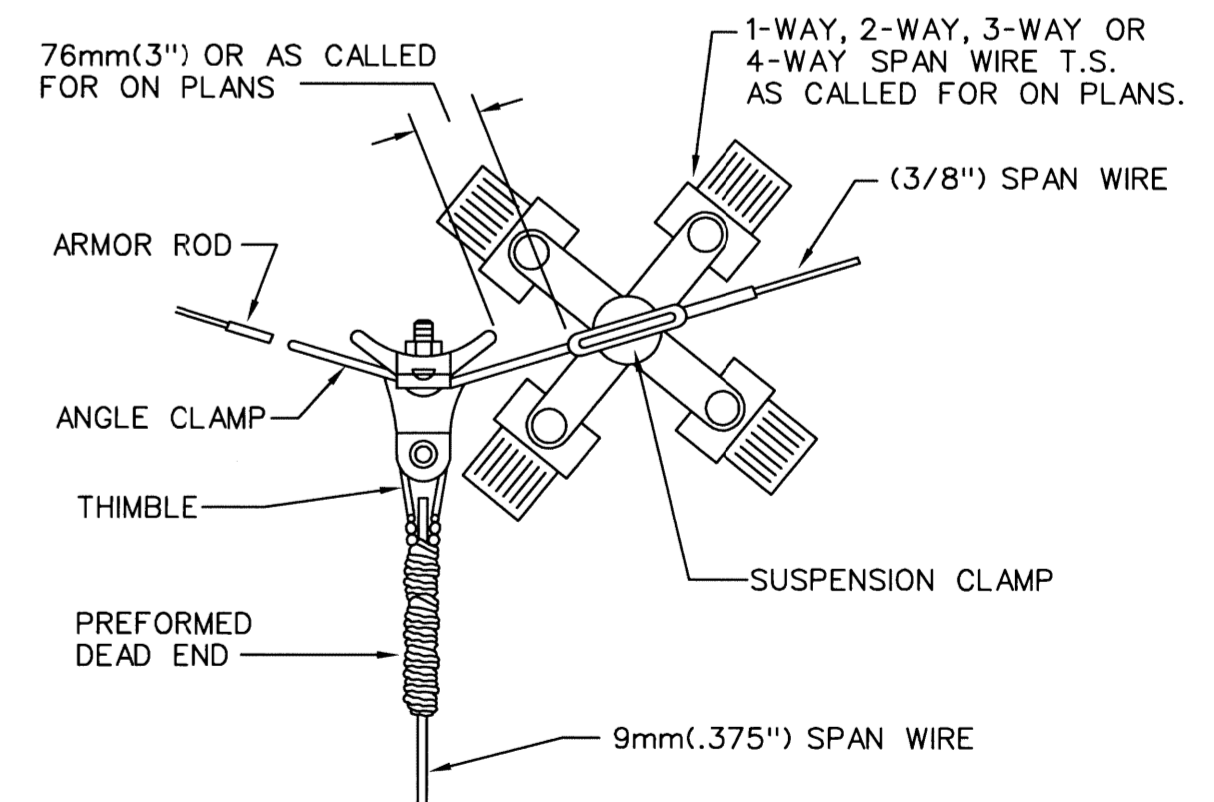


SPAN WIRE CLAMP
N.T.S.
MATERIAL: 13mm(.5") X 13mm(.5") GALVANIZED STEEL

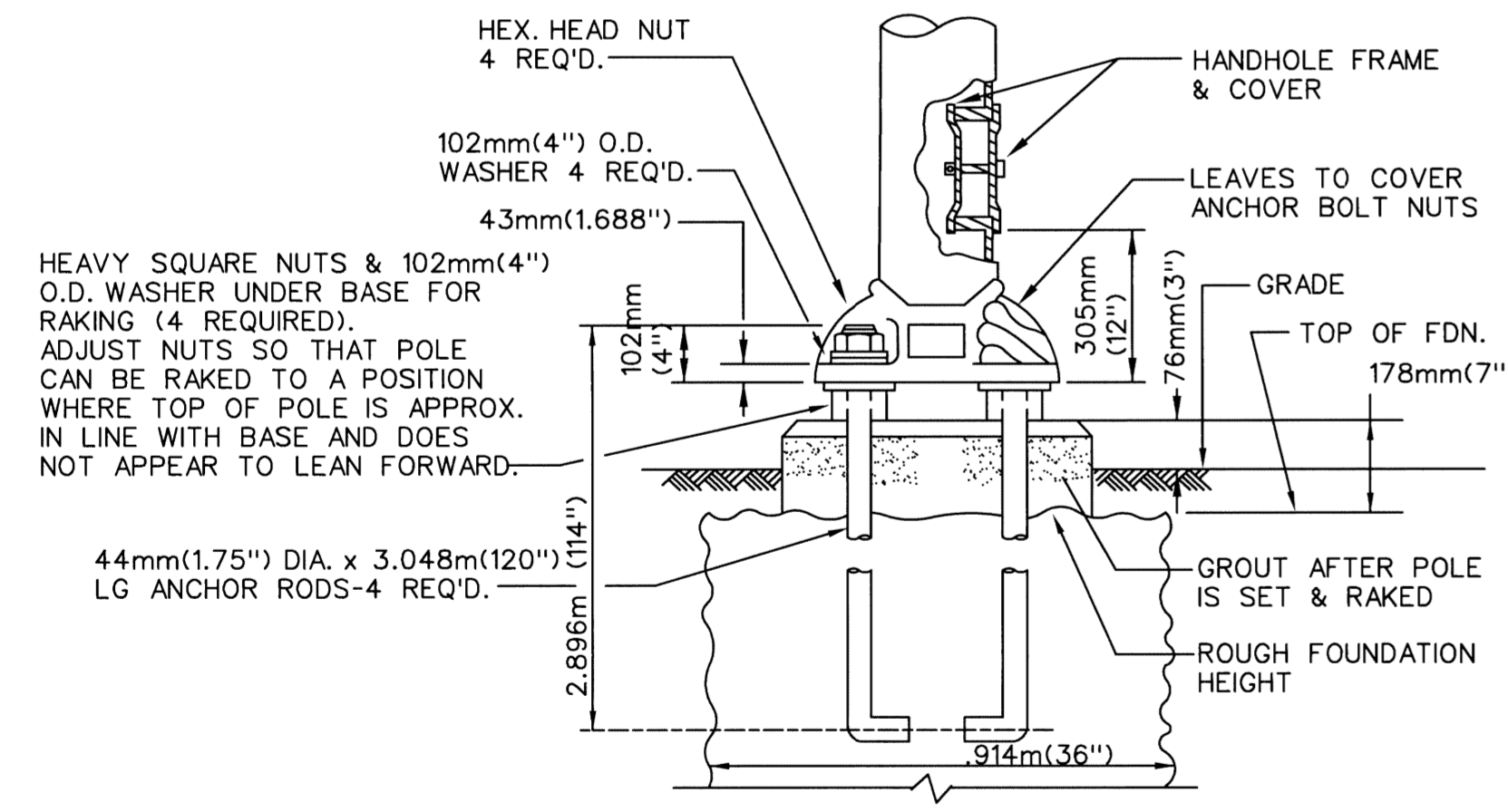


SPAN WIRE STEEL POLE FOUNDATION
N.T.S.

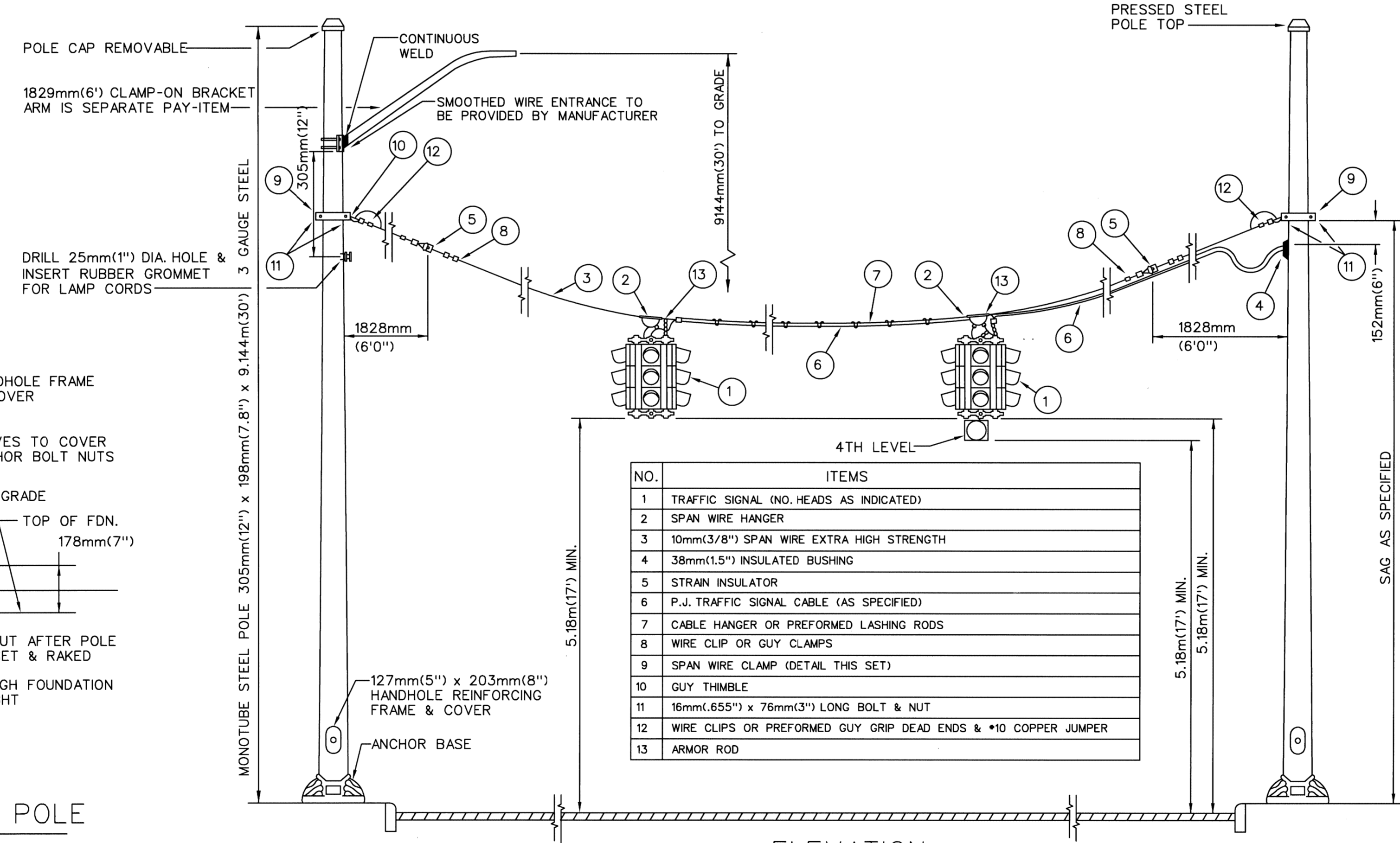
ALL FOUNDATION CAPS SHALL HAVE A SMOOTH FINISH WITH BEVELED EDGES & SHALL BE SHAPED TO ALLOW COMPLETE DRAINAGE OF WATER. ANCHOR BOLT PROJECTIONS ABOVE CAP SHALL BE CLEANED OF ALL CONCRETE & FULLY USABLE THEIR FULL LENGTH.



PULL-OFF CONNECTION FOR 3-WAY SUSPENSION



BOLT LAYOUT FOR STRAIN POLE FOUNDATION
N.T.S.



NO.	ITEMS
1	TRAFFIC SIGNAL (NO. HEADS AS INDICATED)
2	SPAN WIRE HANGER
3	10mm(3/8") SPAN WIRE EXTRA HIGH STRENGTH
4	38mm(1.5") INSULATED BUSHING
5	STRAIN INSULATOR
6	P.J. TRAFFIC SIGNAL CABLE (AS SPECIFIED)
7	CABLE HANGER OR PREFORMED LASHING RODS
8	WIRE CLIP OR GUY CLAMPS
9	SPAN WIRE CLAMP (DETAIL THIS SET)
10	GUY THIMBLE
11	16mm(.655") x 76mm(3") LONG BOLT & NUT
12	WIRE CLIPS OR PREFORMED GUY GRIP DEAD ENDS & #10 COPPER JUMPER
13	ARMOR ROD

ELEVATION
N.T.S.

DISK FILE: 507PLDM.MTR

Date	Description	Chkd. by

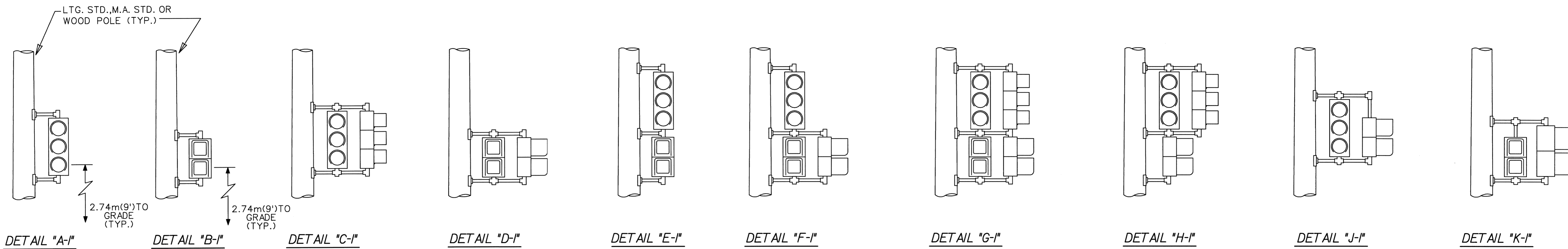
LIVERNOIS AVE MEDIAN IMPROVEMENTS PHASE II
STEEL POLE T.S.SPAN WIRE INSTALLATION (CODE I13-00)

MANSSELL ASSOCIATES INC.
ENGINEERING CONSULTANTS
33608 Grand River
Farmington, MI. 48335
(248) 473-7070

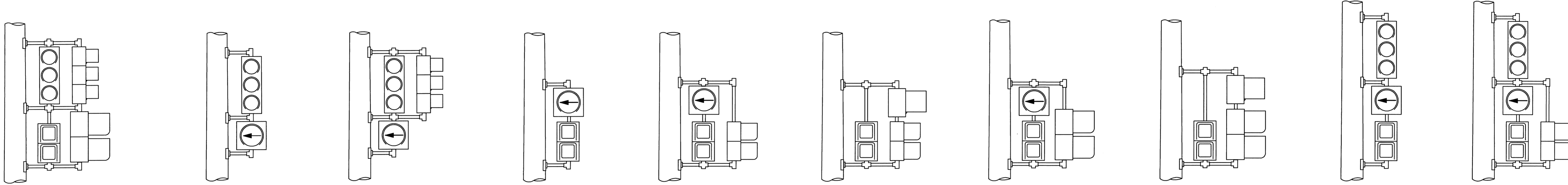
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PUBLIC LIGHTING DEPARTMENT
CITY OF DETROIT

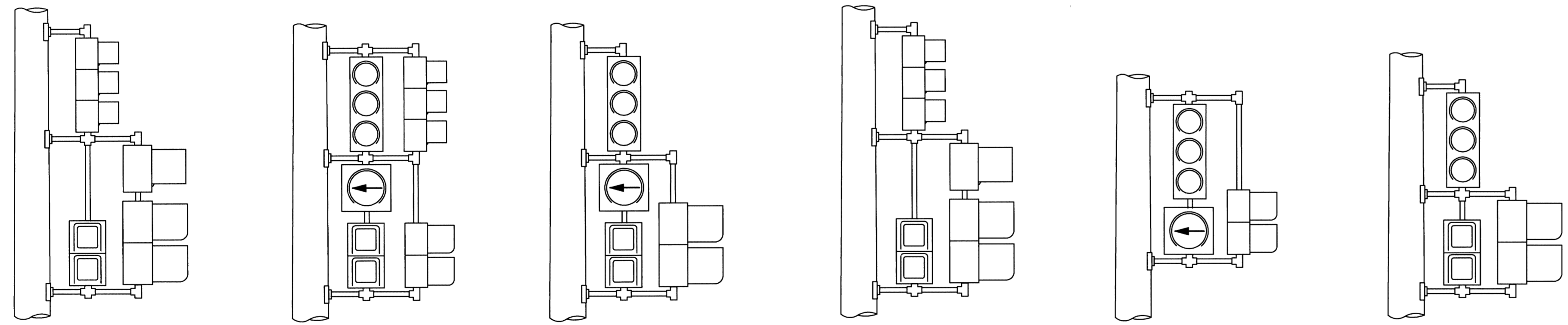
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DETAIL "A-I" DETAIL "B-I" DETAIL "C-I" DETAIL "D-I" DETAIL "E-I" DETAIL "F-I" DETAIL "G-I" DETAIL "H-I" DETAIL "J-I" DETAIL "K-I"



DETAIL "L-I" DETAIL "M-I" DETAIL "N-I" DETAIL "P-I" DETAIL "Q-I" DETAIL "R-I" DETAIL "S-I" DETAIL "T-I" DETAIL "U-I" DETAIL "V-I"



DETAIL "W-I" DETAIL "X-I" DETAIL "Y-I" DETAIL "Z-I" DETAIL "A-A-I" DETAIL "B-B-I"

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DISK FILE: 508PLD.MATR

REV	Date	Description	Chkd. by

LIVERNOIS AVE MEDIAN IMPROVEMENTS PHASE II
 T.S. BRACKET ARM ASSEMBLY DETAILS

MANSELL ASSOCIATES INC.
 ENGINEERING CONSULTANTS
 33608 Grand River
 Farmington, MI 48335
 (248) 473-7070

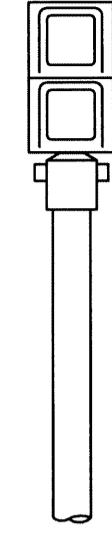
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PUBLIC LIGHTING DEPARTMENT
 CITY OF DETROIT

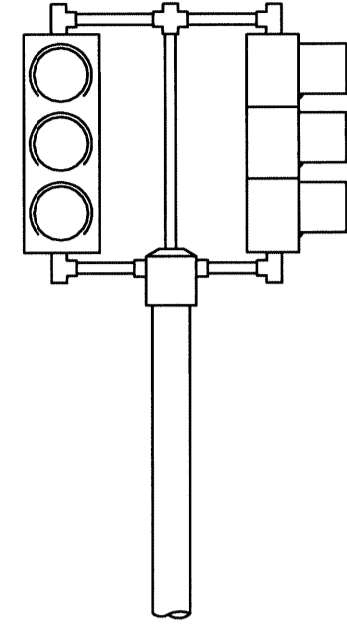
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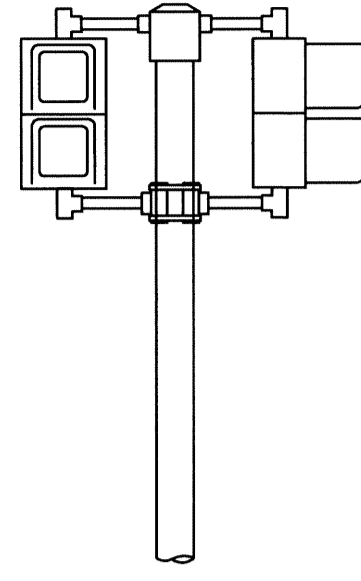
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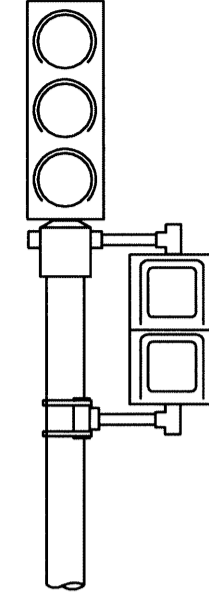
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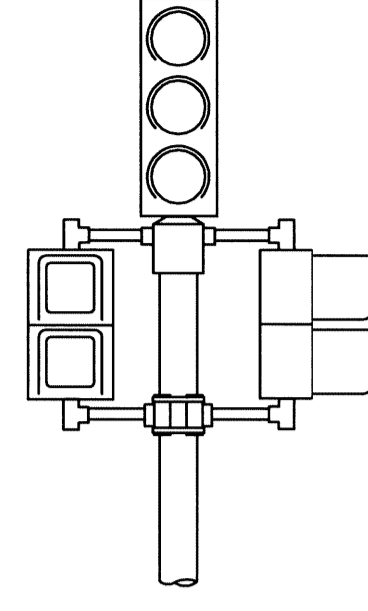
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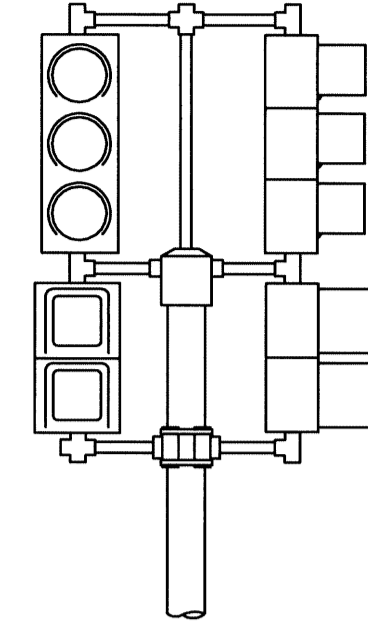
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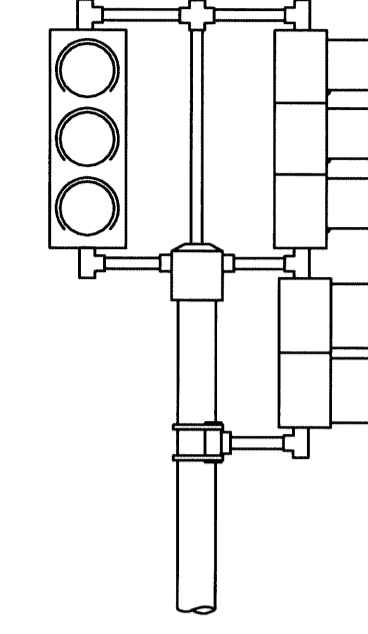
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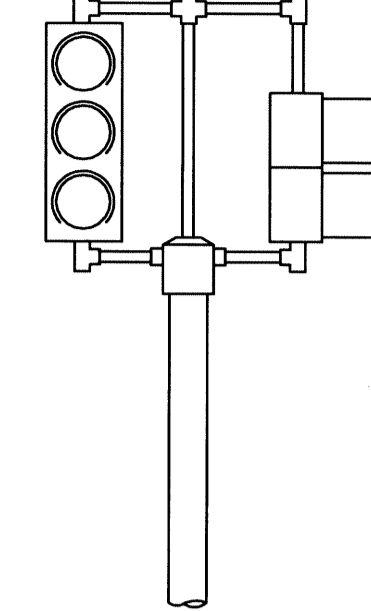
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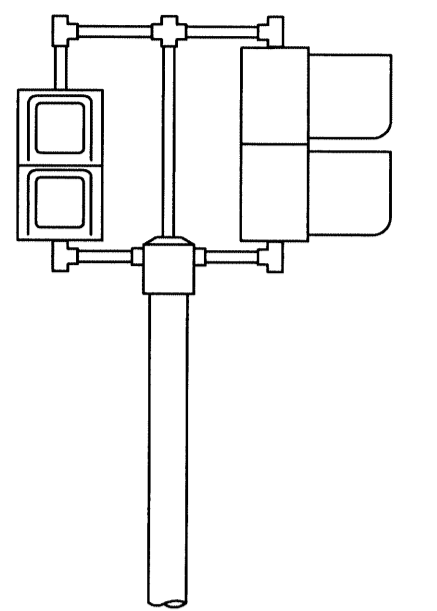
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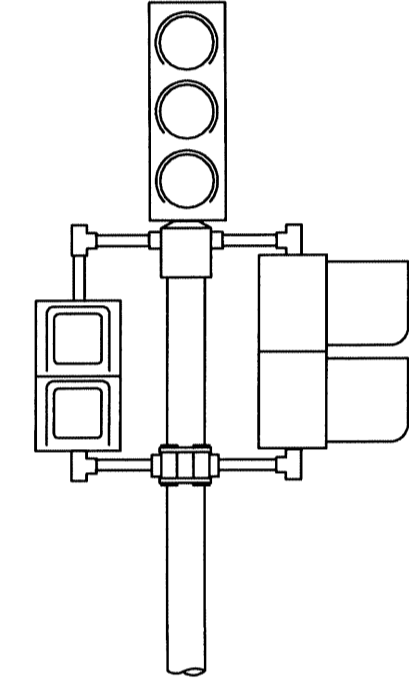
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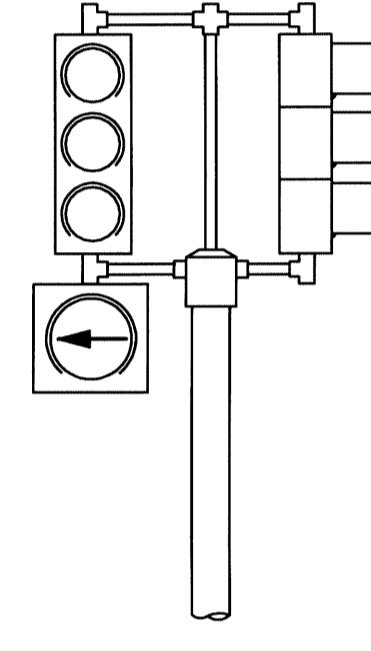
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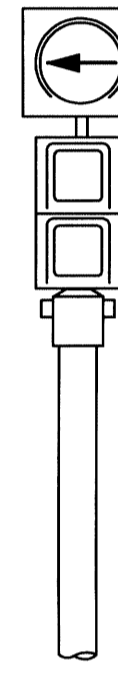
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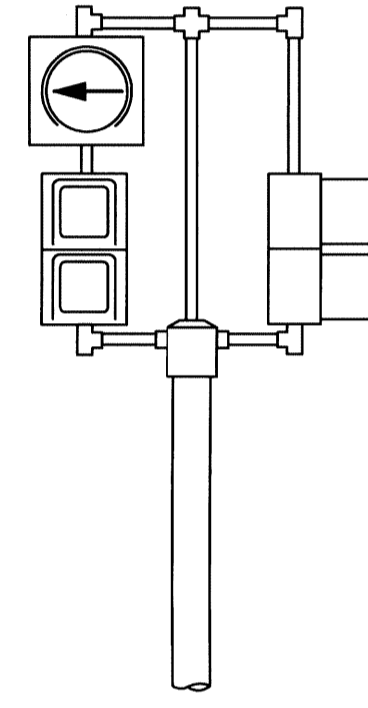
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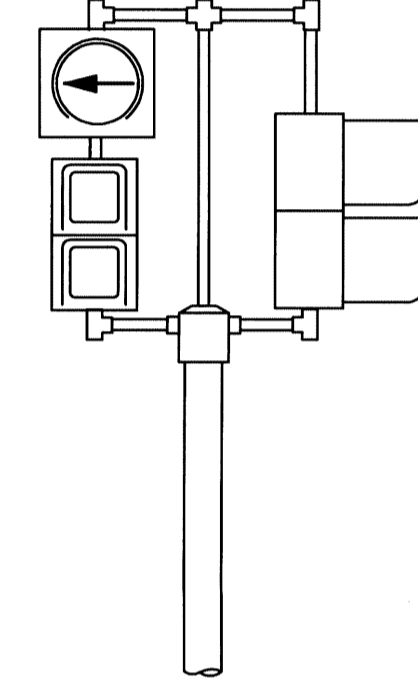
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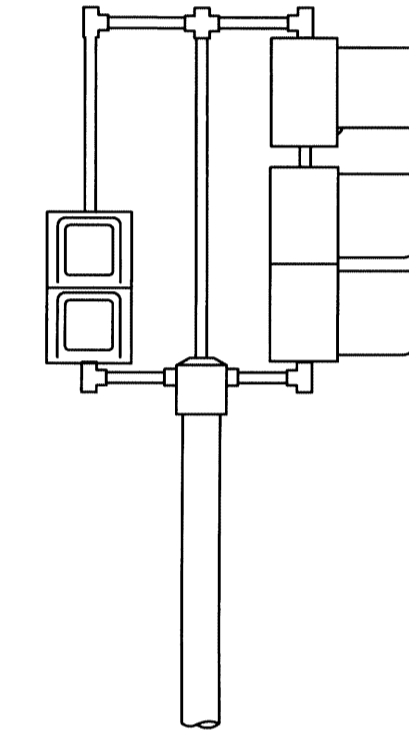
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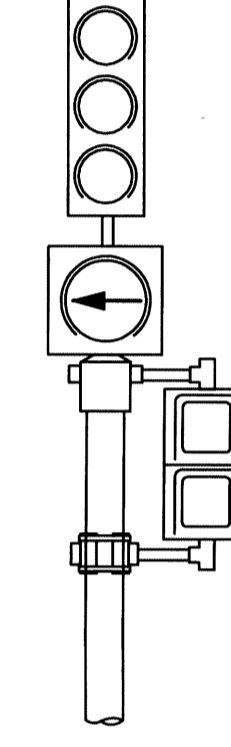
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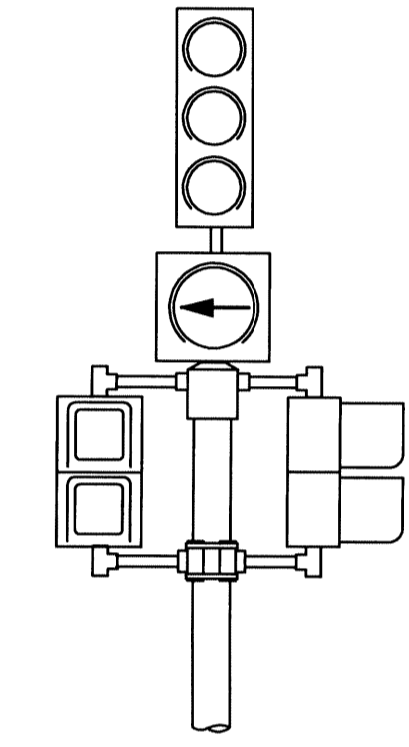
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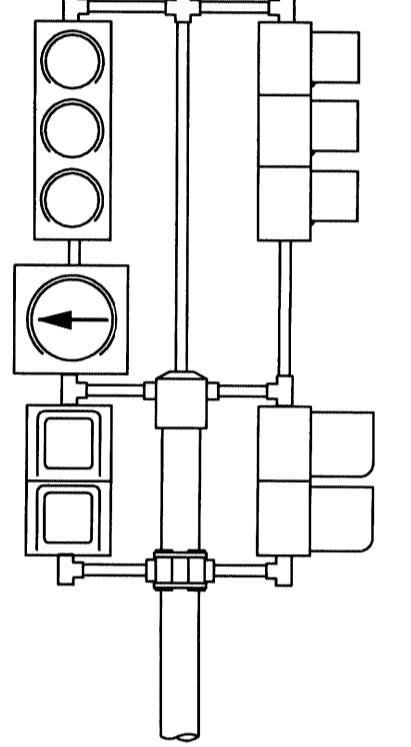
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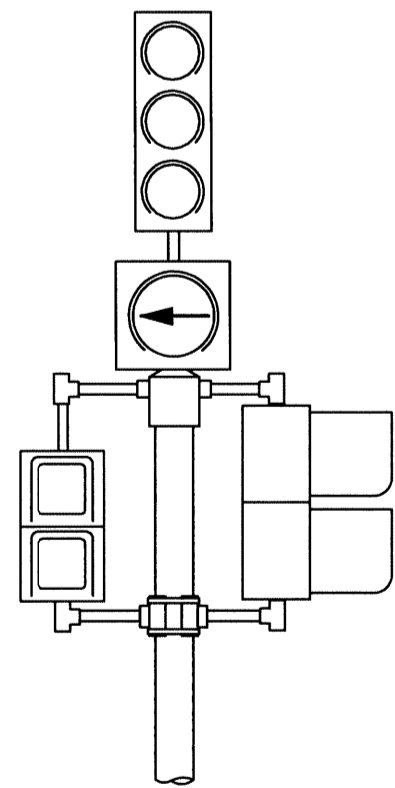
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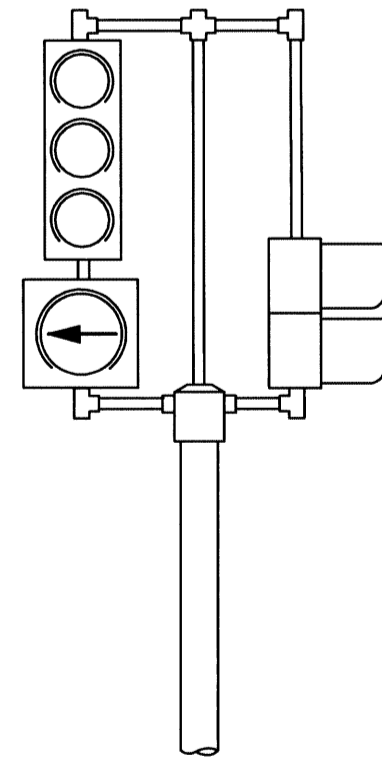
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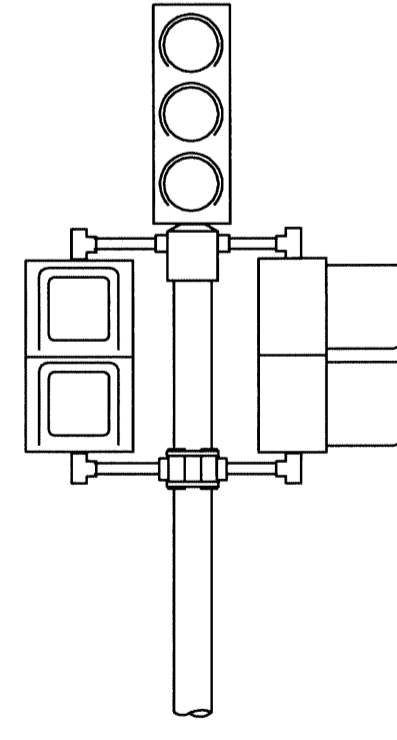
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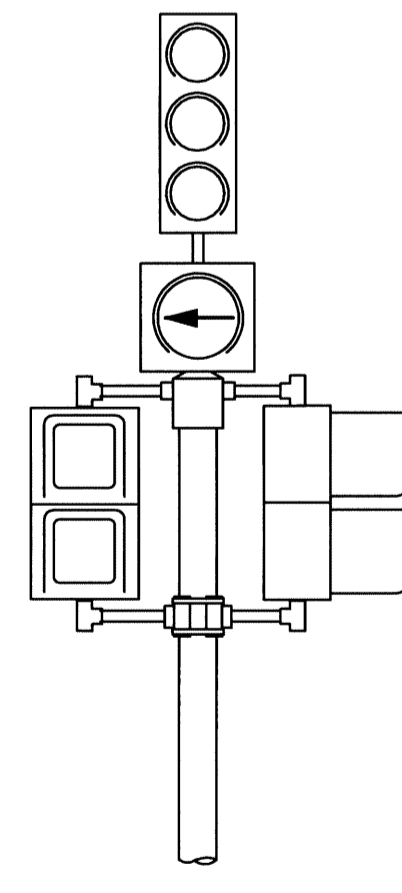
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DETAIL "X-2"



DETAIL "Y-2"



DETAIL "Z-2"

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DISK FILE: 509PLDM.MTR

Date	Description	Chkd. by

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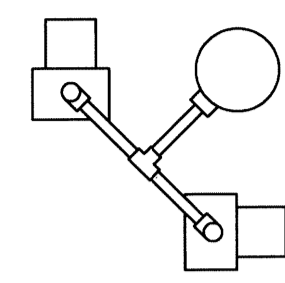
T.S. PEDESTAL ASSEMBLY DETAILS

MANSSELL ASSOCIATES INC.
 ENGINEERING CONSULTANTS
 33608 Grand River
 Farmington, MI 48335
 (248) 473-7070

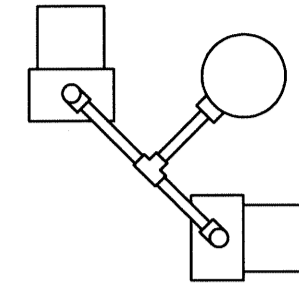
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File No.	M4188		

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 CITY OF DETROIT

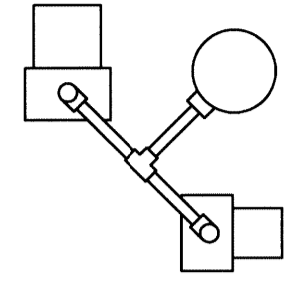
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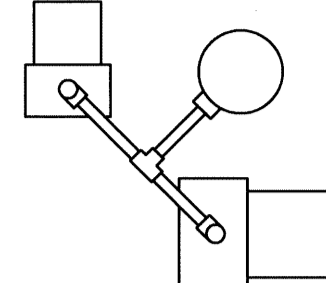
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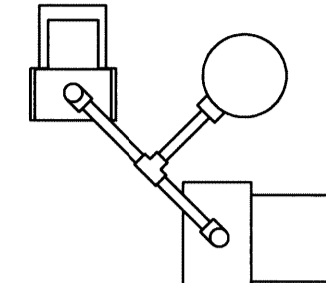
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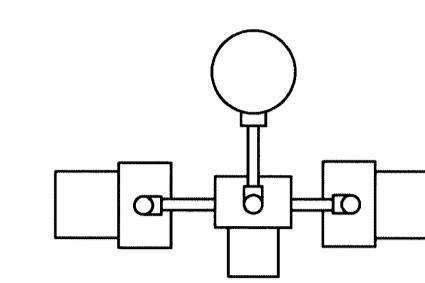
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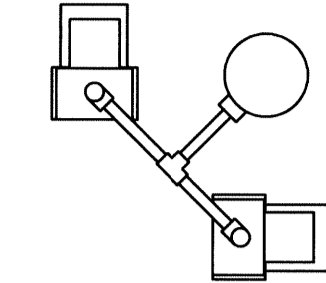
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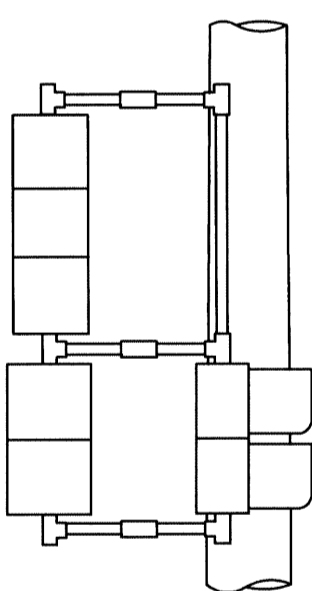
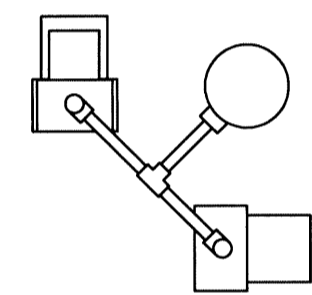
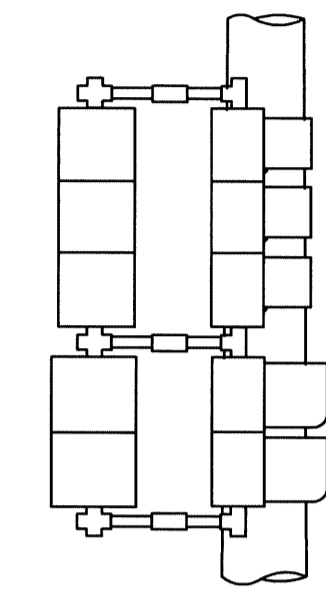
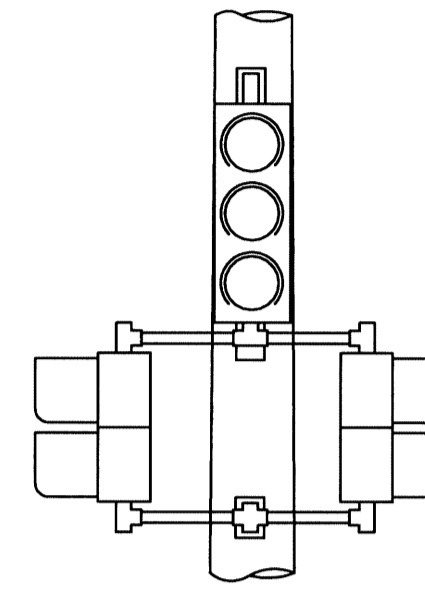
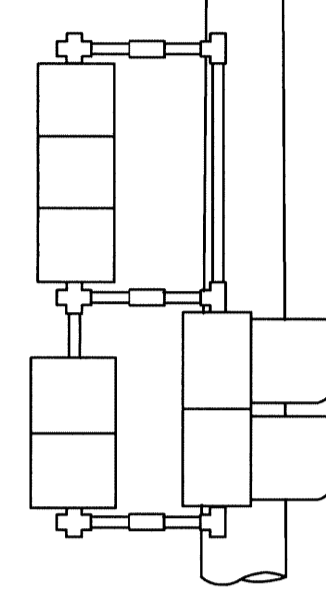
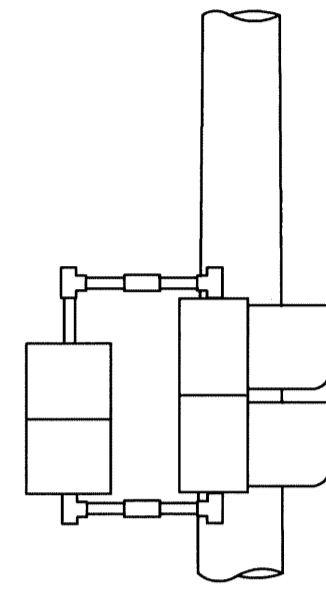
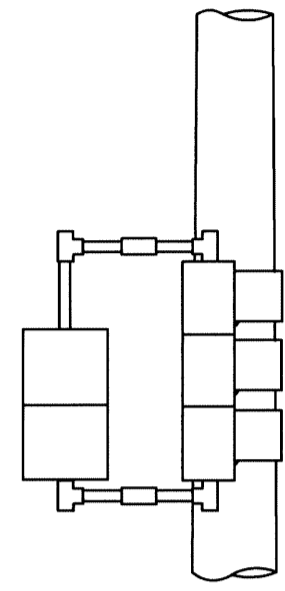
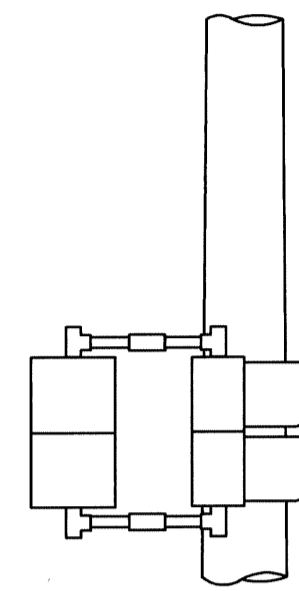
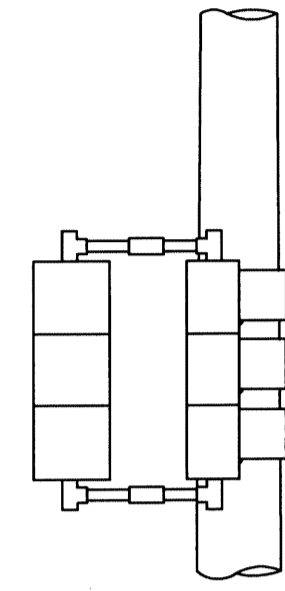
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DETAIL "F-3"



DETAIL "G-3"



DETAIL "H-3"

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REVISIONS	Date	Description	Chkd. by

LIVERNOIS AVE MEDIAN IMPROVEMENTS PHASE II

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Drawn	M.A.I.	Scale	No Scale
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 DEPARTMENT
 CITY OF DETROIT

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