CITY OF DETROIT
CITY ENGINEERING DIVISION – E.P.M.D.

IN CO-OPERATION WITH

MICHIGAN DEPARTMENT OF STATE HIGHWAYS AND TRANSPORTATION

AND

FEDERAL HIGHWAY ADMINISTRATION

PLAN AND PROFILE OF PROPOSED

FEDERAL AID URBAN PROJECT NO. MICHIGAN M 2000(018)

CONTROL SECTION 82400 JOB NO. 09520A

B.P.R. DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
STREET	CITY	COUNTY	TWP.	SHEET NO.	TOTAL SHEETS
	DETROIT	WAYNE		1	

THE IMPROVEMENTS COVERED BY THESE PLANS SHALL BE DONE IN ACCORDANCE WITH THE MICHIGAN DEPARTMENT OF STATE HIGHWAYS 1973 STANDARD SPECIFICATIONS AND SUPPLEMENTAL SPECIFICATIONS.

TRAFFIC COUNT	PRESENT	FUTURE
A.D.T.	9245	9245

INDEX TO SHEETS

STANDARD PLANS

II	28F
II	29B
II	39C
II	40A
II	42A
II	44A
IV	84B
VI	124B
VI	125C
E-4-A-10E	

EVERGREEN AVE.-
GRAND RIVER AVE.
INTERSECTION
IMPROVEMENT

ITEM 183

CONTRACT FOR INTERSECTIONAL IMPROVEMENT

LOCAL AUTHORITY APPROVAL
CITY OF DETROIT
CITY ENGINEERING DIVISION
ENVIRONMENTAL PROTECTION & MAINTENANCE DEPARTMENT

APPROVED BY _____ ASSISTANT CITY ENGINEER — DATE 10-6-76

APPROVED BY _____ CITY ENGINEER — DATE 10-6-76

RECOMMENDED FOR APPROVAL

BY _____ F.A.U. ENGINEER — DATE 6/6/77

PLANS CHECKED BY _____ DATE 6/6/77

DEPARTMENT OF STATE HIGHWAYS APPROVAL
APPROVED FOR COMMISSION

BY _____ DEPUTY DIRECTOR — HIGHWAYS — DATE 6/16/77

PREPARED UNDER SUPERVISION OF

_____ REGISTERED PROFESSIONAL ENGINEER — 09261 REGISTRATION NO.

CITY OF DETROIT
ORGANIZATION

DETROIT MICHIGAN
ADDRESS

STATE OF MICHIGAN
ALLEN E. PRAGER
ENGINEER
NO. 09261
REGISTERED PROFESSIONAL ENGINEER

(SEAL)

U. S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

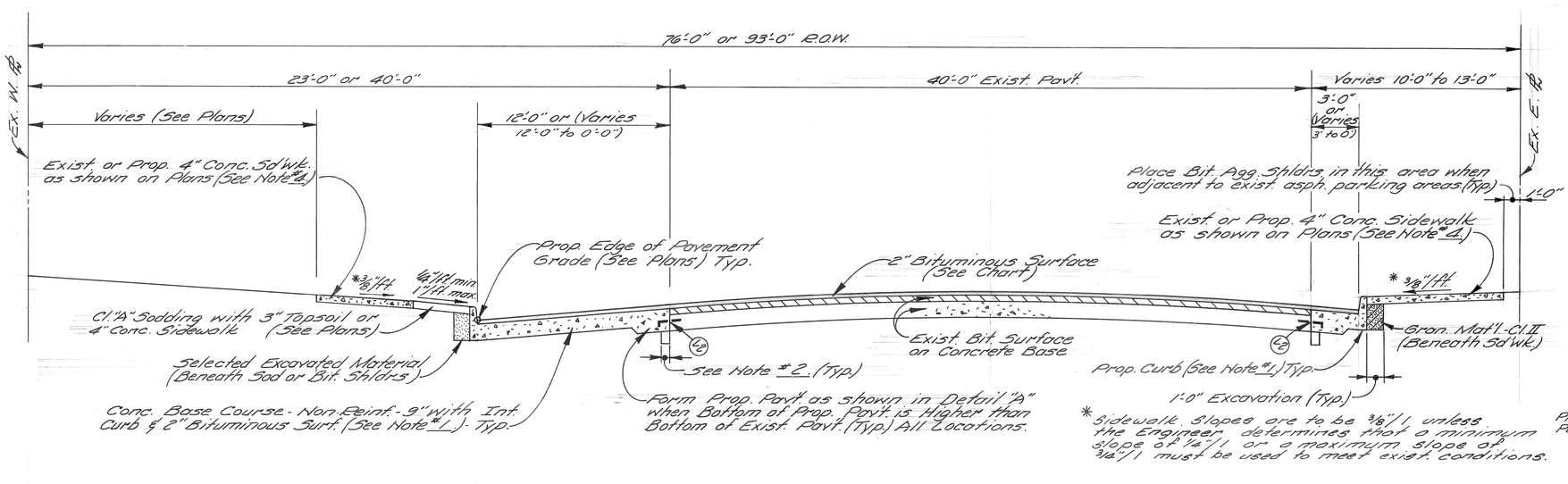
APPROVED

_____ DISTRICT ENGINEER — DATE

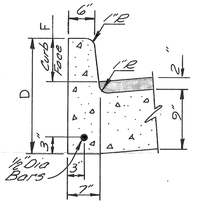
FILE NO. USE NO. 350 STENCIL		STATE PROJECT	FEDERAL PROJECT	SHEET NO.
				1

C-5514

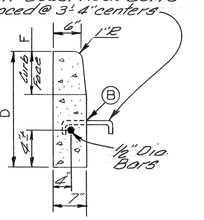
K&E 17 0153 12-73 5714



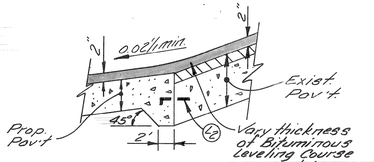
CURB DIMENSIONS	
FACE F	DEPTH D
5"	16"
6"	17"
7"	18"



INTEGRAL CURB
NO SCALE

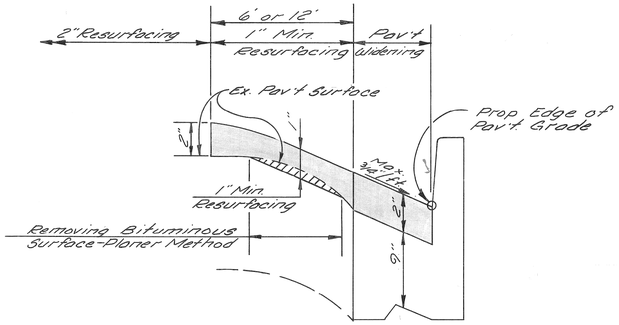


CONC CURB DETAIL "X"
NO SCALE



DETAIL A
NO SCALE

EVERGREEN AVE.
NO SCALE



CROSS-SECTION OF HEATER PLANING
NO SCALE

NOTE:
REFERENCE TO P.L.D. SPECIFICATIONS ON THESE PLANS IS HEREBY DELETED. ONLY THE SPECIFICATIONS IN THE PROPOSAL APPLY.

EARTHWORK LEGEND
- Granular Mat'l. Class II (Incidental to Contract Costs)
- Selected Excav. Mat'l. (Incidental to Contract Costs)

JOINT LEGEND
(B) or (1/2) Longitudinal Bulkhead Construction Joint, according to M.D.S.H. Std. Dwg. II-39C

GENERAL NOTES

1. The prop. curb shall be Int. Curb (See Detail this sheet) with Conc. Curb Det. "X" as an alternate. If Conc. Curb Det. "X" is used, the new pav't & curb must be constructed integrally where the pavt widening is 1'-0" or less
2. Fill existing curb void with Granular Mat'l. Class II (Incidental).
3. Backfill, if regd. under prop. sd'wks & pavt shall be Granular Mat'l. Class II (Incidental to Contract Costs)
4. Place 4" conc. sidewalk to face of rigid structures which abut the property line. For such a case, place on 1/2" expansion joint (Incidental), 1' off the property line.
5. Conc. Curb Detail "x" shall be paid for as "Conc. Base Course"

The following quantities are estimated for use throughout Evergreen-Grand River @ the discretion of the Engineer.	
4" Concrete Sidewalk	360 Sq. Ft.
Removing Sidewalk	40 Sq. Yds.
Class "A" Sodding	20 Sq. Yds.
Topsoil Surface, 3 in.	20 Sq. Yds.
Subgrade Undercutting - Type II	200 Cu. Yds.

Miscellaneous Quantities Evergreen-Grand River	
Maintaining Traffic	Lump Sum
Type II Barricade (Drums) Lighted	59 Each
Drum Guide Rail	250 Lin. Ft.
Mobilization	Lump Sum.

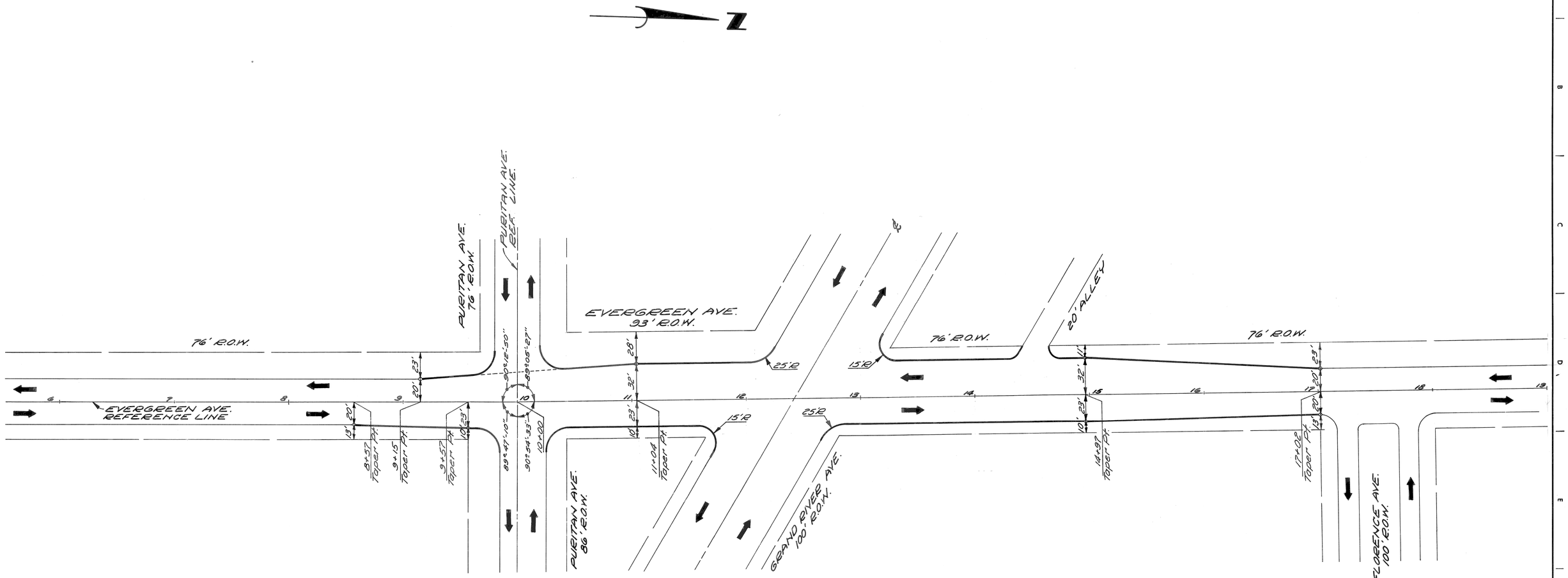
BITUMINOUS APPLICATION RATES			
ITEM	RATE OF APPLICATION	ESTIMATED THICKNESS	ASPHALT PENETRATION
Bit. Conc. Leveling Course (25A)	110#/S.Y.	1 Inch.	85-100
Bit. Conc. wearing Course (3A) Type M	110#/S.Y.	1 Inch.	85-100
Bit. Bond Coat - 0.10 Gal/S.Y. to rigid bases & 0.05 Gal/S.Y. Tack Coat between bit. layers			

Bit. Bond Coat RC-70 may be used in lieu of M.S.2a & S.S.-14 on this project where thru traffic is detoured from the construction area. The contractor, however, is cautioned of the flammable characteristic of this mat'l. & shall take due precautions when using same.

REVISIONS LOCATED BY COORDINATES ON SHEET							REFERENCE DRAWINGS	DESIGNED BY		APPROVED: ENGINEER OF EXPRESSWAYS	CITY OF DETROIT	EVERGREEN AVE. - GRAND RIVER AVE. INTERSECTION IMPROVEMENT	SHEET 2 OF 34 SHEETS
COOR'D	DESCRIPTION	DR'N	CK'D	APV'D	DATE			DRAWN BY	M.P.		CITY ENGINEERING DIVISION E.P.M.D.		CONTRACT No. 09520A
								TRACED BY				TYPICAL CROSS-SECTION	DRWG NO.
								CHECKED BY	R.A.C.				DATE OCT. 1, 1976

C-55194

K&E 17 0153 12-73 5714L



PLAN
Scale: 1" = 40'

NOTES:
1. All Prop. Street Return Radii are 20' unless otherwise noted.
2. All Prop. Alley Return Radii are 10' unless otherwise noted.

REVISIONS LOCATED BY COORDINATES ON SHEET							REFERENCE DRAWINGS	DESIGNED BY		APPROVED:	CITY OF DETROIT	EVERGREEN AVE. – GRAND RIVER AVE. INTERSECTION IMPROVEMENT	SHEET 3 OF 34 SHEETS
COORD	DESCRIPTION	DR'N	CK'D	APV'D	DATE			DRAWN BY	MAP	ENGINEER OF EXPRESSWAYS	CITY ENGINEERING DIVISION E.P.M.D.		CONTRACT No. 09520A
								TRACED BY				ALIGNMENT	ASSIG N#.
								CHECKED BY	R.A.C.				DATE OCT 1 1976

C-5514

REMOVAL LEGEND

Removing Pavement	(hatched)
Removing Sidewalk	(hatched)
Removing Curb	+++++
Existing Buildings to Remain	(hatched)
Abandoning Drainage Structures	(A)
Sprinkler System	• • • • • •
Exist. Sidewalk or Driveway to Remain	(shaded)
Removing Old Pav't (Patching) Replace with 2" Bit. Conc. on Conc. Pav't Patch - 9" Non-Reinf.	(hatched)

NOTES:

1. For Utility Legend, See Sh. Nº 10.
2. The Contractor must salvage all parts of the existing sprinkler systems for their respective owners.

CALL MISS DIG
48 HOURS PRIOR TO
CONSTRUCTION 647-7344

Scale: 1" = 40'

DESIGNED BY		APPROVED: [signature] ENGINEER OF EXPRESSWAYS	
DRAWN BY	Sucech		
TRACED BY			
CHECKED BY	I.H.K.		

CITY OF DETROIT
CITY ENGINEERING DIVISION
E.P.M.D.

EVERGREEN AVE. - GRAND RIVER AVE.
INTERSECTION IMPROVEMENT

REMOVALS

SHEET 4 OF 34 SHEETS
CONTRACT No. 09520A
ASSIG. No.
DATE OCT. 1, 1976

REVISIONS LOCATED BY COORDINATES ON SHEET

COOR'D	DESCRIPTION	DR'N	CK'D	AP'VD	DATE

C-5514

K&E 17 0153 12-73 5714 I

C.B.M. Elev. 154.81 Arrow on Hydrant
West Side of Evergreen Ave., Sta. 7+67

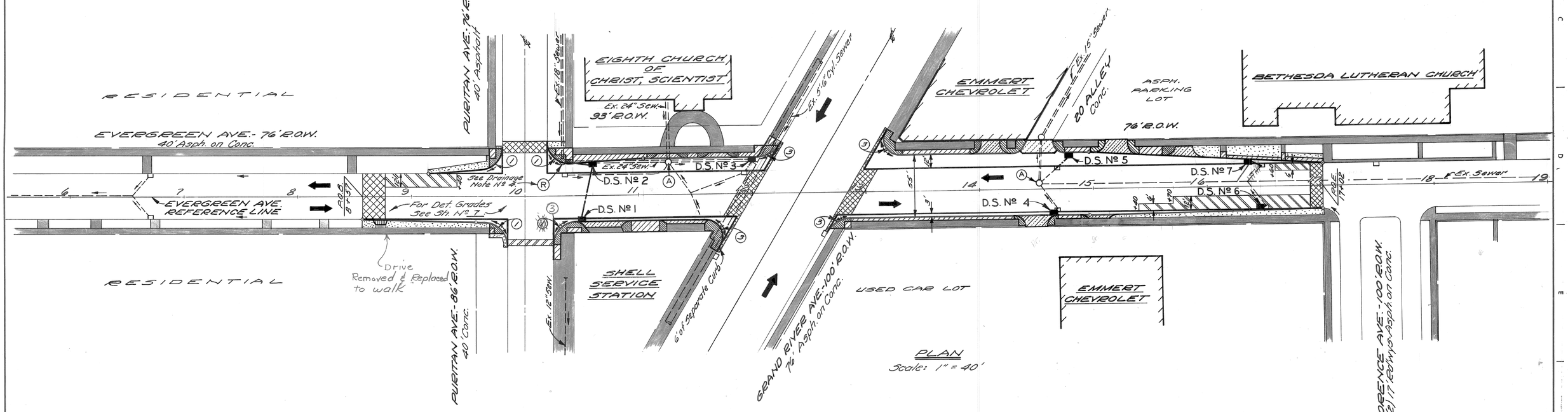
P.B.M. #113-255 Elev. 152.40 N.W. Cor.
Puritan Avenue & Evergreen Avenue

C.B.M. Elev. 152.95 R.R. Spike in Pole
East Side Evergreen Ave., Sta. 13+26.5

C.B.M. Elev. 154.94 Arrow on Hydrant
West Side Evergreen Ave., Sta. 17+39.5

SURFACING LEGEND

- Exist. Sidewalk or Driveway to Remain
- 4" Concrete Sidewalk
- 6" Concrete Sidewalk
- Conc. Pavt., Non-Reinf., 8" (Driveway)
- Conc. Pavt., Non-Reinf., 6" (Driveway)
- (A) Adjusting Drainage Structure Covers
- (R) Reconstructing Drainage Structures
- Class "A" Sodding
- Concrete Pavement, Non-Reinforced - 9"
- Strip and Resurface
- Heater Plane
- Conc. Base Course Non-Reinf. 9" with Int. Curb & 2" Bit. Surf.
- (1), (3) Sidewalk Ramps Type (1) or (3) (4" or 6")
- Chipping Pavement for Concrete



PLAN
Scale: 1" = 40'

DRAINAGE STRUCTURE NO. (D.S.)	TYPE OF STRUCTURE	WITH TRAP (T)	SEWER LENGTH & TYPE LEAVING D.S. LENGTH FT.	SIZE IN.	CLASS	SEWER TAP SIZE IN.	TRENCH DETAIL LIN. FT. 8	9	COMMENTS
1	C.B. "A"		48	12	C-76-III			48	See Drainage Note #1
2	C.B. "B"	T	19	12	C-76-III	12		19	
3	C.B. "B"	T	12	12	C-76-III			12	See Drainage Note #2
4	C.B. "L"	X	2	12	C-76-III			2	See Drainage Notes #2 & #3
5	C.B. "L"	X	14	12	C-76-III			14	See Drainage Notes #2 & #3
6	C.B. "B"	T	9	12	C-76-III			9	See Drainage Note #2
7	C.B. "B"	T	2	12	C-76-III	12		2	See Drainage Note #2

DRAINAGE NOTES:

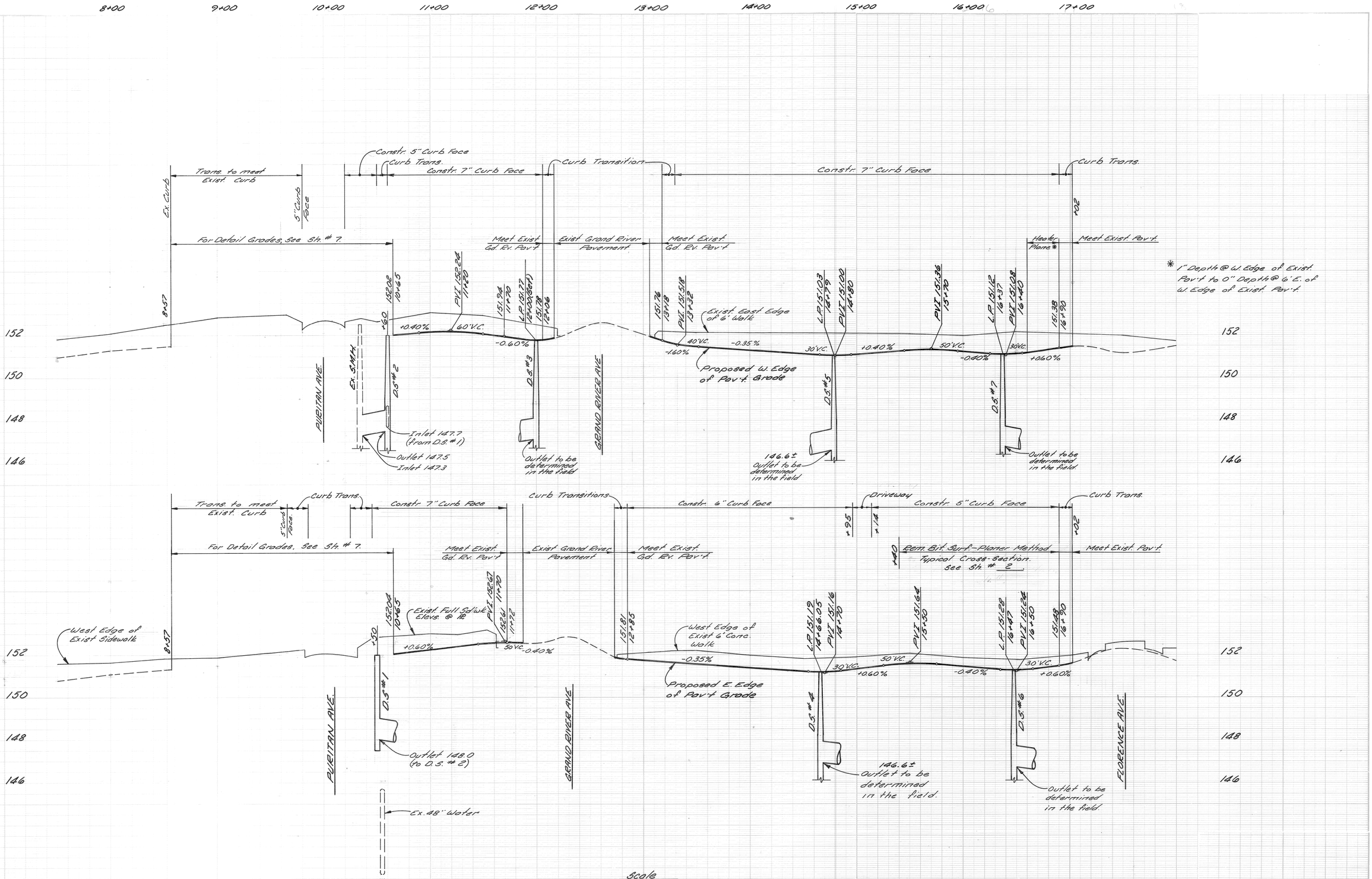
1. Construct Concrete Encasement where the sewer crosses the 8" & 48" Water Mains. (Incidental)
2. Connect the new sewer to the existing catch basin outlet. (Incidental)
3. Substitute Catch Basin "L" with half trap, if necessary, to avoid existing 16" & 48" Water Mains.
4. If necessary offset corbel to relocate cover into sidewalk area.

NOTES:

1. For Alignment, See Sh. № 3.
2. For Utility Legend & Symbols, See Sh. № 10.
3. For Driveway Details, See Sh. № 10.

REVISIONS LOCATED BY COORDINATES ON SHEET						REFERENCE DRAWINGS	DESIGNED BY		APPROVED:	CITY OF DETROIT	EVERGREEN AVE. – GRAND RIVER AVE. INTERSECTION IMPROVEMENT	SHEET 5 OF 34 SHEETS
COORD	DESCRIPTION	DR'N	CK'D	APV'D	DATE		DRAWN BY	MAP	ENGINEER OF EXPRESSWAYS	CITY ENGINEERING DIVISION E.P.M.D.	PLAN	CONTRACT No. 09520A
							TRACED BY					ASSIG №.
							CHECKED BY	W.B.				DATE OCT. 1 1976

C-5514



REVISIONS	DRN.	CK'D.

DESIGNED BY
DRAWN BY Sucech
CHECKED BY R.B.P.

APPROVED:
ENGINEER OF EXPRESSWAYS

CITY OF DETROIT
CITY ENGINEERING DIVISION
E.P.M.D.

EVERGREEN AVE. - GRAND RIVER AVE.
INTERSECTION IMPROVEMENT
PROFILES

SHEET 6 OF 34 SHEETS
CONTRACT NO. 09520 A
ASSIG NO.
DATE OCT 1 1976

C-5514

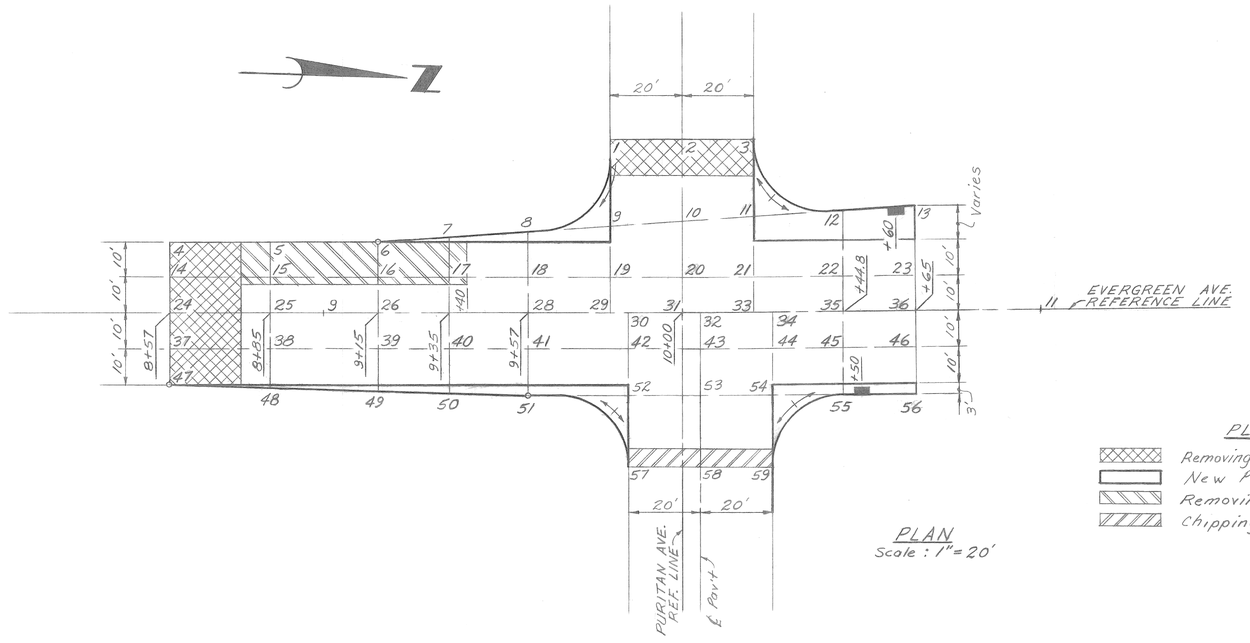
EDCO • 127M 1-75 59721

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

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

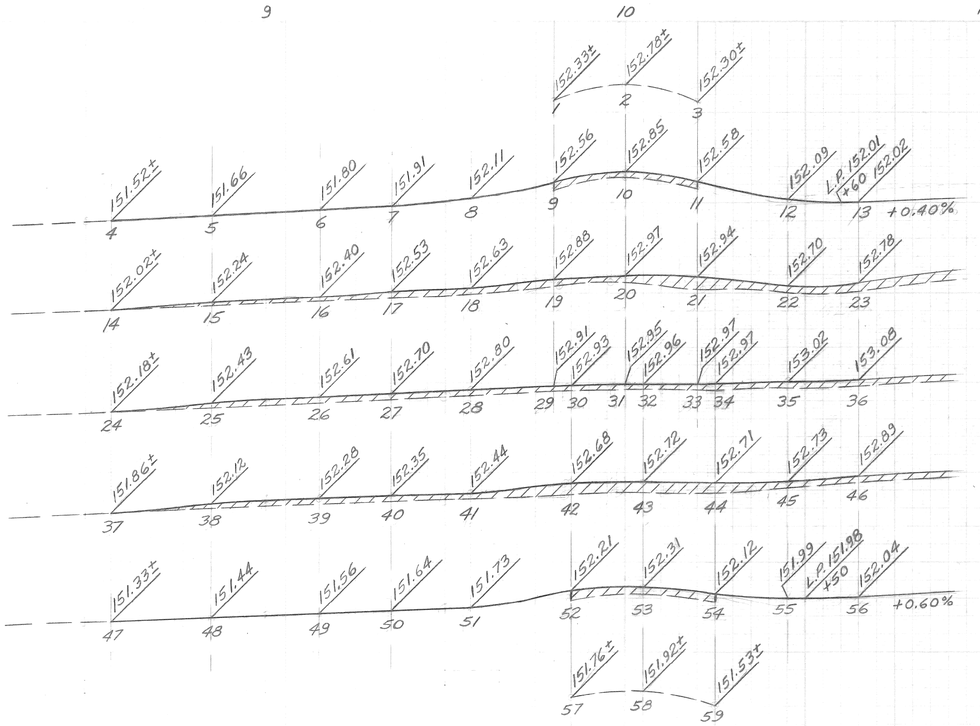
NOTE - FOR SYMBOLS Ⓐ ETC., SEE STANDARD DETAIL DRAWING NO C-4175

BENCH MARKS ELEV



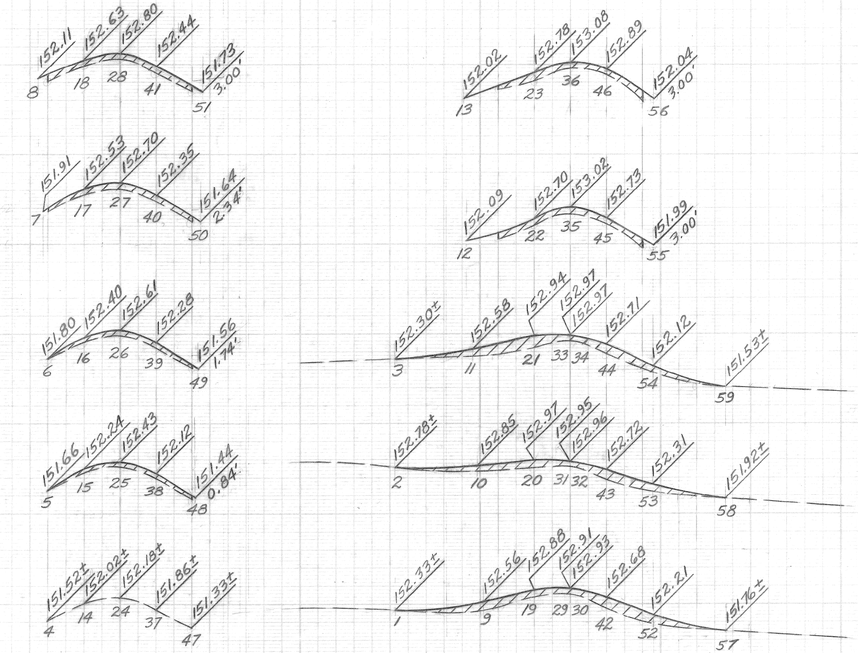
PLAN
Scale : 1" = 20'

PLAN LEGEND
- Removing Bituminous Surface
- New Pav't. Construction
- Removing Bituminous Surface—Planer Method
- Chipping Pavement for Joints



PROFILE LEGEND
- Existing Pav't Grade
- Proposed Pav't Grade
- Bituminous Resurfacing

PROFILES & CROSS SECTIONS
Scale: Hor. 1" = 20'
Vert. 1" = 2'



DESCRIPTION	DR'N	CK'D	AP'VD	DATE
REVISIONS				

	BY	CHECKED BY
PLAN	Comly	W.B.
GRADE	Comly	W.B.
ESTIMATE		
FINAL	CHECK	REVIEW

APPROVED:

ENGINEER OF STREETS

ENGINEER OF EXPRESSWAYS

CITY OF DETROIT

CITY ENGINEERING DIVISION

E. P. M. D.

EVERGREEN AVE. - GRAND RIVER AVE.
INTERSECTION IMPROVEMENT

DETAILED GRADES FOR
EVERGREEN AVE. AT PURITAN AVE.

INDEX NO.

SHEET 7 OF 34 SHEETS

TOPO NO.

CONTRACT NO. 09520A

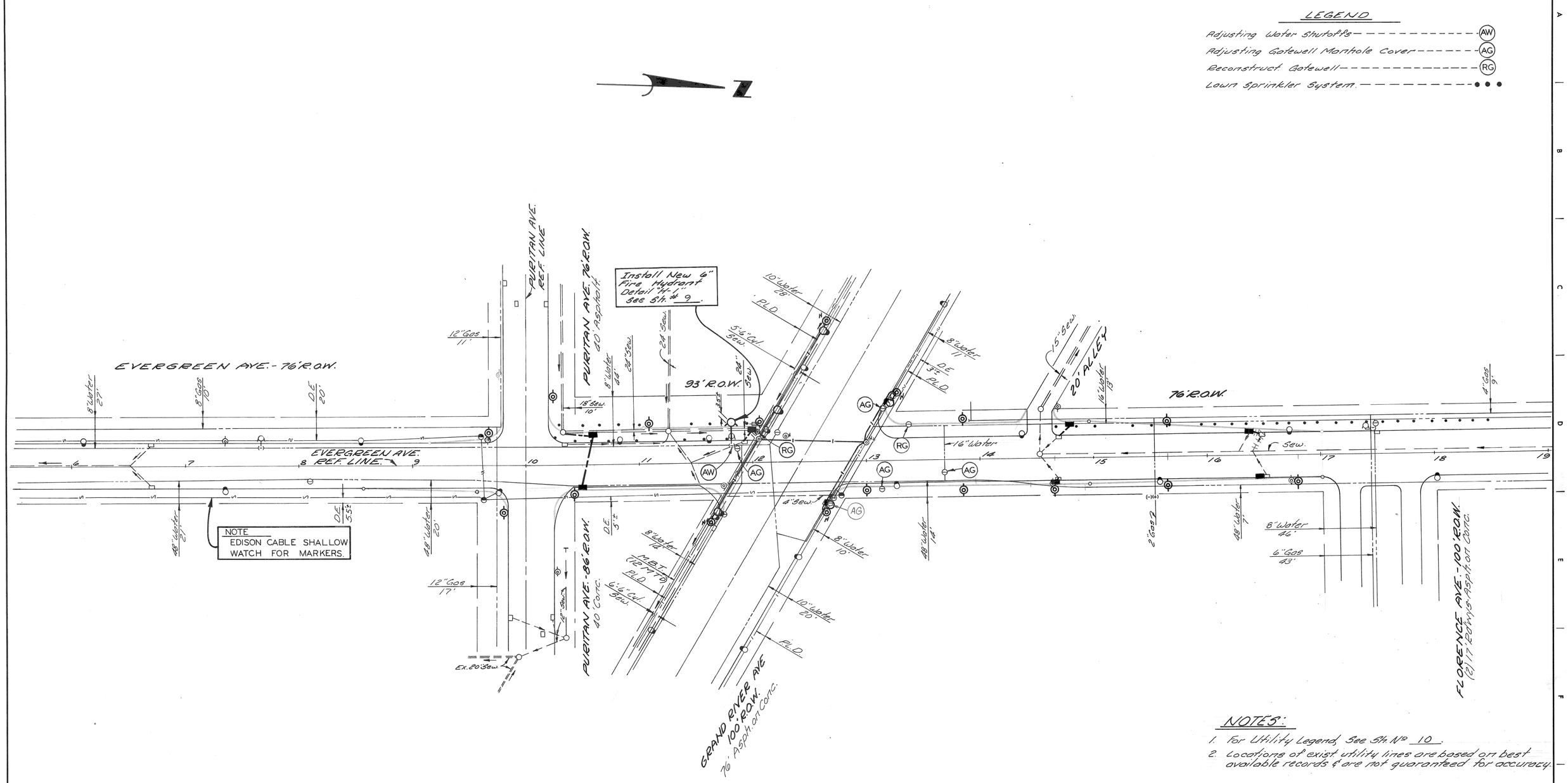
INDEXED

ASSIGNMENT NO.

DATE OCT. 1, 1976

C-5514

K&E 17 0153 12-73 5714 E



NOTES:

1. For Utility Legend, See Sh. No. 10.
2. Locations of exist utility lines are based on best available records & are not guaranteed for accuracy.

CALL MISS DIG
48 HOURS PRIOR TO
CONSTRUCTION 647-7344

Scale: 1" = 40'

REFERENCE DRAWINGS	DESIGNED BY		APPROVED:	CITY OF DETROIT	EVERGREEN AVE. – GRAND RIVER AVE. INTERSECTION IMPROVEMENT	SHEET 8 OF 34 SHEETS
	DRAWN BY	Sucech	ENGINEER OF EXPRESSWAYS	CITY ENGINEERING DIVISION E.P.M.D.	UTILITIES	CONTRACT No. 09520A
	TRACED BY					ASSIG. NO.
COOR'D DESCRIPTION DR'N CK'D APV'D DATE	CHECKED BY	W.B.				DATE OCT. 1. 1976
REVISIONS LOCATED BY COORDINATES ON SHEET						

C-5514

GENERAL NOTES

Existing Water Mains, as shown, indicate approximate location only as shown by D.M.W.D. records and no guarantee is made as to completeness or accuracy.

The locations and elevations of existing utilities are shown in accordance with available data. The Contractor shall expose these utilities, where required, to determine actual locations.

Other utilities may be making alterations to their existing systems in the vicinity of the Water Main construction shown on the plans. These utilities should be consulted for the latest information regarding the location of their facilities.

A minimum clearance of one foot vertically and three and one half feet horizontally shall be maintained between the Water Main and other utilities, unless otherwise shown on the plans or approved by the Engineer. If a conflict is indicated between the Water Main and any other utility, that utility should be consulted.

The location of Fire Hydrants, as shown, are approximate. D.F.D. will give exact location of Proposed Fire Hydrants prior to installation.

"Ductile Iron Pipe in sizes 3" through 16" is permitted as a part of the Cast Iron Pipe Specifications."

CONSTRUCTION NOTES

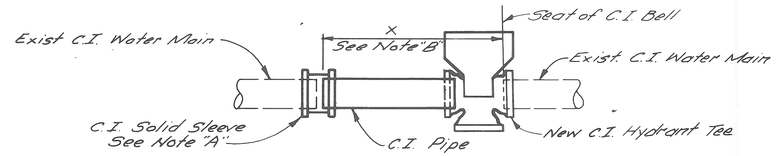
Encasements and Thrust Blocks shall be poured against undisturbed earth. Bottom 3" of Encasement may be poured separate from Encasement and used as a subfooting.

All Encasements and Thrust Blocks shall terminate at the face of pipe bells.

Removal of abandoned Water Mains as required for clearance to construct the Proposed Water Mains is incidental to Water Main Construction.

Sheeting and bracing, where required, shall be installed by the Contractor as incidental to Water Main const.

Scheduling of the connections shall be governed by the "Sequence of Operations" and "Flushing and Chlorination" specifications which are included in the Water Main portion of the Proposal.



PLAN

DETAIL "A"

HYDRANT CONNECTION TO WATER MAIN

NO SCALE

SCHEDULE OF HYDRANT INSTALLATION ON EXISTING MAINS
DETAILS H-1 THROUGH H- *

DETAIL Nº	FROM SHEET Nº	SIZE OF NEW OR EX. HYD. TEE	6" PIPE FROM HYDRANT TO EX. MAIN		DETAIL "A"		
			LENGTH	TRENCH DETAIL	PIPE SIZE	X	TRENCH DETAIL
H-1	8	Ex. 6"x8"	15'	12	—	—	—

(A) 6" Gate Valve & Gate Box shall be furnished & installed with Hydrant.

* Information herein is to be considered only as a guide. Final figures depend upon the exact location of the hydrant as determined by the Fire Department just prior to installation.

PAY ITEMS
ALL "A" DETAILS, "C" DETAILS, GATE BOXES, VALVES, TEES, EXCAVATION, BACKFILL, WATER MAIN PIPING AND CONNECTIONS TO WATER MAINS ARE INCIDENTAL TO THE INSTALLATION OF THE NEW FIRE HYDRANTS AND ARE, THEREFORE, INCLUDED IN THE PAY ITEM "6"-FIRE HYDRANT."

NOTES FOR CONTRACTOR'S CONNECTIONS

Contractor shall cut and cap or plug existing Water Mains to remain in service where required in accordance with supplemental specifications.

4" C.I. Blow-off Assemblies, C.I. Plugs and Caps to be installed and/or removed by Contractor have not been shown.

Contractor shall install and later remove all temporary C.I. Plugs, Tees and Blow-off Assemblies.

Contractor shall furnish and install C.I. Pipe and Fittings necessary to complete the connections shown.

Contractor shall construct all Concrete Thrust Blocks and Gate Wells.

Contractor shall install all Temporary bracing for Water Main work.

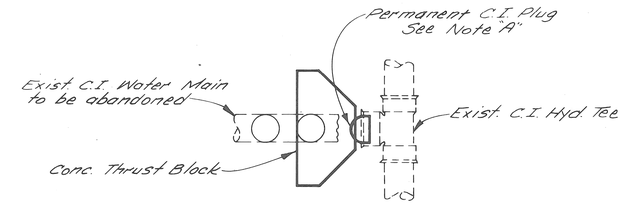
It is not normally anticipated that bends requiring Thrust Blocks will be required for Connections unless otherwise shown.

NOTE "A"

Plugs and caps, temporary blow-offs, air valves, corporation stops, pipe jacks, solid sleeves, jointing material, bracing and blocking are incidental to water main construction and will not be paid for separately.

NOTE "B"

Limits shown for dimension "X" shall be used to measure laid length of pipe.



PLAN

DETAIL "C"

DETAIL OF ABANDONMENT OF
EXISTING HYDRANT CONNECTION TO WATER MAIN

NO SCALE

DESCRIPTION	DESIGNED BY	I.H.K.
REVISIONS LOCATED BY COORDINATES ON SHEET	DRAWN BY	
	TRACED BY	
	CHECKED BY	R.B.P.

APPROVED: Allen E. Rieger
ENGINEER OF EXPRESSWAYS

CITY OF DETROIT
CITY ENGINEERING DIVISION
E.P.M.D.

EVERGREEN AVE. – GRAND RIVER AVE.
INTERSECTION IMPROVEMENT

FIRE HYDRANTS
(CONTRACTOR'S CONNECTIONS)

SHEET 9 OF 34 SHEETS
PROJECT No. 09520A
ASSIGN No.
DATE OCT 1 1976

C-5514

COLOR	SYMBOL	DESCRIPTION
BLACK		PROPERTY AND LOT LINES
"		PROPOSED CURB LINES AND HEADERS AT RETURNS
"		EXISTING CURB LINES OR EDGE OF PAVEMENT
"		PROPOSED CURB OR PAVING ON INTERSECTING STREET
"		PROPOSED SEWER TO CATCH BASINS
"	12"CR INV ELEV 15"CR	EXISTING LATERAL SEWERS
"	4'-6"CSP 5'-0"CSP	EXISTING PUBLIC SEWERS
"		EXISTING GAS LINES
"		EXISTING WATER LINES
BLACK	CURB LINE CURB LINE	ELEV OF SEWER INVERT PROPOSED C.B. M.H. & INLET SEWER
"		ELEV. EXISTING C.B. M.H. & INLET SEWERS
"		PROPOSED C.B. M.H. & INLET SEWERS ON INTERSECTING STREETS

SYMBOL	DESCRIPTION
	SEWER MANHOLE
	CATCH BASIN & SEWER MANHOLE
	WATER MANHOLE OR GRATE
	GAS MANHOLE OR GRATE
	WESTERN UNION MANHOLE
	MICHIGAN BELL MANHOLE
	EDISON STEAM MANHOLE
	EDISON ELECTRIC MANHOLE
	FIRE DEPT. MANHOLE
	POLICE DEPT. MANHOLE
	D.S.R. MANHOLE
	FIRE DEPT. STANDARD HYDRANT
	FIRE DEPT. HIGH PRESSURE HYDRANT
	FIRE DEPT. CALL BOX
	FIRE DEPT. HIGH PRESSURE MANHOLE
	POLICE DEPT. CALL BOX
	P.L.C. LIGHT POLE
	P.L.C. POLE
	TELEPHONE POLE
	EDISON POLE
	TRAFFIC CONTROL BOX

SYMBOL	DESCRIPTION
#	STREET SIGN POST
	CATCH BASIN
WM	WATER METER
(=)	WATER SHUT OFF
(=)	GAS SHUT OFF
	GAS DRIP
	DRAIN OR VENT
	GUY POLE
	MAIL BOX
	STEAM OR COAL CHUTE
	FLAG POLE
	SPRINKLER BOX
	DEAD MANHOLE
	TREE
	P.L.C. & F.D. MANHOLE FILLED WITH SAND
	TRACK DRAIN
	TRAFFIC SIGN POST
	TRAFFIC SIGNAL LIGHT
	TRAFFIC SIGNAL ON LIGHT POST
	D.S.R. DANGER PLATE
	R.R. SIGNAL CONTROL BOX

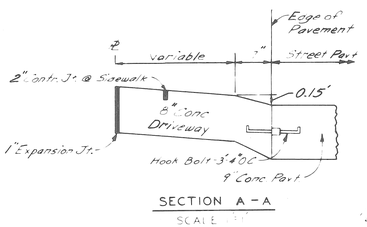
SYMBOL	DESCRIPTION
	DETROIT EDISON ELECTRIC CONDUIT
	DETROIT EDISON STEAM CONDUIT
	WESTERN UNION DUCTS
	MICHIGAN BELL TELEPHONE DUCTS
	P.L.C. CONDUITS
	DETROIT FIRE OR POLICE DEPT. CONDUITS (FIRE COMMUNICATIONS)

DESIGNED BY
DRAWN BY T. KANDA
TRACED BY T.K.
CHECKED BY N. Kawuss

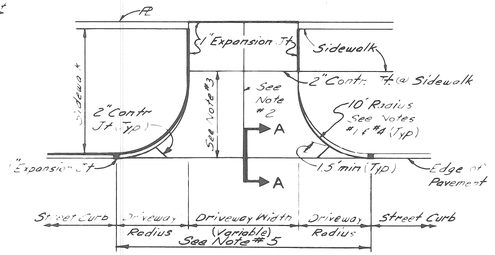
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEER'S OFFICE
BUREAU OF DESIGN
PAVING
DETAIL NO 25

STANDARD SYMBOLS FOR UTILITIES

SCALE NO SCALE
DATE
SHT. NO. C-902-A



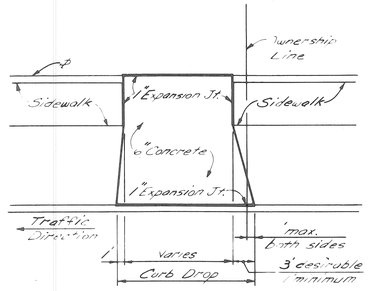
SECTION A-A
SCALE 1"=1'



COMMERCIAL DRIVEWAY DETAIL
SCALE 1"=10'

NOTES - COMMERCIAL DRIVEWAY

1. Transition edge of driveway from curb at the street to 90 curb at the end of the driveway radius.
2. Where driveway exceeds 15' in width, a contraction joint shall be placed longitudinally along ℄.
3. When distance exceeds 15', a transverse contraction joint will be required.
4. Radius 10' unless otherwise directed by the Engineer, or as shown on plans.
5. All work and materials required to construct the driveway between the end of returns will be paid for as "Driveway" of the specified thickness.



RESIDENTIAL DRIVEWAY DETAIL
SCALE 1"=10'

DESIGNED BY
DRAWN BY J.R.D.
TRACED BY
CHECKED BY N.B.A.

APPROVED:
ENGINEER OF EXPRESSWAYS

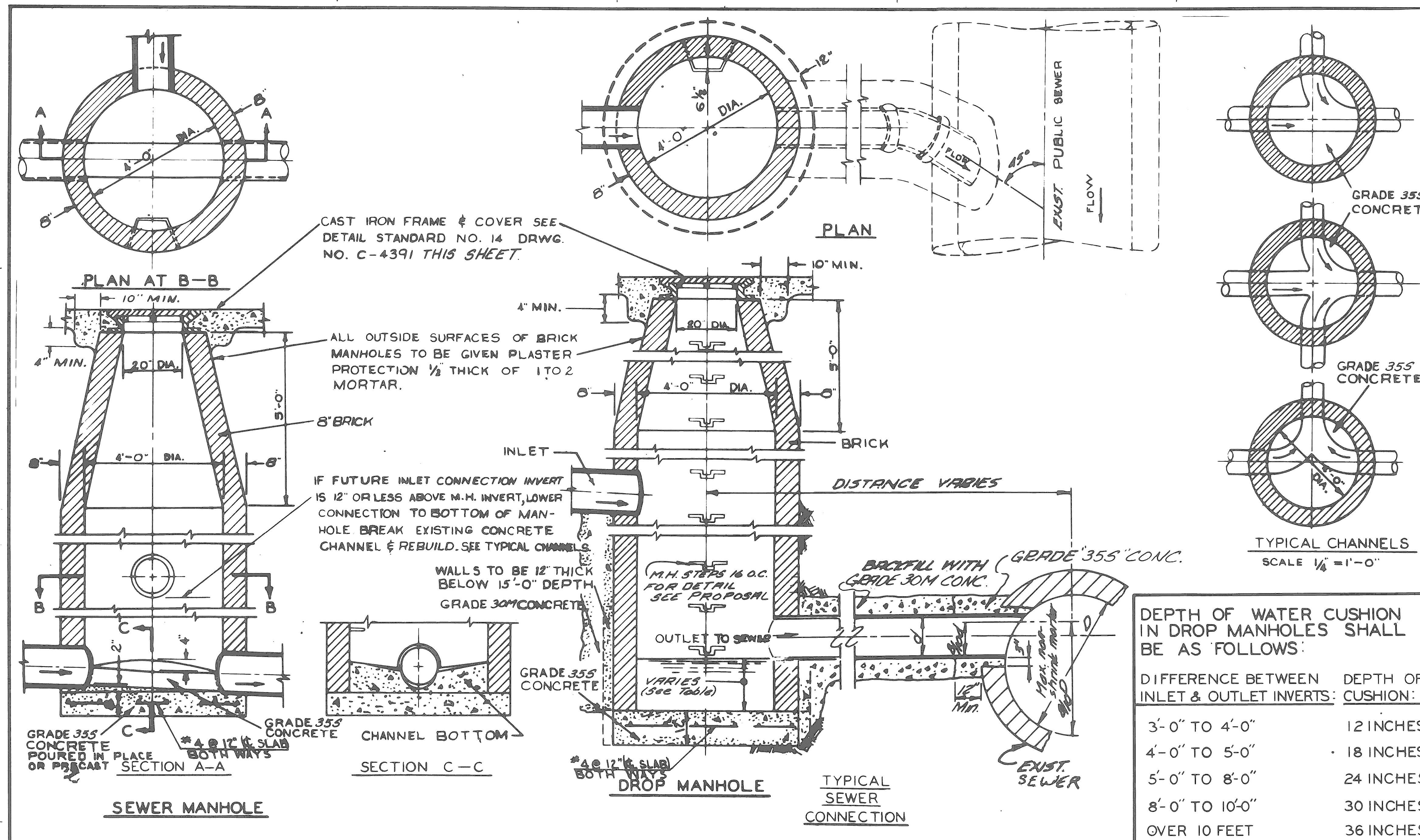
CITY OF DETROIT
CITY ENGINEERING DIVISION
E.P.M.D.

EVERGREEN AVE - GRAND RIVER AVE.
INTERSECTION IMPROVEMENT

SPECIAL STANDARDS & SPECIAL DETAILS

SHEET 10 OF 34 SHEETS
CONTRACT NO 09520 A
ASSIGNMENT No. A.O
DATE OCT 1 1976

C-5514



DEPTH OF WATER CUSHION IN DROP MANHOLES SHALL BE AS FOLLOWS:

DIFFERENCE BETWEEN INLET & OUTLET INVERTS:	DEPTH OF CUSHION:
3'-0" TO 4'-0"	12 INCHES
4'-0" TO 5'-0"	18 INCHES
5'-0" TO 8'-0"	24 INCHES
8'-0" TO 10'-0"	30 INCHES
OVER 10 FEET	36 INCHES

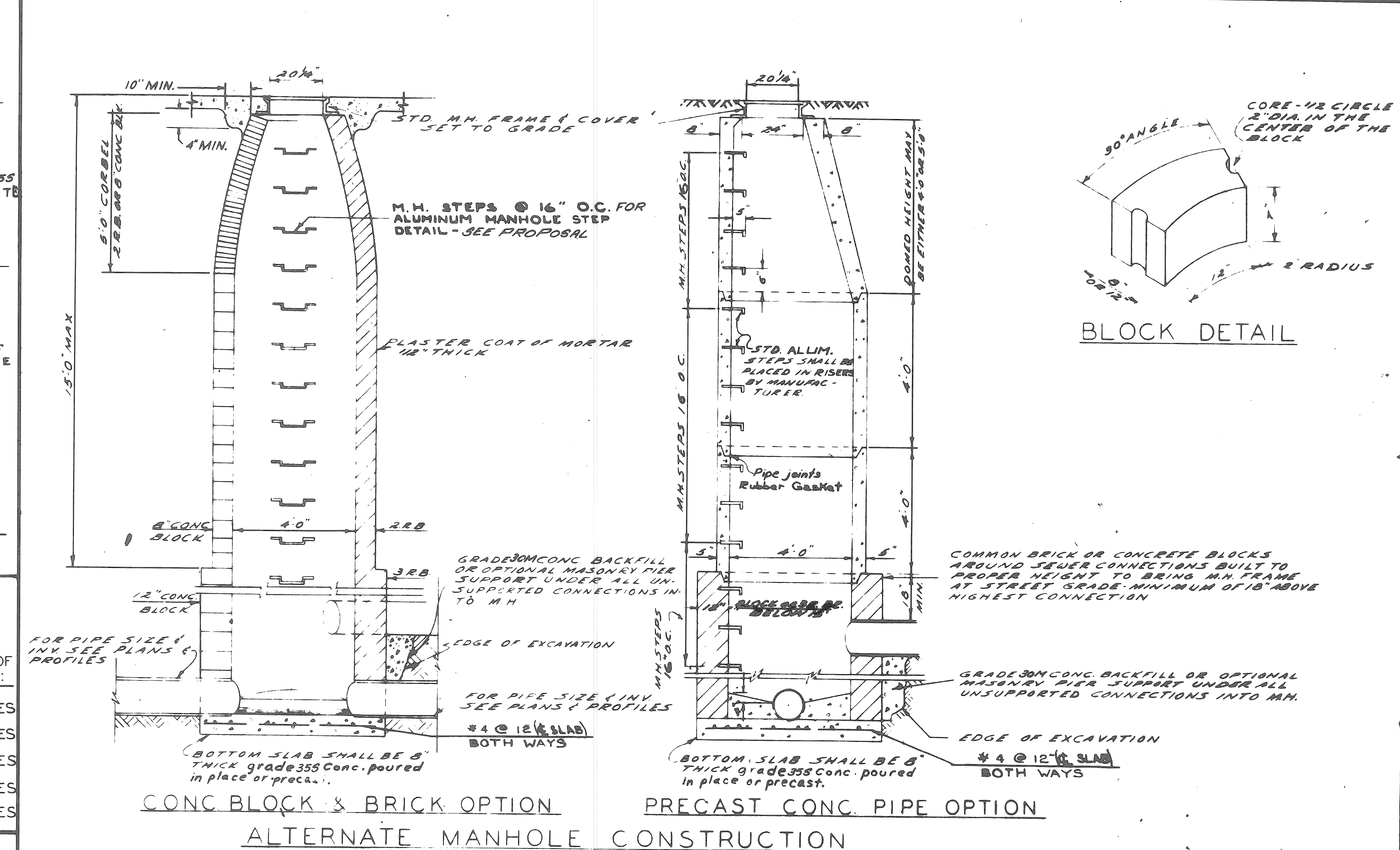
DESIGNED BY	
DRAWN BY	J. Clark
TRACED BY	
CHECKED BY	N. Kawwas
APPROVED BY	J. Erickson
ENGINEER OF STREETS	N. R. Hicks
ASST. CITY ENGINEER	
CITY ENGINEER	
REVISIONS	Revd. M.H. Steps & Base Slab

DETAILS OF STANDARD
SEWER & DROP MANHOLES

CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEER'S OFFICE
BUREAU OF DESIGN

BOOK NO. ___ PG. ___ SCALE 3/8" = 1'-0" DATE: 8-27-66 DETAIL STANDARD NO. 10 DWG. NO. C-4387

1971 1970 1969 1968 1967

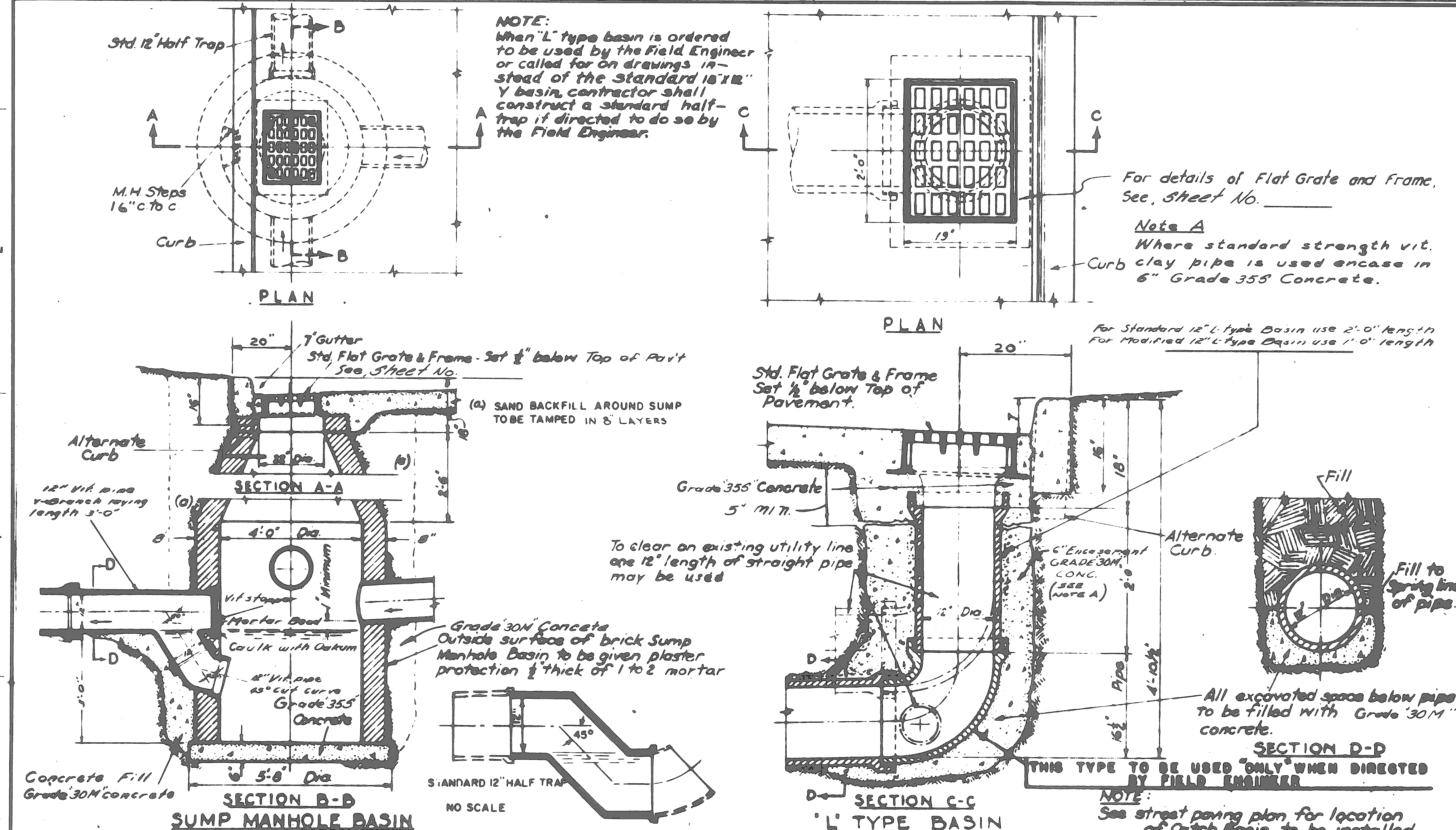


DESIGNED BY	
DRAWN BY	T. P. MIRIANI
TRACED BY	
CHECKED BY	Kawwas
APPROVED	J. Erickson
ENGINEER OF STREETS	N. R. Hicks
ASST. CITY ENGINEER	
CITY ENGINEER	
REVISIONS	Revised bottom slab & steps; Changed title

CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEER'S OFFICE
BUREAU OF DESIGN
DETAIL STANDARD NO. 18

STD SEWER MANHOLES
CONSTRUCTION ALTERNATES

BOOK NO. ___ PAGE NO. ___ SCALE NONE DATE 9-29-65 DWG. NO. C-4395A



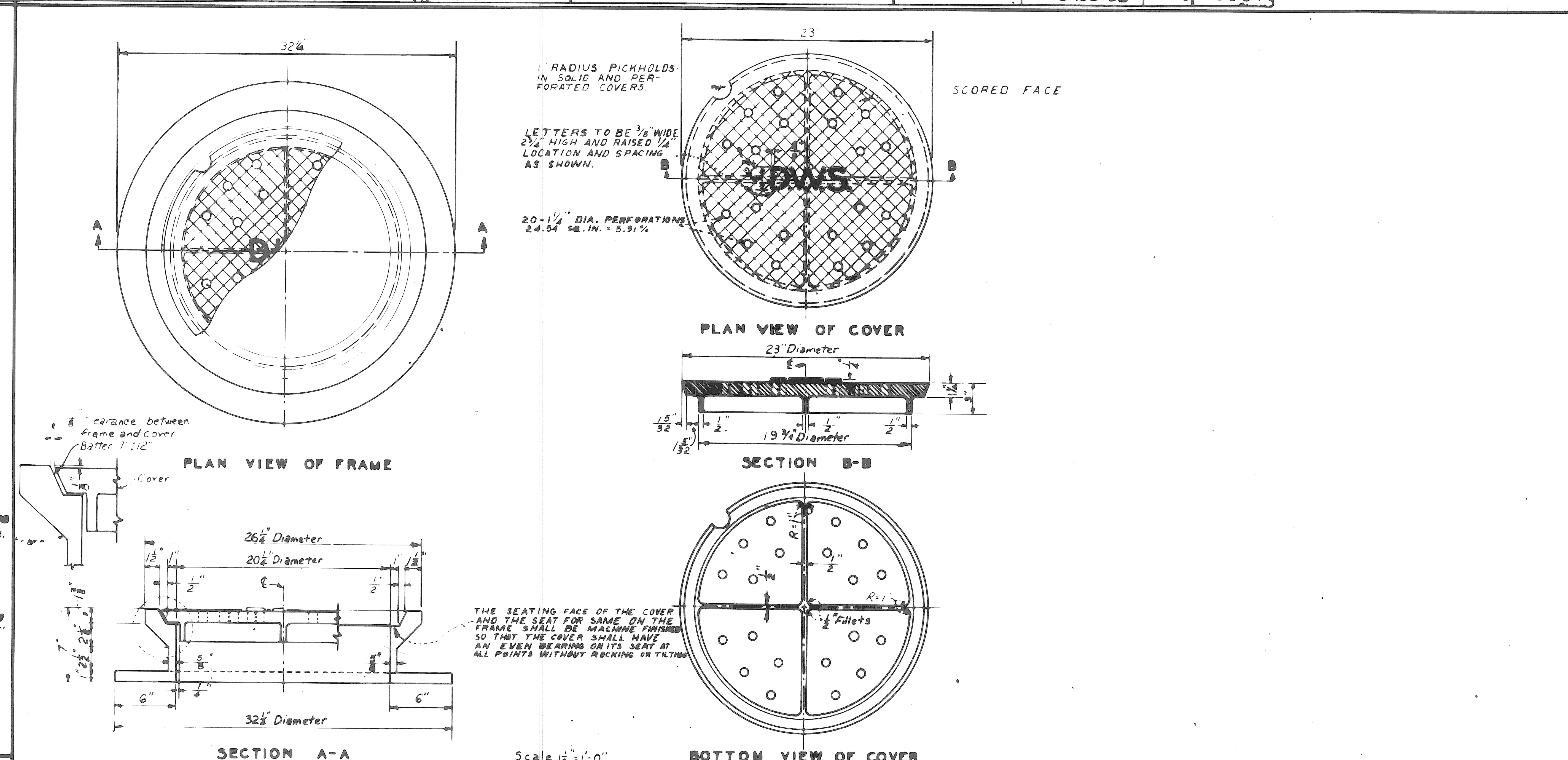
DESIGNED BY	
DRAWN BY	L. V. King
TRACED BY	
CHECKED BY	Kawwas
APPROVED	J. Erickson
ENGINEER OF STREETS	N. R. Hicks
ASST. CITY ENGINEER	
CITY ENGINEER	
REVISIONS	Revised M.H. Steps

TYPICAL
SUMP MANHOLE & "L" TYPE
CATCH BASINS

CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEER'S OFFICE
BUREAU OF DESIGN

SCALE AS SHOWN DATE MAR. 8, 1959 DETAIL STANDARD NO. 12 DWG. C-4390

1971 1970 1969 1968 1967 1966 1965 1964 1963 1962 1961 1960



DESIGNED BY	
DRAWN	Erickson
TRACED BY	
CHECKED BY	N. Kawwas
APPROVED	
ENGINEER OF STREETS	N. R. Hicks
ASST. CITY ENGINEER	
CITY ENGINEER	
REVISIONS	

DETAILS OF STANDARD
- MANHOLE FRAME AND COVER -

CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEER'S OFFICE
BUREAU OF DESIGN

SCALE: AS SHOWN DATE: OCTOBER 4, 1956 DWG. NO. C-43

REFERENCE DRAWINGS	DESIGNED BY	DRAWN BY	TRACED BY	CHECKED BY	APPROVED:

REVISIONS LOCATED BY COORDINATES ON SHEET

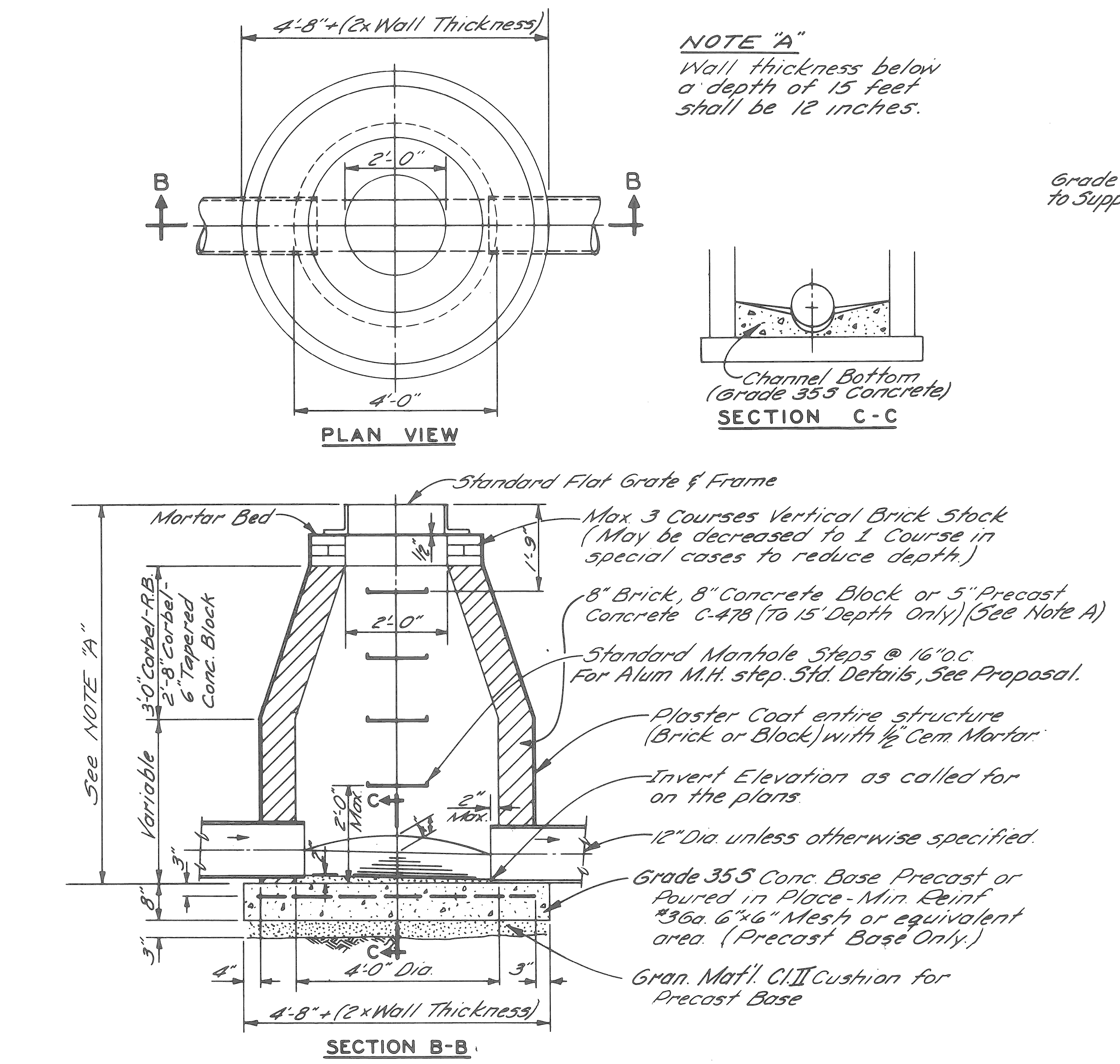
CITY OF DETROIT
CITY ENGINEERING DIVISION
E.P.M.D.

EVERGREEN AVE. - GRAND RIVER AVE. INTERSECTION IMPROVEMENT

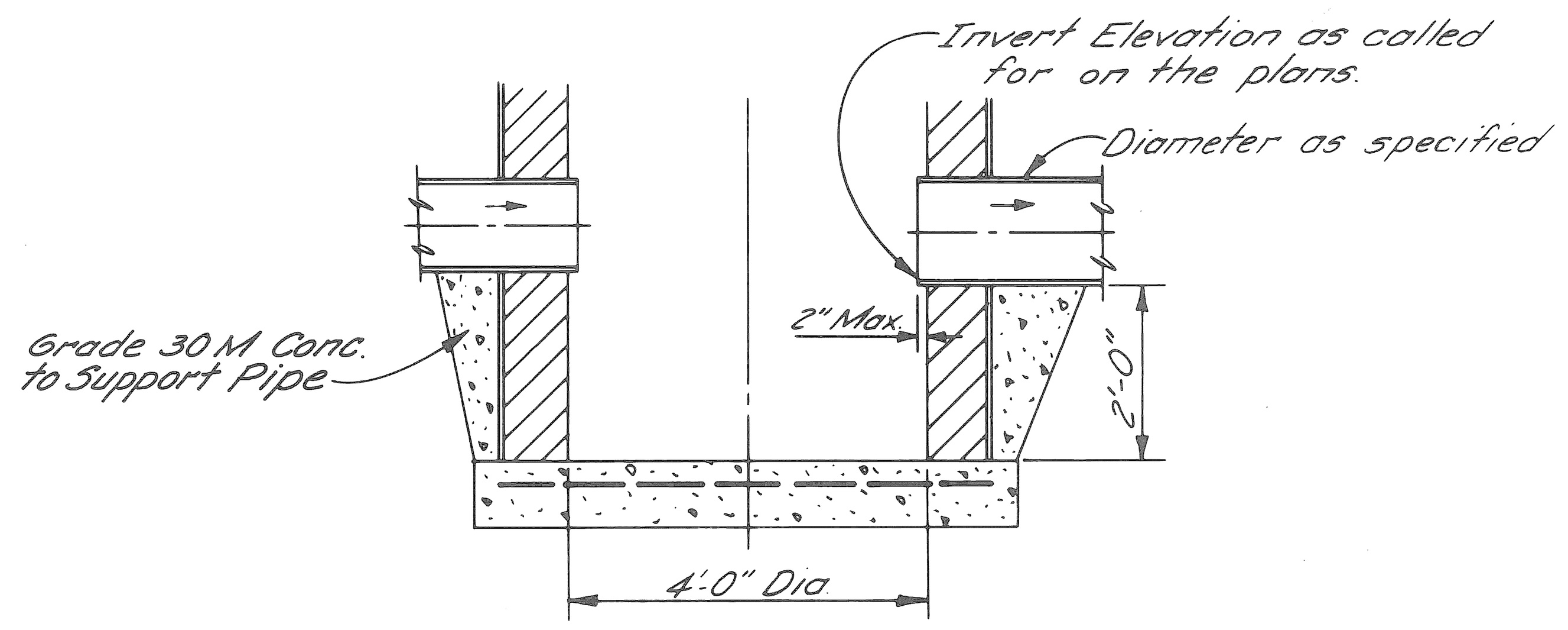
SPECIAL DETAILS

SHEET 11 OF 34 SHEETS
CONTRACT NO. 09520A
ASSIG.
DATE OCT 1 1976

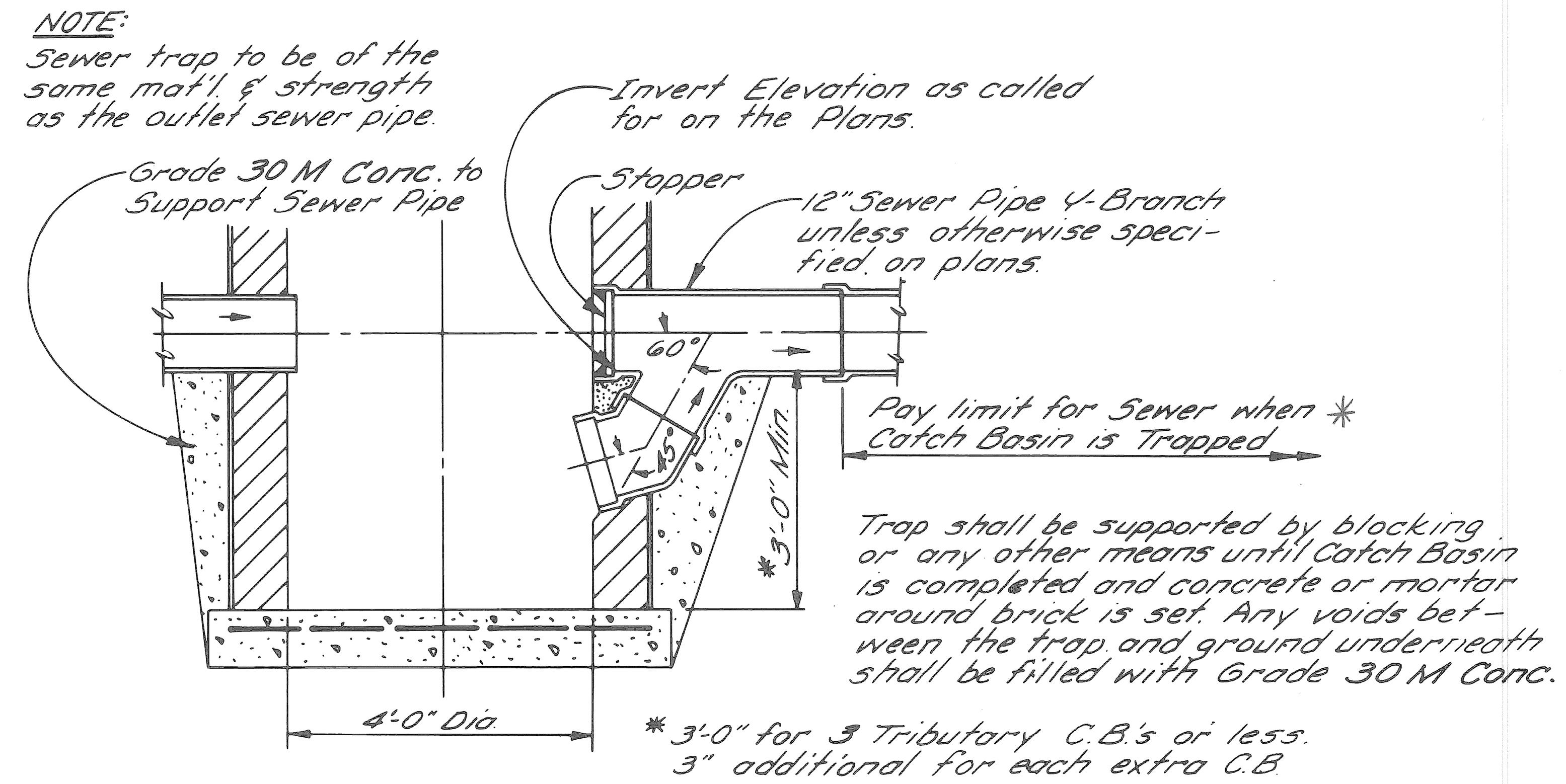
C-5514



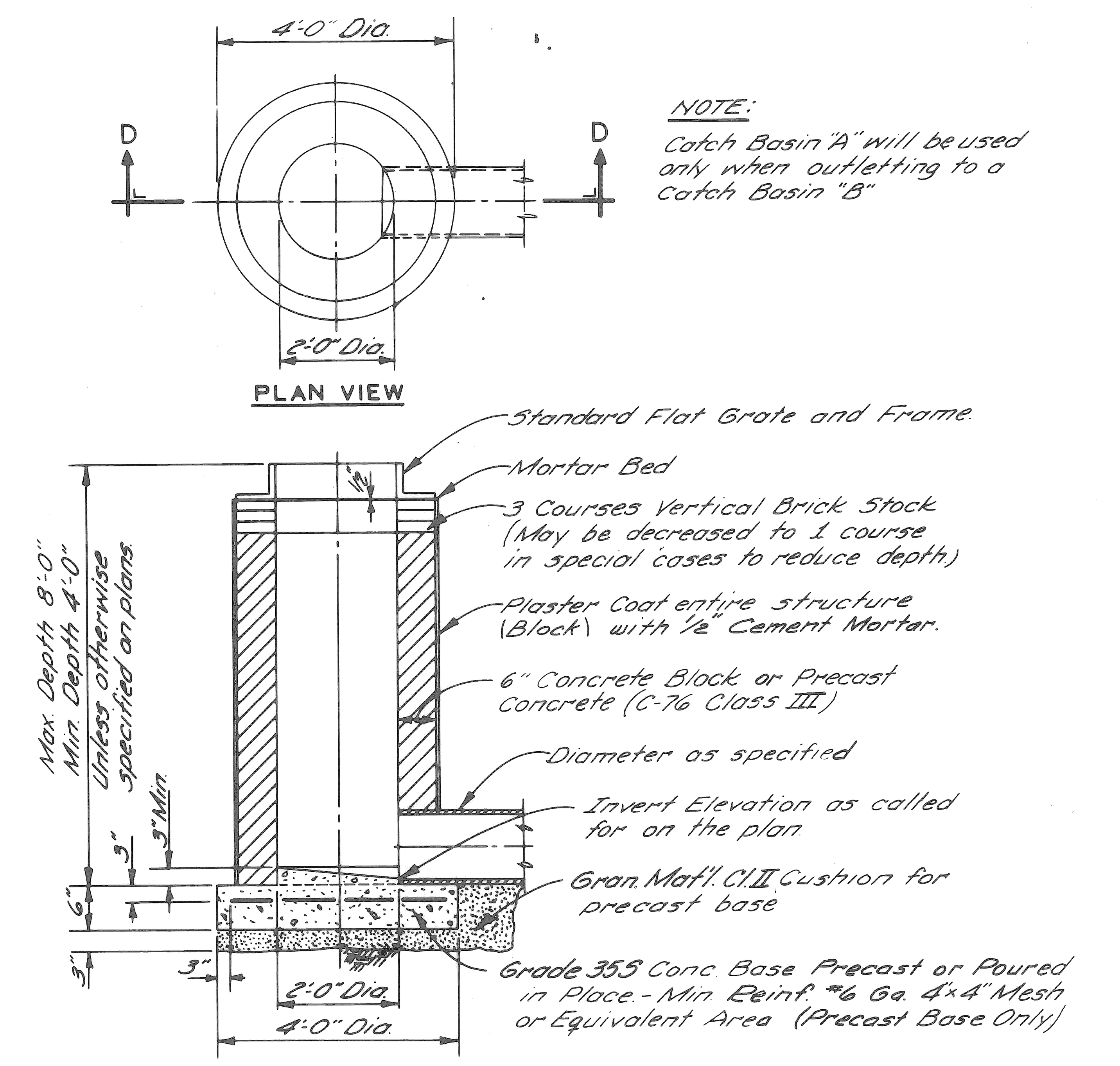
CATCH BASIN "B"
NO SCALE



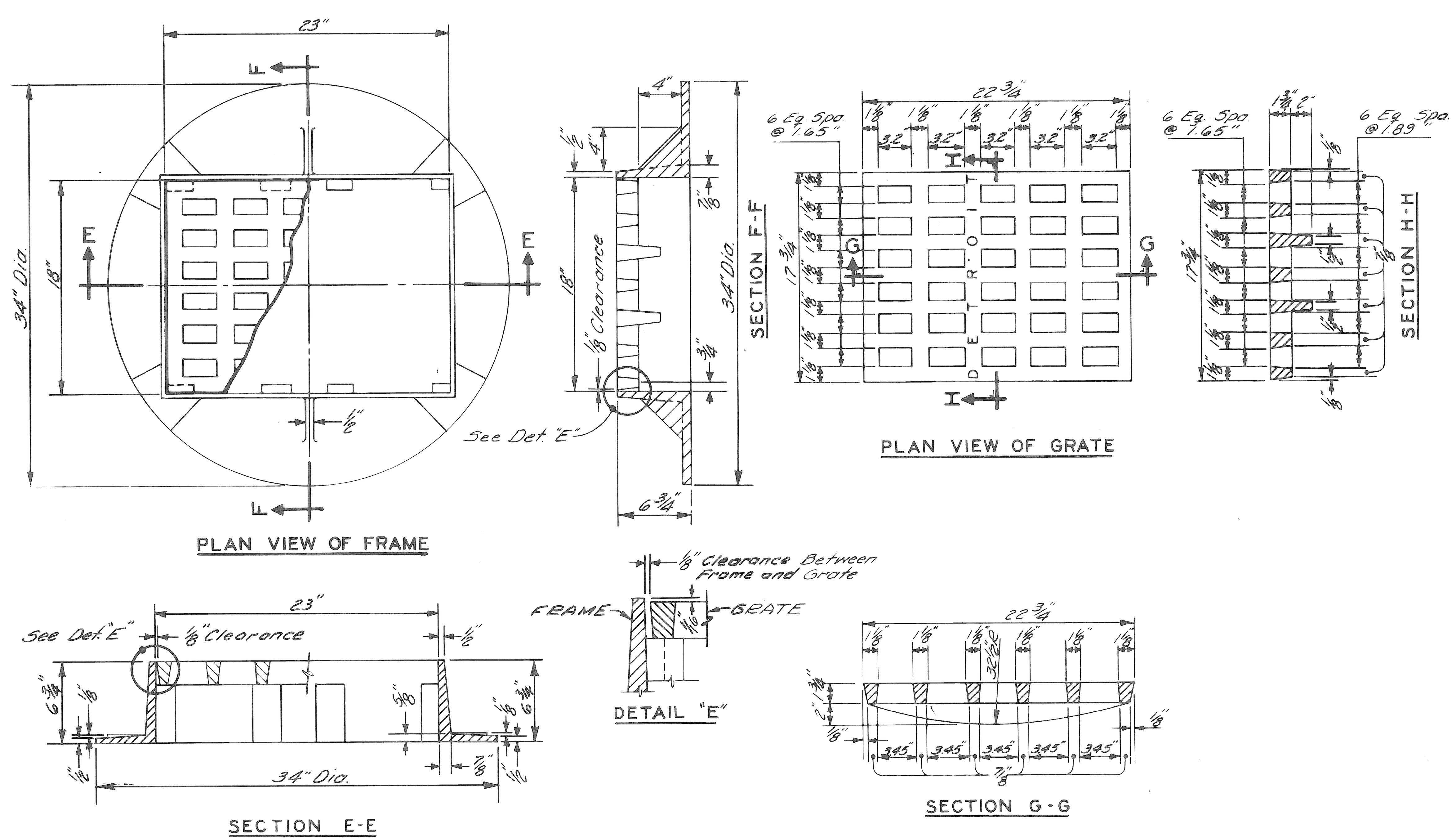
DETAIL OF SUMP FOR CATCH BASIN "B"
NO SCALE



DETAIL OF TRAP FOR CATCH BASIN "B"
NO SCALE



CATCH BASIN "A"
NO SCALE



STANDARD FLAT GRATE AND FRAME
NO SCALE

* See Page 58 of Contract Proposal - Method of Measurement and Basis of Payment (5.13.12 & 5.13.13 Stand. Spec's)

GENERAL NOTES

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

*8. Pay limit for sewers shall be inside faces of structures unless otherwise noted.

REFERENCE DRAWINGS	DESIGNED BY		APPROVED: John Erickson, ENGINEER OF STREETS	CITY OF DETROIT	DETAILS OF STANDARD	SHEET 12 OF 34 SHEETS
	DRAWN BY	M. POLITO	Allen [signature], ENGINEER OF EXPRESSWAYS	CITY ENGINEERING DIVISION	CATCH BASINS "A" & "B"	CONTRACT No 09520A
	TRACED BY			E. P. M. D.	AND FLAT GRATE & FRAME	ASSIGN. NO.
DESCRIPTION / DR'N / CK'D / AP'VD / DATE	CHECKED BY	D. MILZ	W. R. [signature], HEAD CIVIL ENGINEER			DATE OCT 1 1976

REVISIONS LOCATED BY COORDINATES ON SHEET

C-5514

K&E 17 0153 1-67

QUANTITY SHEET – E

ITEMS	AS PER PLANS SHEET NO'S. TOTALS	UNITS	TYPICAL CROSS-SECTION	REMOVALS	PLAN & PROFILES	UTILITIES	FIRE HYDRANTS	AS CONSTRUCTED SHEET NO'S. TOTALS	UNITS	TYPICAL CROSS-SECTION	REMOVALS	PLAN & PROFILES	UTILITIES	FIRE HYDRANTS	AUTH. NO.
ROADWAY ITEMS															
Removing Pav't.	362	Sq. Yd.		362				451 ✓	Sq. Yd.		451				1002
Removing Curb	1065	Lin. Ft.		1065				1039 ✓	Lin. Ft.		1038				1002
Removing Sidewalk	380	Sq. Yd.	40	340				452 ✓	Sq. Yd.	40	412				1002
Abandoning Drainage Structures	6	Each		6				6 ✓	Each		6				
Removing Old Pav't (Patching)	24	Sq. Yd.		24				19 ✓	Sq. Yd.		19				1002
Removing Bituminous Surface	368	Sq. Yd.			368			237 ✓	Sq. Yd.			237			1004
Removing Bituminous Surface - Planer Method	284	Sq. Yd.			284			297 ✓	Sq. Yd.			297			1004
Earth Excavation	492	Cu. Yd.			492			473 ✓	Cu. Yd.			473			1005
Subgrade Undercutting - Type II	200	Cu. Yd.	200					0 ✓	Cu. Yd.	0					1002
Concrete Pav't. Patching - 9" - Nonreinf.	24	Sq. Yd.		24				19 ✓	Sq. Yd.		19				1002
Concrete Base Course-Nonreinf-9" with Integral Curb	689	Sq. Yd.			689			628 ✓	Sq. Yd.			628			1005
Conc. Base Course - Grade 35 P-NE - Nonreinf. 9" with Int. Curb	289	Sq. Yd.			289			357 ✓	Sq. Yd.			357			1005
Bituminous Concrete Leveling Course - 25A	255.3	Tons		1.3	254			306 ✓	Tons		1	305			1004
Bit. Concrete Wearing Course - Type M	255.3	Tons		1.3	254			262 ✓	Tons		1	261			1004
Preparing Exist. Pavement	8.13	Sta.			8.13			8 ✓	Sta.			8			
Chipping Pavement for Joints	40	Lin. Ft.			40			44 ✓	Lin. Ft.			44			1004
Adjust. Water Shut-off	1	Each				1		1 ✓	Each				1		
Concrete Pavement - Nonreinf. - 6"	4	Sq. Yd.			4			10 ✓	Sq. Yd.			10			1002
Concrete Pavement - Nonreinf. - 8"	82	Sq. Yd.			82			90 ✓	Sq. Yd.			90			1002,05
Concrete Pavement - Nonreinf. - 9"	37	Sq. Yd.			37			35 ✓	Sq. Yd.			35			1001
Concrete Pavement - Grade 35 P-NE - Nonreinf. - 8"	82	Sq. Yd.			82			127 ✓	Sq. Yd.			127			1002,05
Expansion Anchored Lane Ties	1614	Lin. Ft.			1614			1544 ✓	Lin. Ft.			1544			1005
12" Sewer C-76-III (Trench Detail 9)	106	Lin. Ft.			106			143 ✓	Lin. Ft.			143			1001
12" Sewer Tap	1	Each			1			2 ✓	Each			2			1002
Catch Basin "A"	1	Each			1			1 ✓	Each			1			
Catch Basin "B"	6	Each			6			6 ✓	Each			6			
Adjust. Drainage Structure Covers	2	Each			2			2 ✓	Each			2			
Reconstruct Drainage Structures	1	Each			1			1 ✓	Each			1			
12" Sewer Trap	6	Each			6			4 ✓	Each			4			1002
Concrete Curb - Detail "X"	6	Lin. Ft.			6			5 ✓	Lin. Ft.			5			1002
4" Concrete Sidewalk	2623	Sq. Ft.	360		2263			2788 ✓	Sq. Ft.	360		2428			1005
6" Concrete Sidewalk	1423	Sq. Ft.			1423			1104 ✓	Sq. Ft.			1104			1005
Sidewalk Ramp Type 1	168	Sq. Ft.			168			254 ✓	Sq. Ft.			254			1002
Sidewalk Ramp Type 3	191	Sq. Ft.			191			376 ✓	Sq. Ft.			376			1002
Type II Barricade (Drums) Lighted	59	Each	59					58 ✓	Each	58					1005
Drum Guide Rail	250	Lin. Ft.	250					88 ✓	Lin. Ft.	88					1004
Class "A" Sodding	307	Sq. Yd.	20		287			196 ✓	Sq. Yd.	0		196			1004
Top Soil Surface - 3"	307	Sq. Yd.	20		287			180 ✓	Sq. Yd.	0		180			1004
6" Fire Hydrant (Incl. Gate Valve, Gate Box, & Related Piping)	1	Each					1	1 ✓	Each					1	
Reconstr. Gate Well	2	Each				2		2 ✓	Each				2		
Adjust. Gate Well Manhole Cover	4	Each				4		5 ✓	Each				5		1004
Maintaining Traffic	Lump Sum	Lump Sum	Lump Sum					Lump Sum ✓	Lump Sum	Lump Sum					
Mobilization	Lump Sum	Lump Sum	Lump Sum					Lump Sum ✓	Lump Sum	Lump Sum					
Water (1,000 Gal. Units)	1	Unit			1			1 ✓	Unit			1			
EXTRAS															
Partial Removal & Bulkheading Existing Culvert								1 ✓	Each		1				2001
Removing Streetcar Rail Foundation								16 ✓	Lin. Ft.		16				2001

CHECKED
DATE 12-29-76

PLAN ESTIMATE BY _____ DATE _____ CHECKED BY _____ DATE _____ DATE _____ DATA COMPLETED _____ PROJ. ENG. DATE _____ HISTORY CHECKED ENTERED ON PLANS BY _____ DATE OCT 1 1976

EVERGREEN AVE. – GRAND RIVER AVE. INTERSECTION IMPROVEMENT QUANTITIES

13 OF 34 SHEET NO.

09520A

C-5514