City of Birmingham
A Walkable Community

MEMORANDUM

ENGINEERING DEPARTMENT

DATE: **February 13, 2015**

TO: **Joseph A. Valentine, City Manager**

FROM: **Paul T. O'Meara City Engineer**

SUBJECT: **2015 Local Street Paving Project,**
Sewer Lateral Replacement
Special Assessment District

As referenced on the attached report, several local streets are scheduled to have their pavement removed and replaced. In consistent with Birmingham policy, the plans have proposed to replace all sewer laterals underneath these streets if they are over 50 years old. The streets in which this will apply include:

Maryland Blvd. – Southlawn Blvd. to 14 Mile Rd.
Henrietta St. – Northlawn Blvd. to 14 Mile Rd.
Southlawn Blvd. – Bates St. to Pierce St.
Catalpa Dr. – Pierce St. to Edgewood Ave.
Henley Dr. – Abbey Rd. to Putney Dr.
Putney Dr. – Henley Dr. to Adams Rd.

The seventh street in the contract, Cummings St., does not have any sewer lateral connections within its right-of-way, therefore, those homes will not be impacted by this issue.

Attached are charts listing all of the properties impacted by this project, and the work involving sewer laterals. Those properties that have a sewer lateral that appears to be greater than 50 years old are being recommended for inclusion in the district.

The price for a 6" sewer lateral replacement from the low bidder (DiPonio) is $55 per foot. The price bid for this pay item ranged from $40 to $110 per foot, with the average price being $66.25 per foot. Given that the low bidder's price is 17% below the average, we believe charging the recommended bidder's price ($55), is appropriate.

Three of the streets listed have unique circumstances that need to be clarified.

A. On Catalpa Dr., the Oakland Co. sewer that each house is connected to extra deep, varying between 15 and 20 ft. below the pavement (typically, City sewers in areas with little slope should be designed at about ten feet deep). The sewer is extra deep to help service other areas upstream, but it serves as no benefit to the homeowners on Catalpa Dr. As is typically done in these situations, the majority of the sewer lateral is built at the normal depth for most of its distance. When it nears the extra deep County sewer, a "riser" pipe is constructed that drops quickly down to the top of the County sewer,

where it is connected. Since the deep County sewer is being reconstructed, and since the existing risers would have to be removed and replaced regardless of their age and condition, the cost of the riser replacement is being charged to the Acacia Drain account (not the special assessment district). The footages shown on the attached chart for Catalpa Dr. reflects the cost of the normal depth sewer lateral replacement that will be replaced as needed, based on the age of the pipe, while the cost of the riser has been excluded.

B. The Henley Dr. and Putney Dr. portion of this project is different from the others in that sewer replacement is proposed on cape sealed streets that are not being removed and replaced. In order to minimize the damage to the street, the new sewer is being installed mainly in the grass parkway adjacent to the street, rather than the street itself. Replacing the short section of sewer lateral for those homes that are on the same side of the street as the new City sewer will only require removal of a few sections of sidewalk, since the excavation is already close to it. Attempting to replace sewer laterals on the far side of the street, however, would require removal and replacement of sections of pavement that are not already scheduled for removal. Replacing all of these sewer laterals would be counter to our goal of preserving this street surface. Therefore, our office suggests that the homes on the far side of the street be offered a voluntary opportunity to have their sewer lateral replaced. The costs, however, would include replacement of the pavement, since the City was not planning on encountering this cost. Based on the bid prices received from the contractor, costs for the two sides of the street would average as described below:

- "Short Side" (Henley Dr., East Side & Putney Dr., North Side):
  Average cost (mandatory for those whose laterals qualify) = $770
- "Long Side" (Henley Dr., West Side & Putney Dr., South Side):
  Average cost (voluntary) = $4,580

The plan sheets for this part of the job have been included in this memo to help understand the reasons for this concept. The cost of the long side sewer laterals includes $1,980 for the longer than average sewer lateral installation, and $2,600 for the asphalt repair that would be needed to restore the road after this work. Note that while this price is higher than normal, it is still about a 30% reduction from the cost a homeowner could anticipate if they attempted to do this work themselves.

It is recommended that a public hearing of necessity be scheduled at the Monday, March 23, 2015 City Commission meeting. Should the district be declared at that time, it is further recommended that the public hearing to confirm the roll be held on Monday, April 13, 2015 at the $55/lineal ft. unit price for 6" dia. sewer.

Further, for the Henley Dr. and Putney Dr. portion of the project, it is recommended that the long side sewer laterals be excluded from the special assessment district, but be offered to the property owners on a voluntary basis, for removal at a cost of $55 per foot, plus a flat fee of $2,600 for restoration costs.

SUGGESTED RESOLUTION:

RESOLVED, that the City Commission shall meet on Monday, March 16, 2015 at 7:30 P.M., for the purpose of conducting a public hearing of necessity for the installation of lateral sewers within the 2015 Local Streets Paving Program area, with a voluntary option being made available for those properties on the long side of Henley Dr. and Putney Dr. Should the district be declared at that time, be it further

RESOLVED, that the City Commission meet on Monday, March 30, 2015 at 7:30 P.M. for the purpose of conducting a public hearing to confirm the roll for the installation of lateral sewers in the 2015 Local Streets Paving Project Program area.

SEWER LATERAL CHART

2015 Local Streets Paving Project - Contract #2-15(P)
Maryland Blvd.

Address	Street	Pipe Type	Date Installed	SAD?	Estimated Length	Estimated Cost 6"
Maryland Blvd. - Southlawn Blvd. to 14 Mile Rd.						$55
WEST SIDE						
1700	Maryland	O.B.	1951	Y	26	$1,430
1720		O.B.	1952	Y	27	$1,485
1744		O.B.	1963	Y	27	$1,485
1776		O.B.	1953	Y	28	$1,540
1798		O.B.	1953	Y	28	$1,540
1810		O.B.	1950	Y	29	$1,595
1826		O.B.	1950	Y	29	$1,595
1842		O.B.	1950	Y	30	$1,650
1860		O.B.	1950	Y	30	$1,650
1878		O.B.	1950	Y	30	$1,650
1892		O.B.	1951	Y	30	$1,650
1902		P.V.C.	2008	N	0	$0
1926		O.B.	1950	Y	30	$1,650
1948		O.B.	1950	Y	30	$1,650
1972		P.V.C.	2003	N	0	$0
1990		O.B.	1950	Y	30	$1,650
EAST SIDE						
1701	Maryland	O.B.	1951	Y	44	$2,420
1723		PVC Sleeve in OB	2010	N	0	$0
1745		O.B.	1951	Y	43	$2,365
1775		O.B.	1950	Y	42	$2,310
1797		O.B.	1950	Y	41	$2,255
1809		O.B.	1950	Y	40	$2,200
1825		O.B.	1952	Y	40	$2,200
1841		O.B.	1951	Y	40	$2,200
1859		O.B.	1950	Y	40	$2,200
1877		O.B.	1950	Y	40	$2,200
1893		P.V.C.	2001	Y	0	$0
1905		O.B.	1950	Y	40	$2,200
1927		O.B.	1950	Y	40	$2,200
1949		P.V.C.	2007	N	0	$0
1973		O.B.	1950	Y	40	$2,200
1991		Wedgelock	1977	N	0	$0
			TOTAL =		894	$49,170

RATIO = 26/32 81%

SEWER LATERAL CHART

2015 Local Streets Paving Project - Contract #2-15(P)
Henrietta St.

Address	Street	Pipe Type	Date Installed	SAD?	Estimated Length	Estimated Cost 6"
Henrietta St. - Northlawn Blvd. to 14 Mile Rd.						$55
WEST SIDE						
227	Northlawn	O.B.	1948	Y	21	$1,155
1424	Henrietta	O.B.	1948	Y	21	$1,155
1430		O.B.	1948	Y	21	$1,155
1452		O.B.	1948	Y	21	$1,155
1470		O.B.	1948	Y	21	$1,155
1488		O.B.	1948	Y	21	$1,155
1500		P.V.C.	2012	N	0	$0
1520		O.B.	1948	Y	21	$1,155
1538		O.B.	1948	Y	21	$1,155
1552		P.V.C.	2002	N	0	$0
1564		P.V.C.	1998	N	0	$0
1580		O.B.	1949	Y	21	$1,155
1592		Unknown	1938	Y	21	$1,155
1604		Unknown	1939	Y	21	$1,155
1620		O.B.	1951	Y	21	$1,155
1632		O.B.	1950	Y	21	$1,155
1650		P.V.C.	2005	N	0	$0
1684		O.B.	1950	Y	21	$1,155
1698		O.B.	1950	Y	21	$1,155
1712		O.B.	1950	Y	21	$1,155
1734		Cast Iron	1943	Y	21	$1,155
1746		Cast Iron	1943	Y	21	$1,155
1762		Cast Iron	1943	Y	21	$1,155
1776		Cast Iron	1943	Y	21	$1,155
1792		Cast Iron	1943	Y	21	$1,155
1800		P.V.C.	2003	N	0	$0
1828		Cast Iron	1943	Y	21	$1,155
1844		Cast Iron	1943	Y	21	$1,155
1862		Cast Iron	1943	Y	21	$1,155
1886		Cast Iron	1943	Y	21	$1,155
1898		Cast Iron	1943	Y	21	$1,155
1920		Cast Iron	1943	Y	21	$1,155
1948		Cast Iron	1944	Y	21	$1,155
1978		Clay	1944	Y	21	$1,155
1992		Cast Iron	1944	Y	21	$1,155

EAST SIDE

1419	Henrietta	P.V.C.	2006	N	0	$0
1421		Clay	1947	Y	30	$1,650
1433		Clay	1947	Y	30	$1,650
1447		Clay	1947	Y	30	$1,650
1465		Clay	1947	Y	30	$1,650
1483		Clay	1947	Y	30	$1,650
1501		Clay	1947	Y	30	$1,650
1519		O.B.	1947	Y	30	$1,650
1537		O.B.	1947	Y	30	$1,650
1555		P.V.C.	2007	N	0	$0
1571		O.B.	1949	Y	30	$1,650
1585		P.V.C.	2001	N	0	$0
1601		O.B.	1949	Y	30	$1,650
1615		P.V.C.	2002	N	0	$0
1637		Clay	1943	Y	30	$1,650
1659		Clay	1943	Y	30	$1,650
1685		Clay	1943	Y	30	$1,650
1699		Cast Iron	1944	Y	30	$1,650
185	Southlawn	O.B.	1955	Y	30	$1,650
1727	Henrietta	O.B.	1949	Y	30	$1,650
1735		Wedgelock	1973	N	0	$0
1759		Wedgelock	1965	Y	30	$1,650
1771		Wedgelock	1967	N	0	$0
1787		Wedgelock	1965	Y	30	$1,650
1807		Wedgelock	1966	N	0	$0
1825		P.V.C.	2003	N	0	$0
1841		O.B.	1955	Y	30	$1,650
1859		Cast Iron	1943	Y	30	$1,650
1885		Cast Iron	1943	Y	30	$1,650
1919		P.V.C.	2001	N	0	$0
1943		Cast Iron	1943	Y	30	$1,650
1961		Cast Iron	1944	Y	30	$1,650
1975		Clay	1944	Y	30	$1,650
1997		Cast Iron	1944	Y	30	$1,650

Southlawn Blvd - Bates St. to Pierce St

NORTH SIDE

1695	S. Bates	On Bates	2000	N	0	$0
1682	Pierce	On Pierce	1964	N	0	$0

SOUTH SIDE

1717	S. Bates	On Bates	2003	N	0	$0
1710	Pierce	On Pierce	2005	N	0	$0

Ratio =	55/73	75%		$75,900

SEWER LATERAL CHART

2015 Local Streets Paving Project - Contract #2-15(P)
Catalpa Dr.

Address	Street	Pipe Type	Date Installed	SAD?	Estimated Length	Estimated Cost 6"
Catalpa Dr. - Pierce St. to Edgewood Ave.						$55
NORTH SIDE						
109	Catalpa	Cast Iron	1946	Y	28	$1,540
121		Clay	1946	Y	28	$1,540
137		Clay	1946	Y	28	$1,540
155		O.B.	1954	Y	28	$1,540
179		O.B.	1958	Y	28	$1,540
195		P.V.C.	2011	N	0	$0
223		O.B.	1949	Y	28	$1,540
245		P.V.C.	1994	N	0	$0
295		Wedgelock	1965	Y	28	$1,540
347		Wedgelock	1971	N	0	$0
363		Wedgelock/C.I.	1967	N	0	$0
375		P.V.C.	1997	N	0	$0
SOUTH SIDE						
1515	Pierce	P.V.C.	2005	N	0	$0
160	Catalpa	Cast Iron	1941	Y	28	$1,540
174		P.V.C.	2000	N	0	$0
180		P.V.C.	2003	N	0	$0
212		O.B.	1958	Y	28	$1,540
238		Unknown	1941	Y	28	$1,540
264		Unknown	--	Y	28	$1,540
286		P.V.C.	2004	N	0	$0
320		Clay	1947	Y	28	$1,540
350		Unknown	--	Y	28	$1,540
380		P.V.C.	1995	N	0	$0
			TOTAL =		364	$20,020

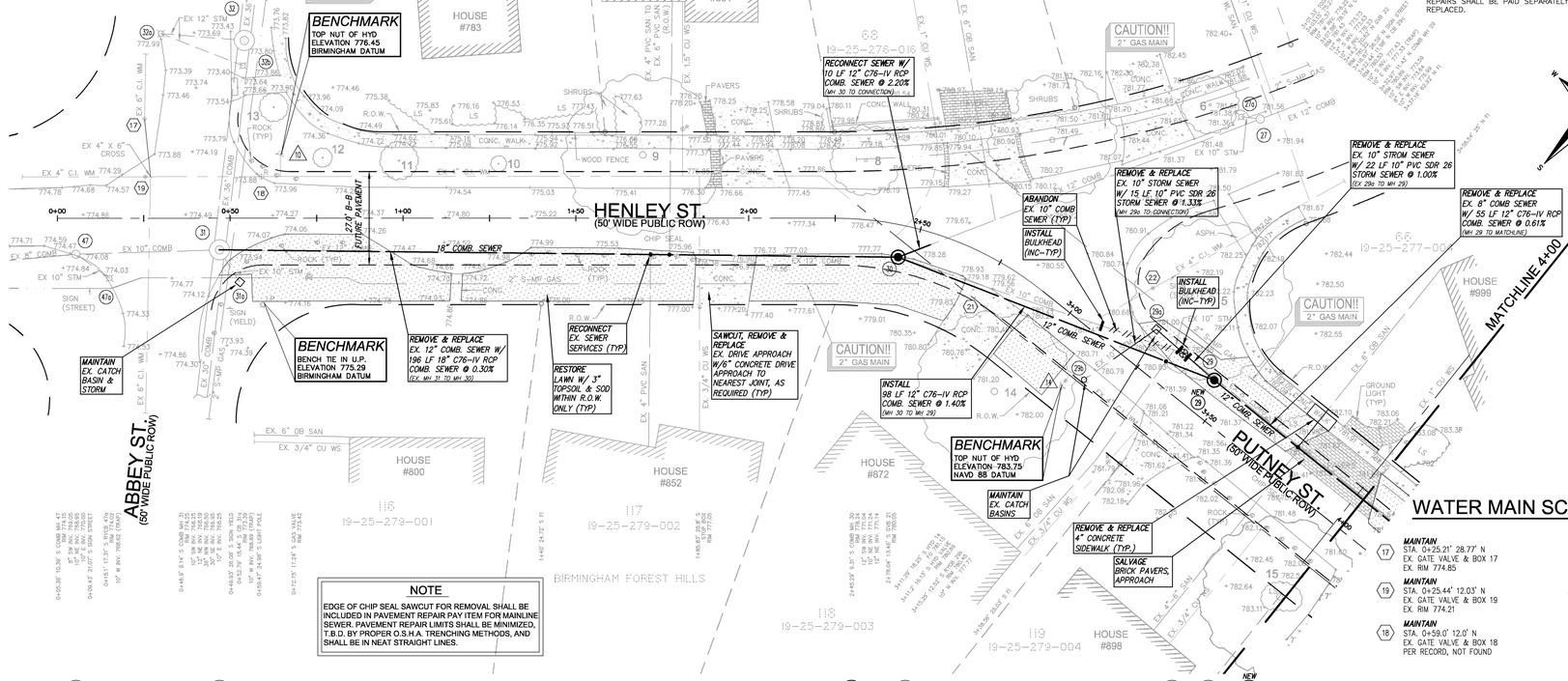
RATIO = 13/23 81%

SEWER LATERAL CHART

2015 Local Streets Paving Project - Contract #2-15(P)
Puntey Dr.

Address	Street	Pipe Type	Date Installed	SAD?	Estimated Length	Estimated Cost 6"
Henley Dr. - Abbey Rd. to Putney Dr.						$55
SOUTH SIDE						
800	Henley	On Abbey	2002	N	0	$0
852		P.V.C.	2004	N	0	$0
Putney Dr. - Henley Dr. to Adams Rd.						
NORTH SIDE						
999	Puntey	O.B.	1959	Y	14	$770
1033		Wedgelock	1964	Y	14	$770
1037-1093		O.B.	1953	Y	14	$770
			TOTAL =		42	$2,310

RATIO = 3/5 60%



SEWER SERVICE SCHEDULE – LENGTH OF SDR 23.5 PVC PIPE NEEDED		
ADDRESS OR DESCRIPTION	TYPE OF EXISTING SERVICE	LENGTH NEEDED (FT)
783 ABBEY	UNKNOWN	N/A
800 HENLEY	6" O.B. SAN	N/A
801 HENLEY	6" P.V.C. SAN	0
833 HENLEY	6" O.B. SAN	N/A
852 HENLEY	4" P.V.C. SAN	0
872 HENLEY*	6" O.B. SAN	0
875 HENLEY	6" W.L. SAN	N/A
898 PUTNEY	6" SAN	0
999 PUTNEY	6" O.B. SAN	14.0

* LONG SIDE SEWER LEAD REPLACEMENT SHALL NOT BE PERFORMED UNLESS AUTHORIZED BY CITY ENGINEER. PAVEMENT REPAIRS SHALL BE PAID SEPARATELY FOR EACH LONG SIDE LEAD REPLACED.

Ex. Tree Information

Tree #	Botanical Name	Common Name	Dia.	Condition	Comments
5	Acer saccharinum	Silver Maple	36	Good	
6	Acer rubrum	Red Maple	9	Good	
7	Gleditisia triacanthos	Honeylocust	20	Good	
8	Acer rubrum	Red Maple	11	Good	
9	Ulmus americana	American Elm	31	Good	
10	Aesculus glabra	Ohio Buckeye	3	Good	
11	Ulmus parvifolia	Lacebark Elm	6	Good	
12	Pyrus calleryana	Bradford Pear	3	Good	
13	Pyrus calleryana	Bradford Pear	5	Good	
14	Acer saccharinum	Silver Maple	40	Good	
15	Acer saccharinum	Silver Maple	28	Poor	Lg cavity with decay in one trunk

SEWER STRUCTURE SCHEDULE

47 — *MAINTAIN*
STA. 0+05.38' 10.39' S
EX. COMB MH 47
EX. RIM 774.15
EX. 8" SW INV. 769.05
EX. 10" NE INV. 768.95
EX. 10" E INV. 770.00

47a — *MAINTAIN*
STA. 0+15.1' 17.31' S
EX. RYCB 47a
EX. RIM 774.02
EX. 10" W INV. 768.62 (TRAP)

32a — *MAINTAIN*
STA. 0+29.98' 53.44' N
EX. RYCB 32a
EX. RIM 772.89
EX. 12" E INV. 769.69
EX. 12" NE INV. 769.19 (TRAP)

31 — *TAP*
STA. 0+46.9' 9.14' S
EX. COMB MH 31
EX. RIM 774.25
EX. 10" SW INV. 768.25
EX. 12" NE INV. 768.19
EX. 36" NW INV. 766.50
EX. 30" SE INV. 766.95
EX. 10" E INV. 768.25
PR. 18" NE INV 768.20 (TAP)

31a — *MAINTAIN*
STA. 0+52.79' 18.44' S
EX. CB 31a
EX. RIM 773.39
EX. 10" W INV. 768.89 (TRAP)

31b — *MAINTAIN*
STA. 0+53.72' 44.12' N
EX. RYCB 32b
EX. RIM 772.42
EX. 12" W INV. 770.52

32 — *MAINTAIN*
STA. 0+54.1' 51.45' N COMB MH 32
RIM 773.04
36" NW INV. 766.54
36" SE INV. 766.74
12" SW INV. 768.04

30 — *REMOVE & REPLACE*
STA. 2+45.29' 9.31' S
EX. COMB MH 30
EX. RIM 778.24
W/ 4" DIA. COMB MH
PR. RIM 778.24
EX. 12" SW INV. 771.04 *(REMOVE)*
EX. 10" NE INV. 771.24 *(REMOVE)*
EX. 12" NE INV. 771.14 *(REMOVE)*
PR. 18" S.W. INV 768.79
PR. 12" N.E. INV 771.14
PR. 12" E. INV 769.19
PR. 6" NE. INV 769.64 (DROP)

27a — *MAINTAIN*
STA. 3+03.15' 75.27' N
EX. RYCB 27a
EX. RIM 781.37
EX. 10" W INV. 776.22

27 — *MAINTAIN*
STA. 3+07.88' 78.19' N
EX. COMB MH 27
EX. RIM 781.43
EX. 12" N INV. 773.73
EX. 12" S INV. 773.63
EX. 10" W INV. 776.23

29b — *MAINTAIN*
STA. 3+15.25' 12.52' S
EX. RYCB 29b
EX. RIM 780.45
EX. 10" N INV. 777.77

29a — *MAINTAIN*
STA. 3+22.44' 11.98' N
EX. CB 29a
EX. RIM 780.53
EX. 10" S INV. 777.43 *(RECONNECT)*
EX. 10" E INV. 777.33 (TRAP) *(RECONNECT)*

29 — *ABANDON*
STA. 3+32.97' 11.43' N
EX. COMB MH 29
EX. RIM 780.89
EX. 10" SW INV. 773.59 *(REMOVE)*
EX. 8" E INV. 773.64 *(BULKHEAD)*
EX. 10" W INV. 776.99 *(BULKHEAD)*

29 NEW — *INSTALL*
PR. STA 3+44.73, 10.92' N
4' DIA. COMB MH
PR. RIM 781.39
PR. 12" S.W. INV 770.56
PR. 12" E. INV 770.66
PR. 10" W. INV 777.11

WATER MAIN SCHEDULE

17 — *MAINTAIN*
STA. 0+25.21' 28.77' N
EX. GATE VALVE & BOX 17
EX. RIM 774.85

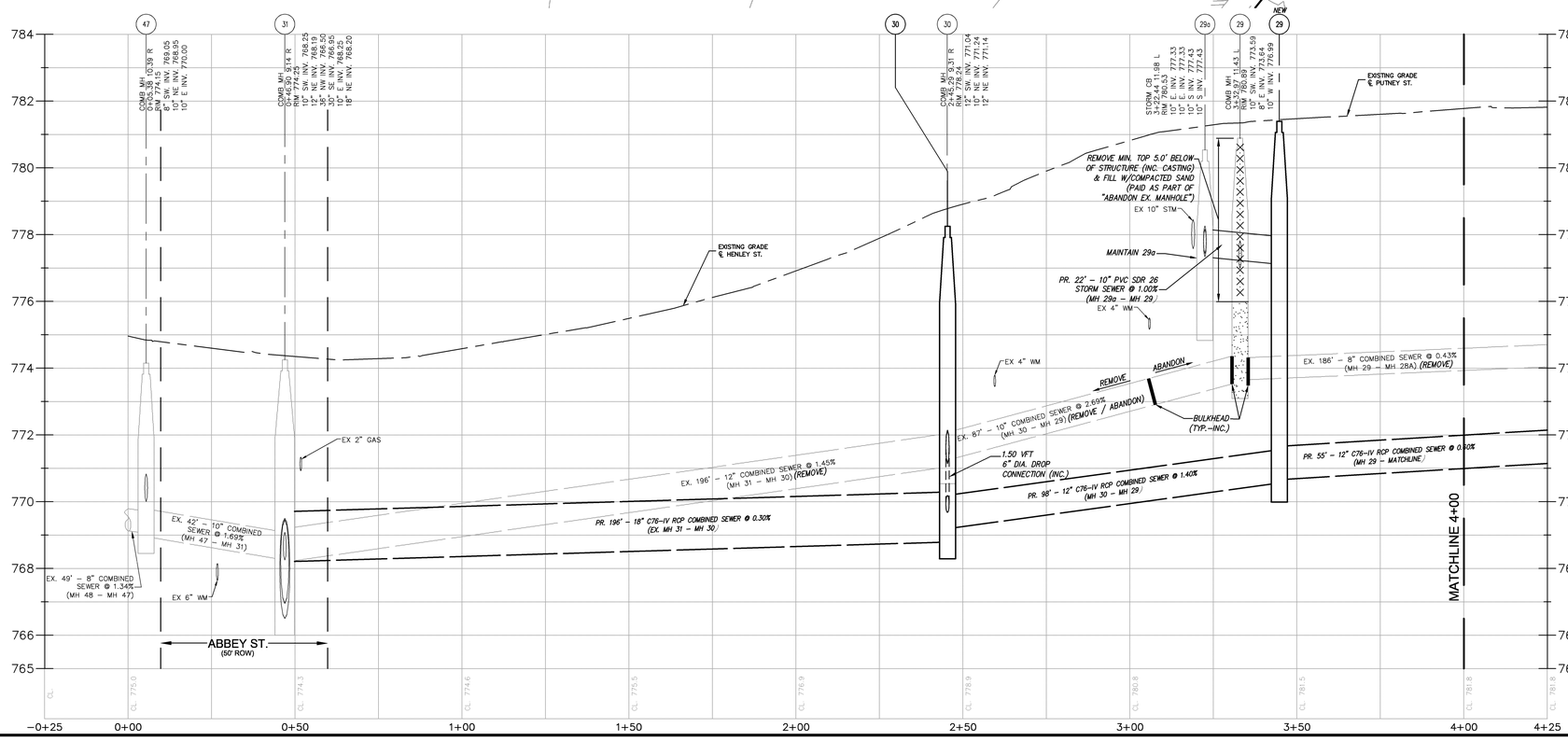
19 — *MAINTAIN*
STA. 0+25.44' 12.03' N
EX. GATE VALVE & BOX 19
EX. RIM 774.21

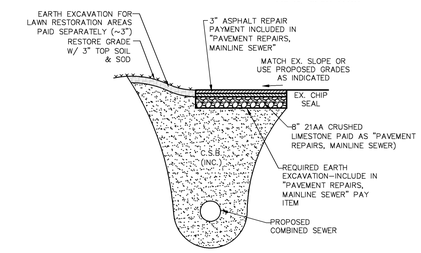
18 — *MAINTAIN*
STA. 0+59.0' 12.0' N
EX. GATE VALVE & BOX 18
PER RECORD, NOT FOUND

19 — *MAINTAIN*
STA. 0+64.5' 18.84' N
EX. HYDRANT & ASSEMBLY
EX. FG 773.88

21 — *MAINTAIN*
STA. 2+78.04' 13.46' S
EX. GATE VALVE & BOX 21
EX. RIM 780.05

14 — *MAINTAIN*
STA. 3+11.29' 18.25' S
EX. HYDRANT & ASSEMBLY
EX. FG 781.15





HENLEY/PUTNEY SEWER TRENCH REPAIR DETAIL
N.T.S.

UTILITY NOTE

THE LOCATIONS AND ELEVATIONS OF SOME OF THE EXISTING UNDERGROUND UTILITIES AS SHOWN ON THE SURVEY DRAWING WERE OBTAINED FROM MUNICIPAL AND UTILITY COMPANY RECORDS AND MAPS. THEREFORE, NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT UTILITY LOCATIONS AND ELEVATIONS PRIOR TO THE START OF CONSTRUCTION.

LEGEND

CLEAN-OUT; MANHOLE COMB SAN — EXISTING SAN/COMB SEWER
GVW HYDRANT — EXISTING WATER MAIN
SHUTOFF; RYCB MANHOLE; CB END SECTION — EXISTING STORM SEWER
ELEC. METER; ELECTRIC MANHOLE; TELEPHONE MANHOLE — EXISTING BURIED CABLES
GAS METER; GAS MARKER; GAS VALVE — EXISTING GAS MAIN
UTILITY POLE; LIGHT POLE; STRAIN POLE; GUY WIRE — OVERHEAD LINES
RECORD CVRB STOP LOCATION (APPROX.)
LANDSCAPE BED
EX. SOIL BORING
PUBLIC PHONE
WELL
PUMP
SIGN
POST/BOLLARD
PARKING METER
MAIL BOX
ROCK/BOULDER
SPRINKLER VALVE BOX
SPRINKLER HEAD
FOUND PROPERTY MARKER
×000.00 GROUND ELEVATION

PAVERS
ASPHALT
CHIP SEAL
CONCRETE
LAWN REPAIR
LANDSCAPE

NF ENGINEERS
CIVIL ENGINEERS
LAND SURVEYORS
LAND PLANNERS

NOWAK & FRAUS ENGINEERS
46777 WOODWARD AVE.
PONTIAC, MI 48342-5032
TEL. (248) 332-7931
FAX. (248) 332-8257

PROJECT
2015 Local Streets Paving
Project Contract #2-15 P

CLIENT
City of Birmingham
A Walkable Community
Engineering Department
151 Martin Street
Birmingham, MI 48012

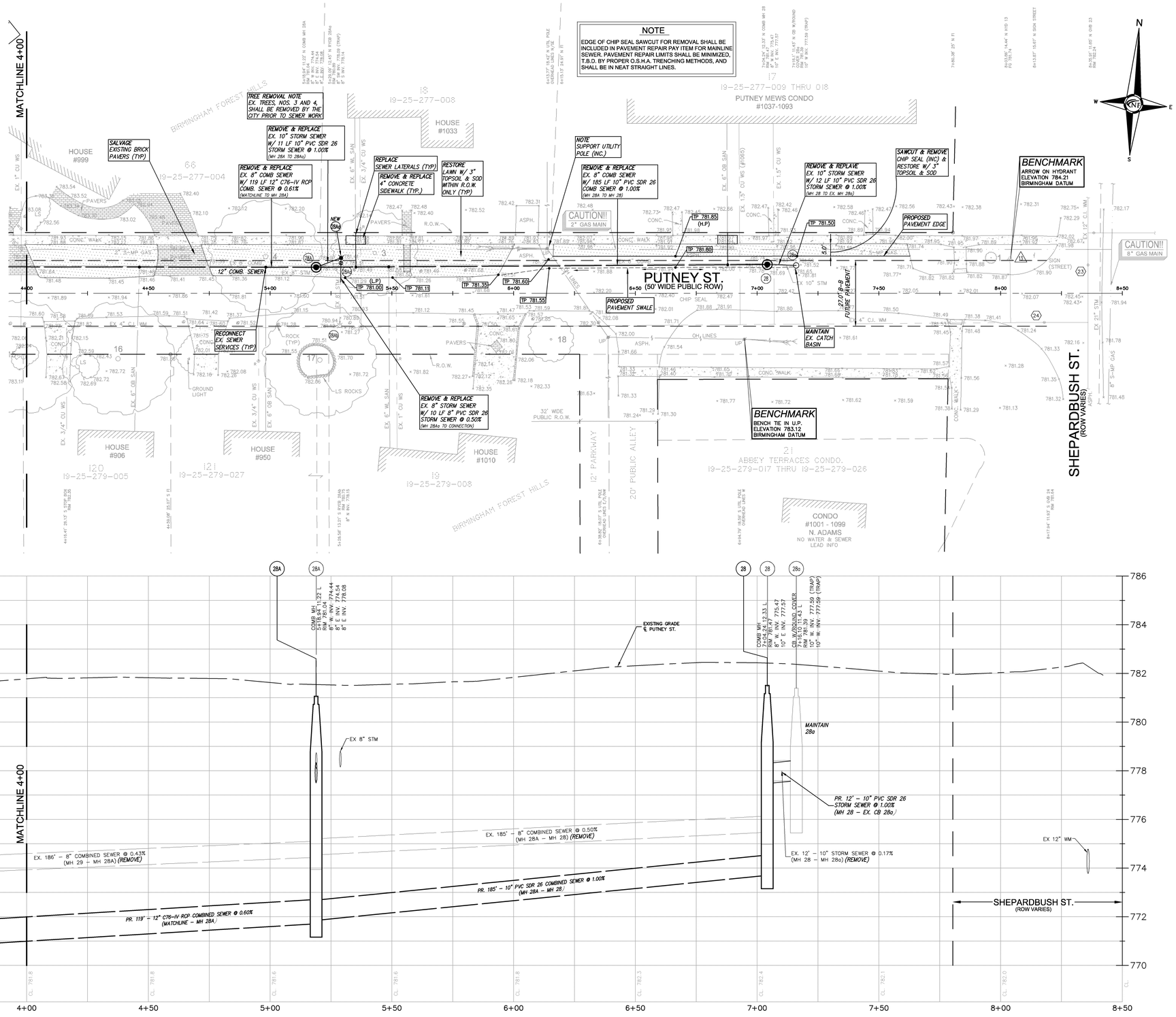
PROJECT LOCATION
Part of the NE 1/4 of Section 25, Town 2 North, Range 10 East, City of Birmingham, Oakland County, Michigan

SHEET
Paving & Utility Plan
Henley St. / Putney St.
Sta. P.O.B. to 4+00

811 Know what's below Call before you dig.

REVISIONS
02/02/2015 Issued for Bid

DRAWN BY: RP
DESIGNED BY: BB
APPROVED BY: BB
DATE: January 21, 2015
SCALE: H. 1" = 20' V. 1"=2'
NFE JOB NO. I407
SHEET NO. C23



NOTE

EDGE OF CHIP SEAL SAWCUT FOR REMOVAL SHALL BE INCLUDED IN PAVEMENT REPAIR PAY ITEM FOR MAINLINE SEWER. PAVEMENT REPAIR LIMITS SHALL BE MINIMIZED, T.B.D. BY PROPER O.S.H.A. TRENCHING METHODS, AND SHALL BE IN NEAT STRAIGHT LINES.

Ex. Tree Information

Tree #	Botanical Name	Common Name	Dia.	Condition	Comments
1	Zelkova serrata	Japanese Zelkova	3	Good	
2	Gleditisia triacanthos	Honeylocust	4	Good	
3	Aesculus glabra	Ohio Buckeye	19	Fair	Weak trunk union, included bark, some trunk decay
4	Aesculus glabra	Ohio Buckeye	26	Good	
16	Acer saccharinum	Silver Maple	44	Fair	Heavy branch ends, some branch decay
17	Acer saccharinum	Silver Maple	48	Good	
18	Crataegus spp.	Hawthorn spp.	10	Fair	Some trunk decay
19	Liquidambar styraciflua	Sweetgum	4	Good	
20	Tilia spp.	Linden spp.	7	Good	
21	Acer saccharinum	Silver Maple	28	Good	

SEWER STRUCTURE SCHEDULE

28A *REMOVE & REPLACE*
STA. 5+18.54' 11.22' N
EX. COMB MH 28A
EX. RIM 781.04
W/ 4' DIA. COMB MH
PR. RIM 781.04
EX. 8" W INV. 774.44 *(REMOVE)*
EX. 8" E INV. 774.54 *(REMOVE)*
EX. 8" E INV. 778.08 *(REMOVE)*
PR. 12" W. INV 771.71
PR. 10" E. INV 771.85
PR. 10" NE. INV 777.50

28Ab *MAINTAIN*
STA. 5+28.58' 13.21' S
EX. RYCB 28Ab
EX. RIM 780.75
EX. 8" N INV. 778.15

28Ag *REMOVE AND SALVAGE COVER*
STA. 5+29.09' 12.45' N
EX. RYCB 28Ag
EX. RIM 780.89
EX. 8" SW INV. 778.09 (TRAP) *(REMOVE)*
EX. 8" S INV. 778.14 *(REMOVE)*

28Ag NEW *INSTALL (SALVAGED COVER)*
PR. STA. 5+29.09, 14.55' N
4' DIA. CB W/ 2' SUMP & TRAP
PR. RIM 780.85
PR. 10" SW. INV 777.61 (TRAP)
PR. 8" S. INV 778.14

28 *REMOVE & REPLACE*
STA. 7+04.24' 12.33' N COMB MH 28
EX. RIM 781.47
W/ 4' DIA. COMB MH
PR. RIM 781.47
EX. 8" W INV. 775.47 *(REMOVE)*
EX. 10" E INV. 777.57 *(REMOVE)*
PR. 10" E. INV 777.47
PR. 10" W. INV 773.70

28a *MAINTAIN*
STA. 7+16.1' 11.43' N
EX. CB W/ROUND COVER 28a
EX. RIM 781.39
EX. 10" W INV. 777.59 (TRAP) *(RECONNECT)*

WATER MAIN SCHEDULE

13 *MAINTAIN*
STA. 8+03.86' 14.44' N
EX. HYDRANT & ASSEMBLY
EX. FG 781.74

23 *MAINTAIN*
STA. 8+35.91' 11.65' N
EX. GATE VALVE & BOX 23
EX. RIM 782.24

24 *MAINTAIN*
STA. 8+17.94' 11.93' S
EX. GATE VALVE & BOX 24
EX. RIM 781.64

SEWER SERVICE SCHEDULE – LENGTH OF SDR 23.5 PVC PIPE NEEDED

ADDRESS OR DESCRIPTION	TYPE OF EXISTING SERVICE	LENGTH NEEDED (FT)
906 PUTNEY*	6" O.B. SAN	0
950 PUTNEY*	6" O.B. SAN	0
1010 PUTNEY*	6" W.L. SAN	0
1033 PUTNEY	6" W.L. SAN	14
1001-1009 PUTNEY	UNKNOWN	N/A
1037-1093 PUTNEY	6" O.B. SAN	14

* LONG SIDE SEWER LEAD REPLACEMENT SHALL NOT BE PERFORMED UNLESS AUTHORIZED BY CITY ENGINEER. PAVEMENT REPAIRS SHALL BE PAID SEPARATELY FOR EACH LONG SIDE LEAD REPLACED.

UTILITY NOTE

THE LOCATIONS AND ELEVATIONS OF SOME OF THE EXISTING UNDERGROUND UTILITIES AS SHOWN ON THE SURVEY DRAWING WERE OBTAINED FROM MUNICIPAL AND UTILITY COMPANY RECORDS AND MAPS. THEREFORE, NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT UTILITY LOCATIONS AND ELEVATIONS PRIOR TO THE START OF CONSTRUCTION.

LEGEND

EXISTING SAN/COMB SEWER
EXISTING WATER MAIN
EXISTING STORM SEWER
EXISTING BURIED CABLES
EXISTING GAS MAIN
OVERHEAD LINES
RECORD CURB STOP LOCATION (APPROX.)
LANDSCAPE BED
EX. SOIL BORING
PUBLIC PHONE
WELL
PUMP
SIGN
POST/BOLLARD
PARKING METER
MAIL BOX
ROCK/BOULDER
SPRINKLER VALVE BOX
SPRINKLER HEAD
FOUND PROPERTY MARKER
GROUND ELEVATION
PAVERS
ASPHALT
CHIP SEAL
CONCRETE
LAWN REPAIR
LANDSCAPE

NF ENGINEERS
CIVIL ENGINEERS
LAND SURVEYORS
LAND PLANNERS

NOWAK & FRAUS ENGINEERS
46777 WOODWARD AVE.
PONTIAC, MI 48342-5032
TEL. (248) 332-7931
FAX. (248) 332-8257

PROJECT
2015 Local Streets Paving
Project Contract #2-15 P

CLIENT
City of Birmingham
A Walkable Community
Engineering Department
151 Martin Street
Birmingham, MI 48012

PROJECT LOCATION
Part of the NE 1/4 of Section 25, Town 2 North, Range 10 East, City of Birmingham, Oakland County, Michigan

SHEET
Paving & Utility Plan
Putney St.
Sta. 4+00 to P.O.E.

811 Know what's below Call before you dig.

REVISIONS
02/02/2015 Issued for Bid

DRAWN BY: RP
DESIGNED BY: BB
APPROVED BY: BB
DATE: January 21, 2015
SCALE: H. 1" = 20' V. 1"=2'
NFE JOB NO. I407
SHEET NO. C24