CITY OF MUSKEGON
MUSKEGON COUNTY, MICHIGAN

UTILITY AND STREET IMPROVEMENTS

SANFORD STREET : LAKETON TO APPLE

CONTRACT No. 1
SRF PROJECT #5767-01 DWRF PROJECT #7566-01

PROJECT DATUM INFORMATION

COORDINATE SYSTEM :	STATE PLANE GRID
ZONE :	MICHIGAN SOUTH 2113
ELLIPSOID :	GRS 80
HORIZONTAL DATUM :	NAD 83 (2011)
VERTICAL DATUM :	NAVD 88
GEOID :	GEOID 18
UNITS :	INTERNATIONAL FEET

PROJECT COMBINED SCALE FACTOR (PCSF) = 0.999924699274
GROUND DISTANCE = GRID DISTANCE/PCSF

SOIL BORING GENERAL NOTES

WITHIN EACH SOIL BORING, WHERE SHOWN, SOIL SAMPLES WERE OBTAINED BY THE STANDARD PENETRATION TEST METHOD, ASTM D1586, WHEREBY A SPLIT-SPOON SAMPLER IS DRIVEN THREE SUCCESSIVE 6-INCH INCREMENTS WITH A 140 POUND WEIGHT FALLING 30 INCHES. THE NUMBER OF BLOWS REQUIRED TO DRIVE THE SAMPLER FOR EACH INCREMENT IS PRESENTED ON THE SOIL BORING LOGS.

GRANULAR SOILS (COARSE-GRAINED) HAVE MORE THAN 50% OF THEIR DRY WEIGHT RETAINED ON A #200 SIEVE; THEY ARE DESCRIBED AS: BOULDERS, COBBLES, GRAVEL OR SAND. FINE-GRAINED SOILS HAVE LESS THAN 50% OF THEIR DRY WEIGHT RETAINED ON A #200 SIEVE; THEY ARE DESCRIBED AS: *CLAYS* OR *CLAYEY SILTS* IF THEY ARE COHESIVE, AND *SILTS* IF THEY ARE NON-COHESIVE. IN ADDITION TO GRADATION, GRANULAR SOILS ARE DEFINED BASED ON THEIR *IN-SITU DENSITY*; FINE GRAINED SOILS ARE FURTHER DEFINED BASED ON THEIR STRENGTH OR CONSISTENCY, AND ON THEIR *PLASTICITY*.

MAJOR SOIL COMPONENT		GRADATION RANGE
BOULDERS		OVER 12 INCHES (305mm)
COBBLES		12 INCHES TO 3 INCHES (305mm TO 76mm)
GRAVEL	COARSE	3 INCHES TO 3/4 INCHES (76mm TO 19mm)
	FINE	3/4 INCHES TO #4 SIEVE (19mm TO 4.75mm)
SAND	COARSE	#4 SIEVE TO #10 SIEVE (4.75mm TO 2.00mm)
	MEDIUM	#10 SIEVE TO #40 SIEVE (2.00mm TO 0.425mm)
	FINE	#40 SIEVE TO #200 SIEVE (0.425mm TO 0.074mm)
SILT		PASSING #200 SIEVE (0.074mm) TO 0.005mm
CLAY		SMALLER THAN 0.005mm

DESCRIPTION TERM(S) (OF MINOR SOIL CONSTITUENTS)	PERCENT OF DRY WEIGHT
TRACE	1 – 10
LITTLE	10 – 20
SOME	20 – 35
AND	35 – 50

IN-SITU DENSITY OF GRANULAR SOILS: N – BLOWS/FT.	IN-SITU DENSITY
0 – 4	VERY LOOSE
5 – 10	LOOSE
11 – 30	MEDIUM DENSE
31 – 50	DENSE
50 +	VERY DENSE

CONSISTENCY OF COHESIVE SOILS:

UNCONFINED COMP STRENGTH, Q_u (tsf)	CONSISTENCY
<0.25	VERY SOFT
0.25 – 0.50	SOFT
0.50 – 1.00	MEDIUM (FIRM)
1.00 – 2.00	STIFF
2.00 – 4.00	VERY STIFF
4.00 – 8.00	HARD
>8.00	VERY HARD

WATER LEVELS INDICATED ON THE BORING LOGS ARE THE LEVELS MEASURED IN THE BORING AT THE TIMES INDICATED. IT SHOULD BE NOTED THAT GROUNDWATER LEVELS OBSERVED DURING DRILLING IN PREDOMINANTLY COHESIVE SOILS ARE NOT NECESSARILY INDICATIVE OF THE STATIC GROUNDWATER LEVEL. THIS IS DUE TO THE RELATIVELY LOW PERMEABILITY OF CLAY SOILS AND THE TENDENCY OF DRILLING OPERATIONS TO TEMPORARILY SEAL OFF NATURAL PATHS OF GROUNDWATER MIGRATION INTO THE BOREHOLE. ADDITIONALLY, FLUCTUATIONS IN GROUNDWATER LEVELS SHOULD BE ANTICIPATED WITH SEASONAL VARIATIONS AND FOLLOWING PERIODS OF HEAVY OR PROLONGED PRECIPITATION.

THE SOIL BORING LOGS SHOWN ON THE CONSTRUCTION PLANS ARE BEING FURNISHED FOR YOUR CONVENIENCE AND GENERAL INFORMATION ONLY. THE DATA SHOWN ON THE BORING LOGS REPRESENTS SOIL AND GROUNDWATER CONDITIONS ENCOUNTERED AT THE RESPECTIVE BORING LOCATIONS. VARIATIONS MAY OCCUR BETWEEN THESE LOCATIONS. ADDITIONALLY, THE STRATIGRAPHIC LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES; HOWEVER, THE TRANSITION MAY BE MORE GRADUAL THAN WHAT IS SHOWN. THE BIDDER WILL BE RESPONSIBLE FOR MAKING THEMSELVES FAMILIAR WITH SUBSURFACE CONDITIONS BY WHATEVER MEANS THEY DEEM NECESSARY AND SHALL MAKE THEIR OWN DETERMINATIONS THEREFROM.

THE BIDDER BY SUBMITTING A BID, WAIVES ALL CLAIMS FOR DAMAGES WHICH THEY MAY SUFFER BY REASONS OF THE INADEQUACIES OR DISCREPANCIES OF THE INFORMATION SHOWN ON THESE SOIL BORING LOGS AND UNDERSTANDS THAT NO COMPENSATION WILL BE PAID TO THEM DUE TO AN INADEQUACY OR DISCREPANCY IN THIS DATA.

STANDARD PLANS & SPECIAL DETAILS

COVER B	R-7-F
COVER C	R-8-D
COVER K	R-15-G*
SIDEWALK RAMP AND DETECTABLE WARNING DETAILS	R-28-J*
DRIVEWAY OPENINGS & APPROACHES AND CONCRETE SIDEWALKS	R-29-I
CONCRETE CURB AND CONCRETE CURB & GUTTER	R-30-G
TRANSVERSE PAVEMENT JOINTS	R-39-K
LONGITUDINAL PAVEMENT JOINTS	R-41-H
UTILITY TRENCHES	R-83-C
SOIL EROSION & SEDIMENTATION CONTROL MEASURES	R-96-E

* SPECIAL DETAIL AND INCLUDED IN PROPOSAL

GENERAL NOTES

1. CONTRACTOR TO CALL MISS DIG (CALL TOLL FREE 1-800-482-7171) THREE WORKING DAYS BEFORE STARTING YOUR PROJECT. (EXCLUDING WEEKENDS AND HOLIDAYS)
2. CONTRACTOR SHALL PRESERVE ALL GOVERNMENT AND PROPERTY CORNERS.

SOIL EROSION CONTROL NOTES

EROSION CONTROL BLANKET :

SOIL EROSION CONTROL BLANKET SHALL BE REPLACED ON ALL DISTURBED SLOPES THAT ARE 1 ON 3 OR STEEPER AND IN ALL DISTURBED DITCH BOTTOMS.

TEMPORARY SEEDING :

TEMPORARY SEEDING SHALL BE CAST ON ALL DISTURBED AREAS AS DIRECTED BY THE ENGINEER WITHIN 1 WEEK OF DISTURBANCE.

UTILITIES

ELECTRIC-DISTRIBUTION
CONSUMERS ENERGY
700 E STERNBERG RD.
MUSKEGON, MI 49441
PHONE : (231) 332-2682
ATTN: JOEL BROWN
JOEL.M.BROWN@CMSENERGY.COM

GAS
DTE ENERGY
2359 OLTHOF DR.
MUSKEGON, MI, 49444
PHONE : (231) 726-0943
ATTN: ANTHONY FERRIER
ANTHONY.FERRIER@DTEENERGY.COM

WATER & SANITARY
CITY OF MUSKEGON
1350 E. KEATING AVE.
MUSKEGON, MI 49442
PHONE : (231) 724-4184
ATTN: DAVE BAKER
DAVE.BAKER@SHORELINECITY.COM

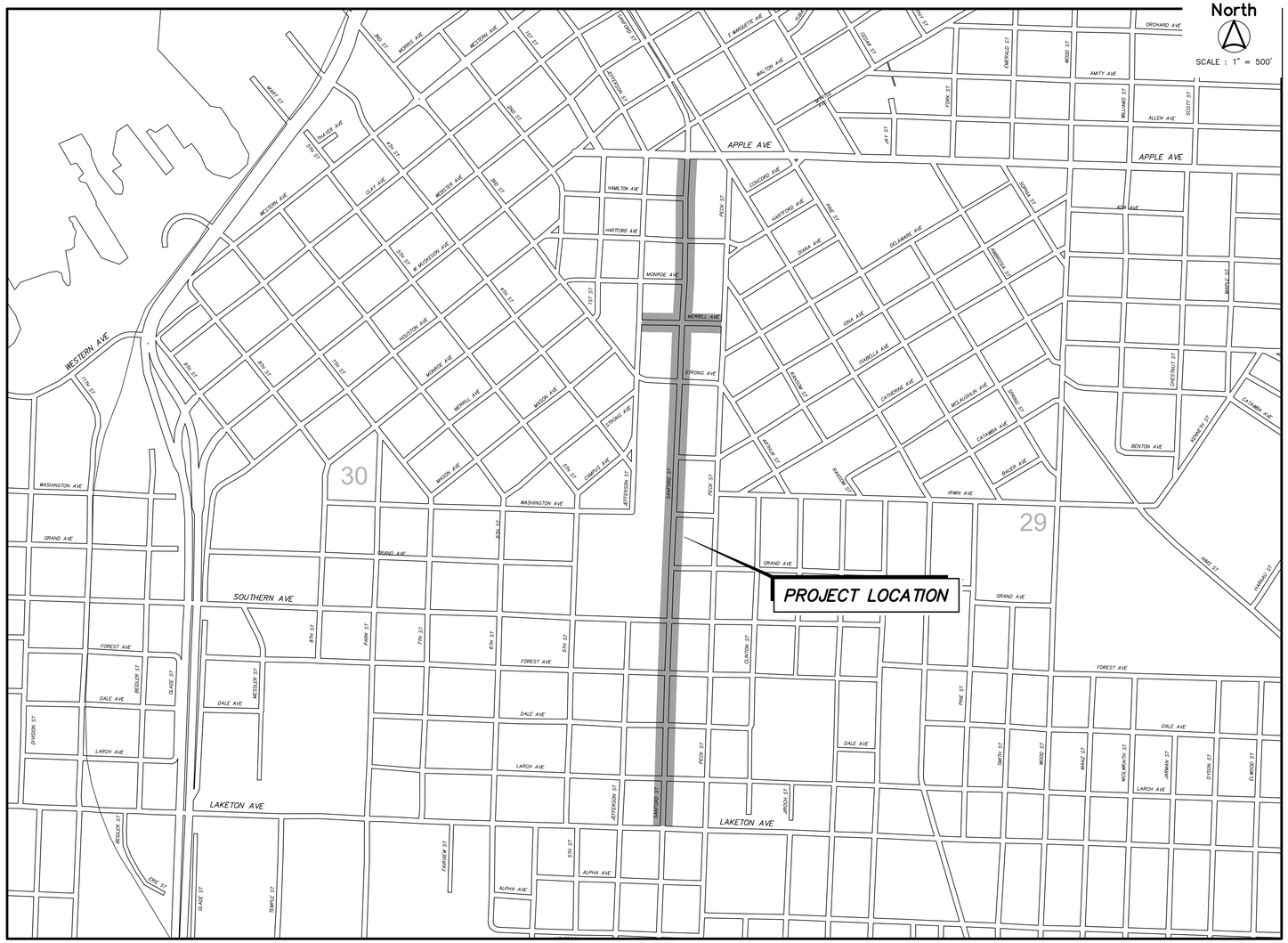
STORM SEWER
CITY OF MUSKEGON
1350 E. KEATING AVE.
MUSKEGON, MI 49442
PHONE : (231) 724-6992
ATTN: VERNON BERNDT
VERN.BERNDT@SHORELINECITY.COM

COMMUNICATION
FRONTIER COMMUNICATIONS
860 TERRACE ST.
MUSKEGON, MI 49443
PHONE : (231) 727-1134
ATTN: CINDY WHITEMAN
CINDY.WHITEMAN@FTR.COM

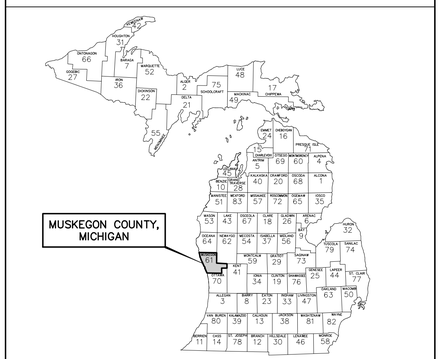
CABLE TELEVISION
COMCAST
700 W. BROADWAY
MUSKEGON, MI 49441
PHONE: (231) 375-5112
ATTN: JON CHARLAND
JONATHAN_CHARLAND@COMCAST.COM

811 Know what's below. Call before you dig.

UTILITY LOCATIONS ARE DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.



STATE LOCATION MAP



SHEET INDEX

SHEET No.	DESCRIPTION
1	COVER SHEET
2	MAINTENANCE OF TRAFFIC – STAGE 1
3	MAINTENANCE OF TRAFFIC – STAGE 2
4	MAINTENANCE OF TRAFFIC – STAGE 3
5	TYPICAL CROSS SECTIONS AND DETAILS
6	DETAILS
7	REMOVAL PLAN (STA. 39+00 TO STA. 47+00)
8	REMOVAL PLAN (STA. 47+00 TO STA. 55+00)
9	REMOVAL PLAN (STA. 55+00 TO STA. 63+00)
10	REMOVAL PLAN (STA. 63+00 TO STA. 71+00)
11	REMOVAL PLAN (STA. 71+00 TO STA. 79+00)
12	REMOVAL PLAN (STA. 79+00 TO STA. 87+00)
13	REMOVAL PLAN (STA. 87+00 TO STA. 94+00)
14	REMOVAL PLAN MERRILL AVENUE
15	SANFORD ST. UTILITY IMPROVEMENTS (STA. 39+00 TO STA. 47+00)
16	SANFORD ST. UTILITY IMPROVEMENTS (STA. 47+00 TO STA. 55+00)
17	SANFORD ST. UTILITY IMPROVEMENTS (STA. 55+00 TO STA. 63+00)
18	SANFORD ST. UTILITY IMPROVEMENTS (STA. 63+00 TO STA. 71+00)
19	SANFORD ST. UTILITY IMPROVEMENTS (STA. 71+00 TO STA. 79+00)
20	SANFORD ST. UTILITY IMPROVEMENTS (STA. 79+00 TO STA. 87+00)
21	SANFORD ST. UTILITY IMPROVEMENTS (STA. 87+00 TO STA. 94+00)
22	MERRILL AVENUE UTILITY IMPROVEMENTS
23	SANFORD ST. STREET IMPROVEMENTS (STA. 39+00 TO STA. 47+00)
24	SANFORD ST. STREET IMPROVEMENTS (STA. 47+00 TO STA. 55+00)
25	SANFORD ST. STREET IMPROVEMENTS (STA. 55+00 TO STA. 63+00)
26	SANFORD ST. STREET IMPROVEMENTS (STA. 63+00 TO STA. 71+00)
27	SANFORD ST. STREET IMPROVEMENTS (STA. 71+00 TO STA. 79+00)
28	SANFORD ST. STREET IMPROVEMENTS (STA. 79+00 TO STA. 87+00)
29	SANFORD ST. STREET IMPROVEMENTS (STA. 87+00 TO STA. 94+00)
30	MERRILL AVENUE STREET IMPROVEMENTS
31	SANFORD STREET GRADING DETAILS (STA. 39+00 TO STA. 51+00)
32	SANFORD STREET GRADING DETAILS (STA. 51+00 TO STA. 63+00)
33	SANFORD STREET GRADING DETAILS (STA. 63+00 TO STA. 74+00)
34	SANFORD STREET GRADING DETAILS (STA. 74+00 TO STA. 85+00)
35	SANFORD STREET GRADING DETAILS (STA. 85+00 TO STA. 93+50)
36	MERRILL AVENUE GRADING DETAILS
37	SIDEWALK GRADING DETAILS
38	SIDEWALK GRADING DETAILS
39	SIDEWALK GRADING DETAILS
40	PAVEMENT MARKING AND SIGNING PLAN
41	PAVEMENT MARKING AND SIGNING PLAN
42	PAVEMENT MARKING AND SIGNING PLAN

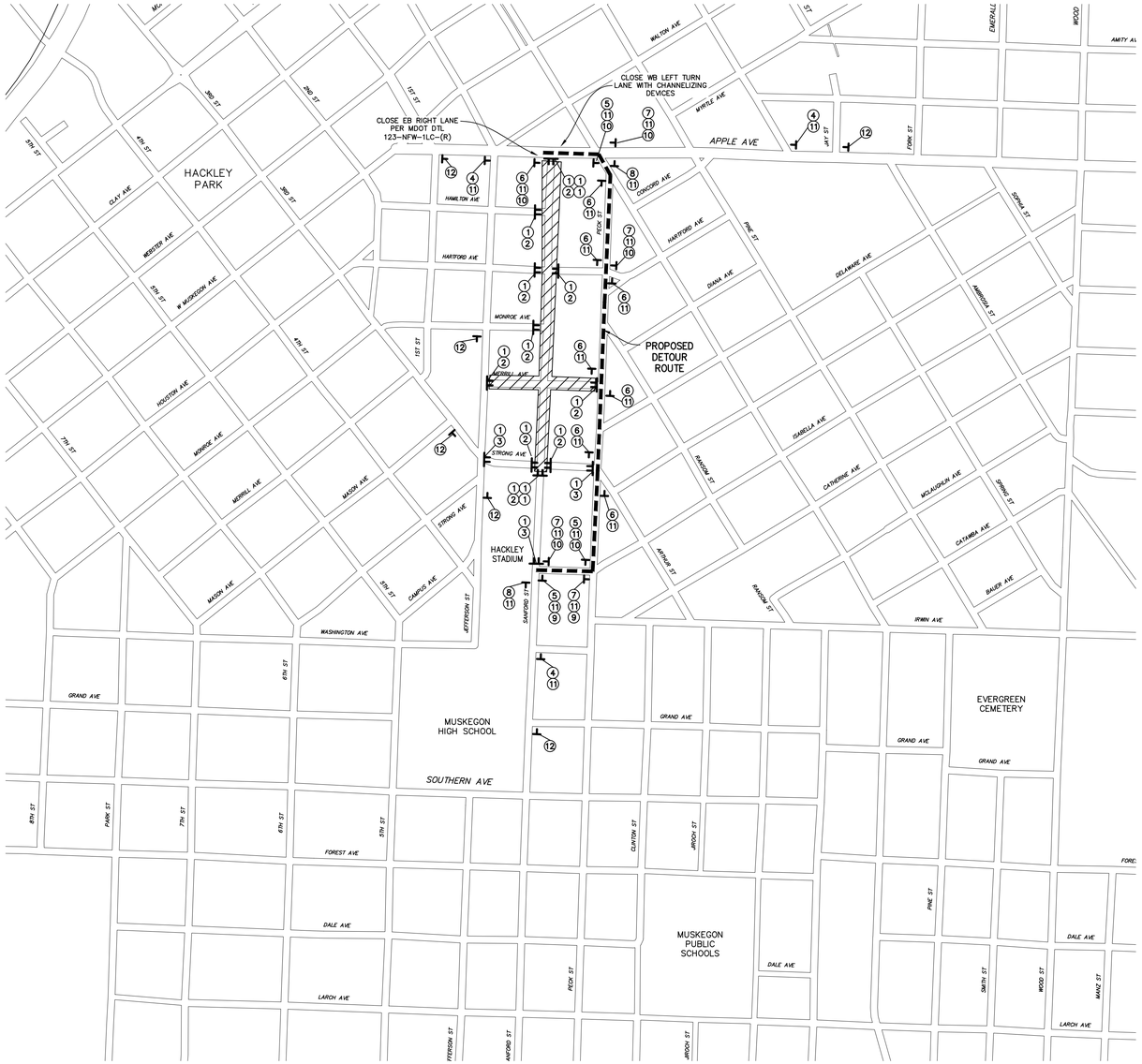
STATE OF MICHIGAN
MATTHEW R HULST
ENGINEER
No. 6201057572
LICENSED PROFESSIONAL ENGINEER

STATE OF MICHIGAN
RICHARD D. TAGLIONE
ENGINEER
No. 6201310066
LICENSED PROFESSIONAL ENGINEER

Prein&Newhof
Engineers • Surveyors • Environmental • Laboratory

PROJECT NO. 2211000

SHEET NO. 1 OF 42



MAINTENANCE OF TRAFFIC PLAN

SCALE : NONE

LEGEND

	TYPE III BARRICADE, HIGH INTENSITY
	CONSTRUCTION SIGN
	CHANGEABLE MESSAGE BOARD
	TYPE II BARRICADE

DETOUR SIGNING REQUIREMENTS

#	SIGN DESIGNATION	SIGN DESCRIPTION	SIGN SIZE	NO. REQ.
1	TYPE III BARRICADE	TYPE III BARRICADE, HIGH INTENSITY, DOUBLE SIDED, LIGHTED	NA	17
2	R11-2	ROAD CLOSED	60" X 30"	10
3	R11-4	ROAD CLOSED TO THRU TRAFFIC	60" X 30"	3
4	W20-2	DETOUR AHEAD	48" X 48"	4
5	M4-9R	DETOUR RIGHT	30" X 24"	3
6	M4-9	DETOUR THRU	30" X 24"	8
7	M4-9L	DETOUR LEFT	30" X 24"	4
8	M4-8a	END DETOUR	24" X 18"	2
9	** M3-1	NORTH	24" X 12"	2
10	** M3-3	SOUTH	24" X 12"	6
11	D3-1	SANFORD ST.	48" X 12"	21
12	W20-1	ROAD WORK AHEAD	48" X 48"	7

** M3-SERIES SIGNS USED WITH DETOUR TO BE BLACK LETTERS AND A BLACK BORDER ON A FLUORESCENT ORANGE BACKGROUND

NO.	REVISIONS	BY	DATE

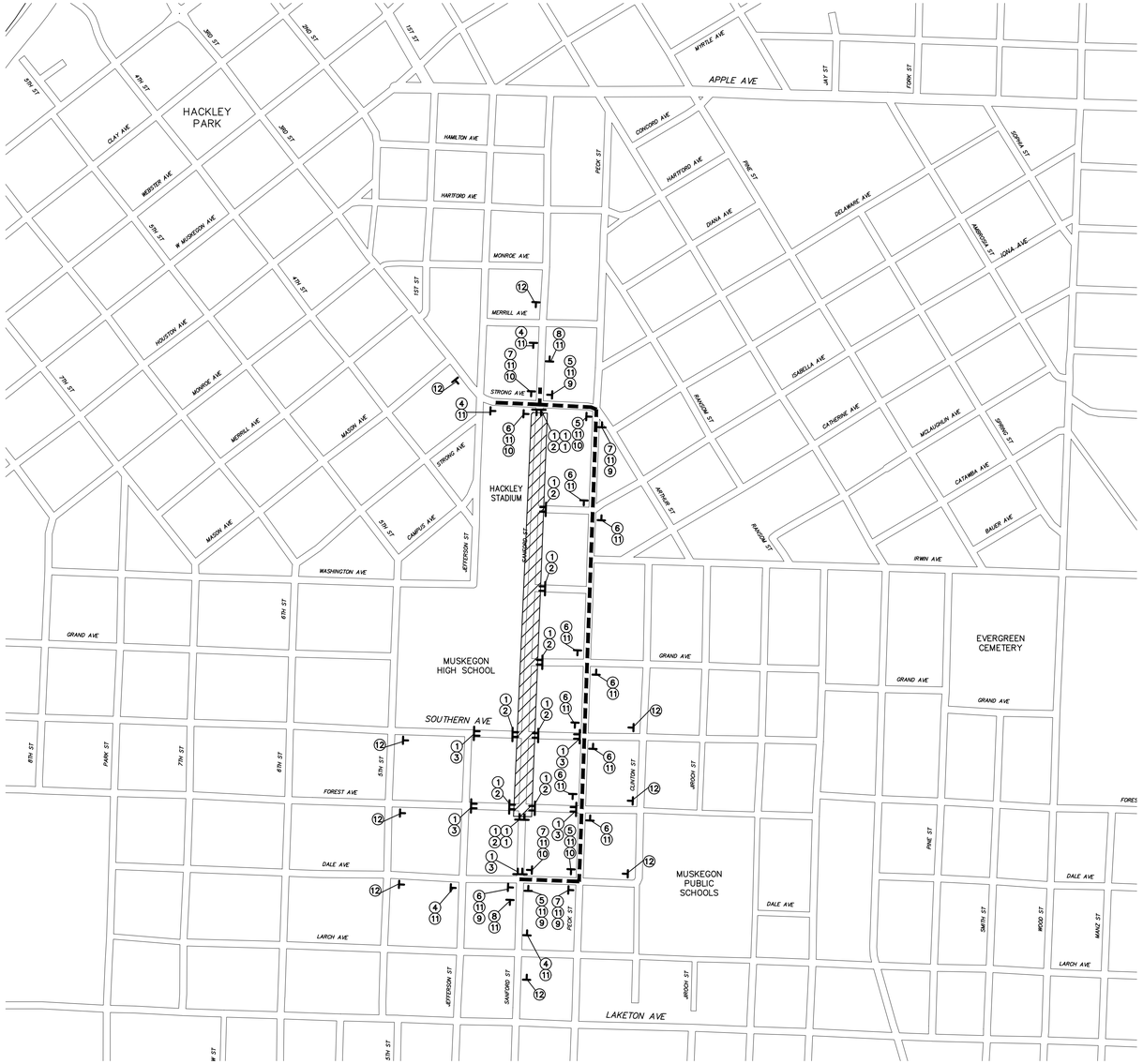
DRAWN: S.M.T.
DATE: MAR. '22
CHECKED: M.R.H.
DATE: JUN. '22

Prein&Newhof
Engineers • Surveyors • Environmental • Laboratory

CITY OF MUSKEGON
MUSKEGON COUNTY, MICHIGAN
STREET IMPROVEMENTS
CONTRACT NO. 1
MAINTENANCE OF TRAFFIC – STAGE 1

PROJECT NO. 2211000
SHEET NO. 2 OF 42

T:\CIVIL3D PROJECTS\2021\2211000_MUSKEGON_SANFORD STREET RECON\4_PROD\2211000_MOT.DWG – JSMITH – JUL 05 2022 – 09:35am – PrintedNewhof



MAINTENANCE OF TRAFFIC PLAN

SCALE : NONE

North

LEGEND

- TYPE III BARRICADE, HIGH INTENSITY
- CONSTRUCTION SIGN
- CHANGEABLE MESSAGE BOARD
- TYPE II BARRICADE

DETOUR SIGNING REQUIREMENTS

#	SIGN DESIGNATION	SIGN DESCRIPTION	SIGN SIZE	NO. REQ.
1	TYPE III BARRICADE	TYPE III BARRICADE, HIGH INTENSITY, DOUBLE SIDED, LIGHTED	NA	18
2	R11-2	ROAD CLOSED	60" X 30"	9
3	R11-4	ROAD CLOSED TO THRU TRAFFIC	60" X 30"	4
4	W20-2	DETOUR AHEAD	48" X 48"	5
5	M4-9R	DETOUR RIGHT	30" X 24"	4
6	M4-9	DETOUR THRU	30" X 24"	10
7	M4-9L	DETOUR LEFT	30" X 24"	4
8	M4-8a	END DETOUR	24" X 18"	2
9	** M3-1	NORTH	24" X 12"	5
10	** M3-3	SOUTH	24" X 12"	5
11	D3-1	SANFORD ST.	48" X 12"	24
12	W20-1	ROAD WORK AHEAD	48" X 48"	9

** M3-SERIES SIGNS USED WITH DETOUR TO BE BLACK LETTERS AND A BLACK BORDER ON A FLUORESCENT ORANGE BACKGROUND

NO.	REVISIONS	BY	DATE

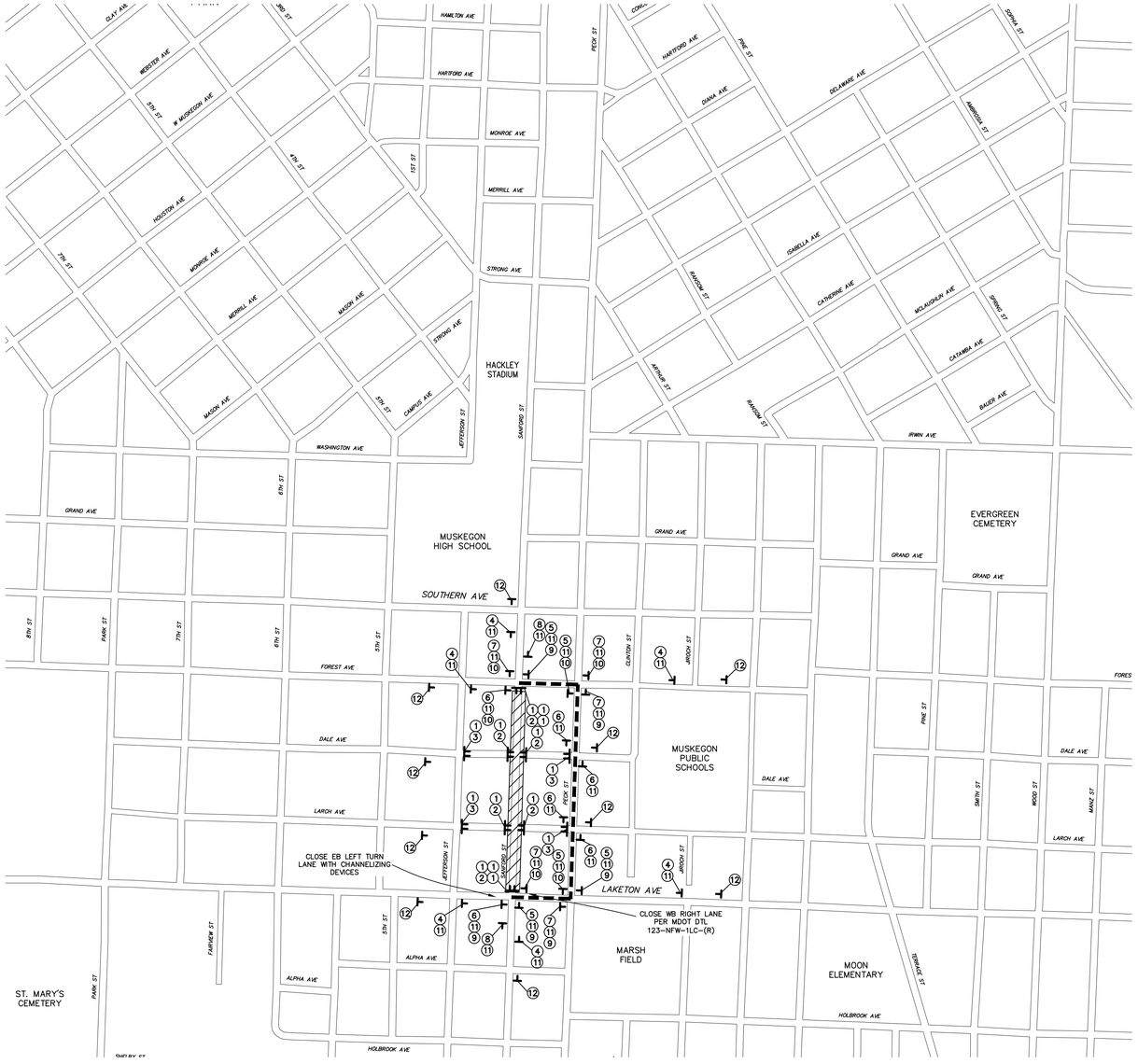
DRAWN S.M.T.
DATE MAR. '22
CHECKED M.R.H.
DATE JUN. '22

Prein&Newhof
Engineers • Surveyors • Environmental • Laboratory

CITY OF MUSKEGON
MUSKEGON COUNTY, MICHIGAN
STREET IMPROVEMENTS
CONTRACT NO. 1
MAINTENANCE OF TRAFFIC – STAGE 2

PROJECT NO. 2211000
SHEET NO. 3 OF 42

I:\LDWL3D PROJECTS\2021\2211000_MUSKEGON_SANFORD STREET RECON\4_PROD\2211000_MOT.DWG – JSMITH – JUL 05 2022 – 09:35am – PrintAllNewhof



MAINTENANCE OF TRAFFIC PLAN

SCALE : NONE

North

LEGEND

- TYPE III BARRICADE, HIGH INTENSITY
- CONSTRUCTION SIGN
- CHANGEABLE MESSAGE BOARD
- TYPE II BARRICADE

DETOUR SIGNING REQUIREMENTS

#	SIGN DESIGNATION	SIGN DESCRIPTION	SIGN SIZE	NO. REQ.
1	TYPE III BARRICADE	TYPE III BARRICADE, HIGH INTENSITY, DOUBLE SIDED, LIGHTED	NA	14
2	R11-2	ROAD CLOSED	60" X 30"	6
3	R11-4	ROAD CLOSED TO THRU TRAFFIC	60" X 30"	4
4	W20-2	DETOUR AHEAD	48" X 48"	6
5	M4-9R	DETOUR RIGHT	30" X 24"	5
6	M4-9	DETOUR THRU	30" X 24"	6
7	M4-9L	DETOUR LEFT	30" X 24"	5
8	M4-8a	END DETOUR	24" X 18"	2
9	** M3-1	NORTH	24" X 12"	6
10	** M3-3	SOUTH	24" X 12"	6
11	D3-1	SANFORD ST.	48" X 12"	24
12	W20-1	ROAD WORK AHEAD	48" X 48"	10

** M3-SERIES SIGNS USED WITH DETOUR TO BE BLACK LETTERS AND A BLACK BORDER ON A FLUORESCENT ORANGE BACKGROUND

NO.	REVISIONS	BY	DATE

DRAWN S.M.T.
DATE MAR. '22
CHECKED M.R.H.
DATE JUN. '22

Prein&Newhof
Engineers • Surveyors • Environmental • Laboratory

CITY OF MUSKEGON
MUSKEGON COUNTY, MICHIGAN

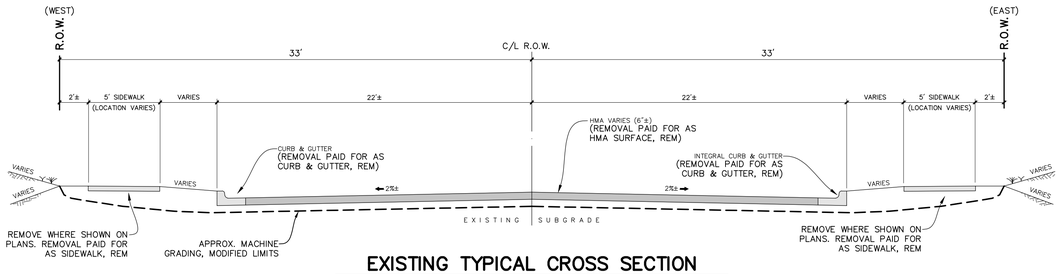
STREET IMPROVEMENTS
CONTRACT NO. 1

MAINTENANCE OF TRAFFIC – STAGE 3

PROJECT NO. 2211000

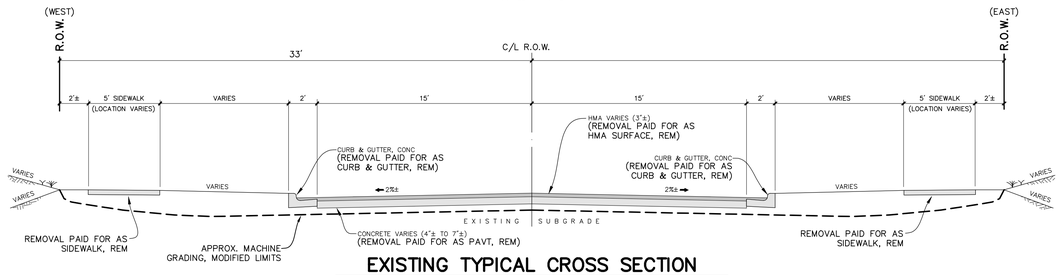
SHEET NO. 4 OF 42

T:\CIVIL3D PROJECTS\2021\2211000_MUSKEGON_SANFORD STREET RECONV_PROJ\2211000_MOT.DWG - JSMITH - JUL 05 2022 - 09:35am - PrintedNewhof



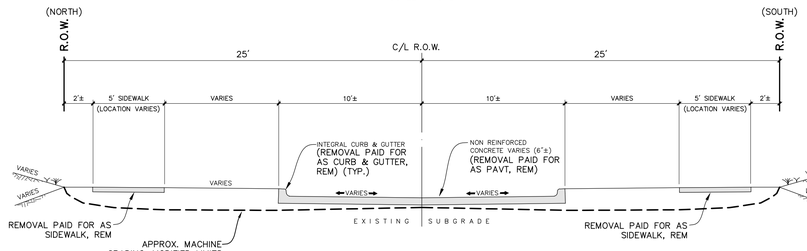
EXISTING TYPICAL CROSS SECTION

APPLIES : SANFORD ST. (STA. 40+30± TO STA. 60+00
AND STA. 69+50 TO STA. 72+00)
SCALE : NONE



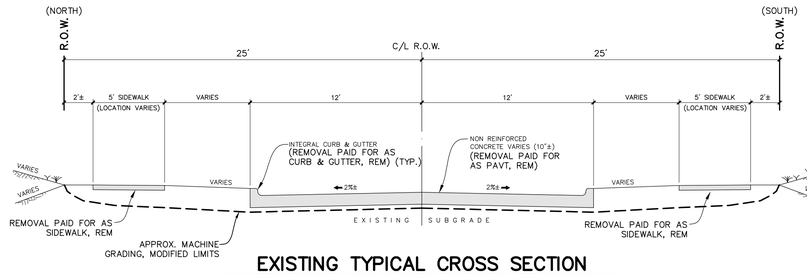
EXISTING TYPICAL CROSS SECTION

APPLIES : SANFORD ST. (STA. 60+00 TO STA. 69+50
AND STA. 72+00 TO STA. 92+00)
SCALE : NONE



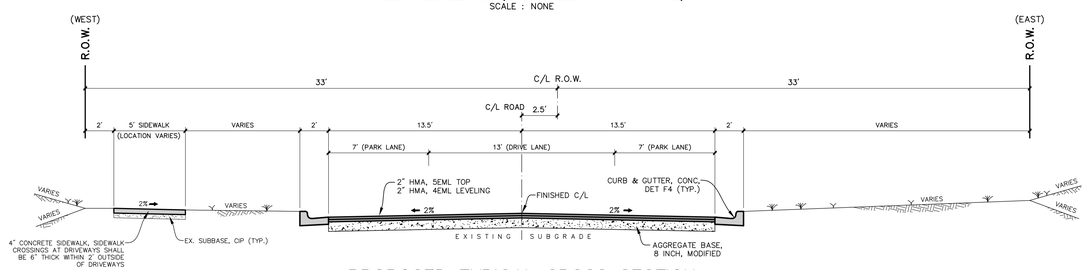
EXISTING TYPICAL CROSS SECTION

APPLIES : MERRILL AVE. (STA. 7+00± TO STA. 9+50±)
SCALE : NONE



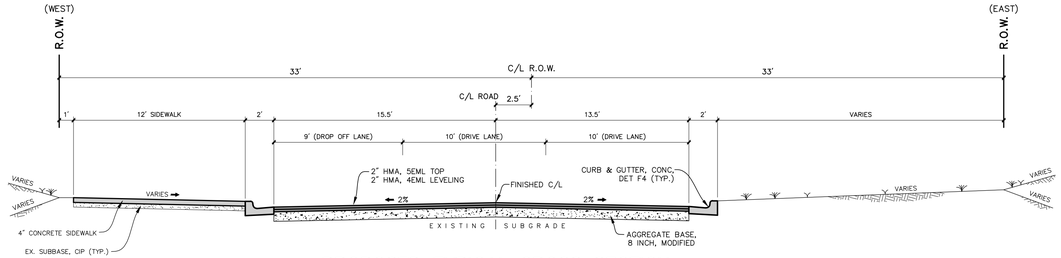
EXISTING TYPICAL CROSS SECTION

APPLIES : MERRILL AVE. (STA. 10+35± TO STA. 13+00±)
SCALE : NONE



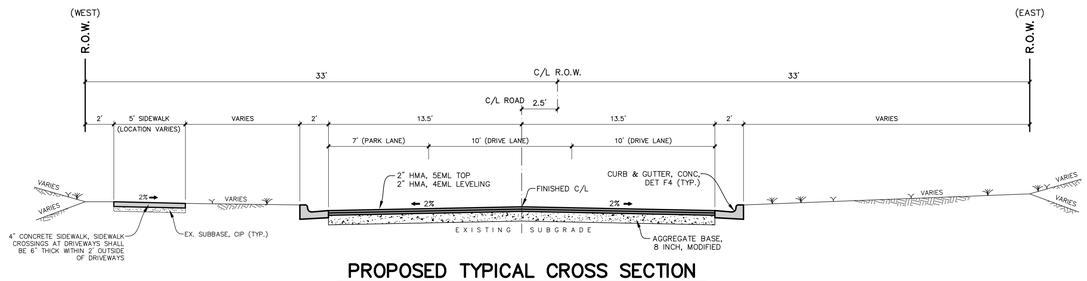
PROPOSED TYPICAL CROSS SECTION

APPLIES : SANFORD ST. (STA. 40+30 TO STA. 56+70
AND STA. 75+00 TO STA. 92+00)
SCALE : NONE



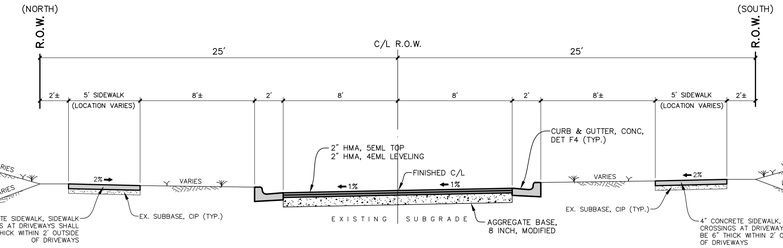
PROPOSED TYPICAL CROSS SECTION

APPLIES : SANFORD ST. (STA. 56+70 TO STA. 60+00)
SCALE : NONE



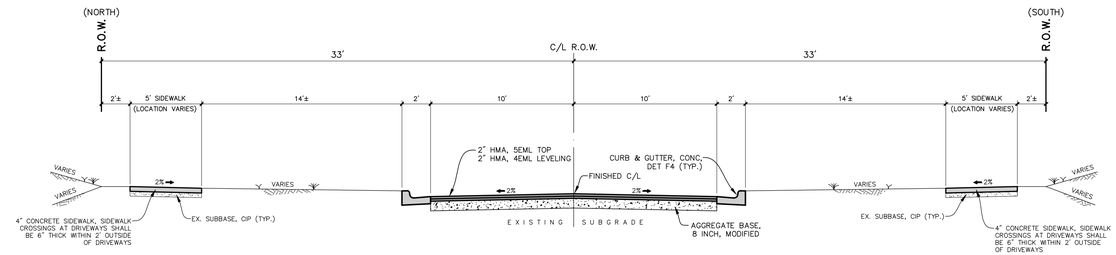
PROPOSED TYPICAL CROSS SECTION

APPLIES : SANFORD ST. (STA. 60+00 TO STA. 75+00)
SCALE : NONE



PROPOSED TYPICAL CROSS SECTION

APPLIES : MERRILL AVE. (STA. 7+00 TO STA. 9+50)
SCALE : NONE



PROPOSED TYPICAL CROSS SECTION

APPLIES : MERRILL AVE. (STA. 10+40 to STA. 12+80)
SCALE : NONE

HOT MIX ASPHALT APPLICATION TABLE

IDENT. #	PAY ITEM	MIXTURE	APPLICATION RATE	PERFORMANCE GRADE BINDER	REMARKS
5EML	HMA, 5EML	5EML	220 LBS/SYD	PG 58-28	STREET TOP
4EML	HMA, 4EML	4EML	220 LBS/SYD	PG 58-28	STREET LEVELING

NOTES:

1. HMA BOND COAT (MDOT SS-1h) SHALL BE APPLIED @ 0.05-0.15 GAL/SYD BETWEEN HMA LIFTS. THE COST OF THIS WORK SHALL BE INCLUDED IN THE HMA ITEMS. HMA BOND COAT SHALL ALSO BE APPLIED TO THE VERTICAL EDGE OF THE ADJACENT HMA PAVEMENT AND/OR CONCRETE CURB & GUTTER.
2. HMA PAVEMENT DEPTH TO MATCH EXISTING HMA PAVEMENT THICKNESS.

NO.	REVISIONS	BY	DATE

DRAWN J.J.S.
DATE FEB. '22
CHECKED M.R.H.
DATE APR. '22

Prein&Newhof
Engineers • Surveyors • Environmental • Laboratory

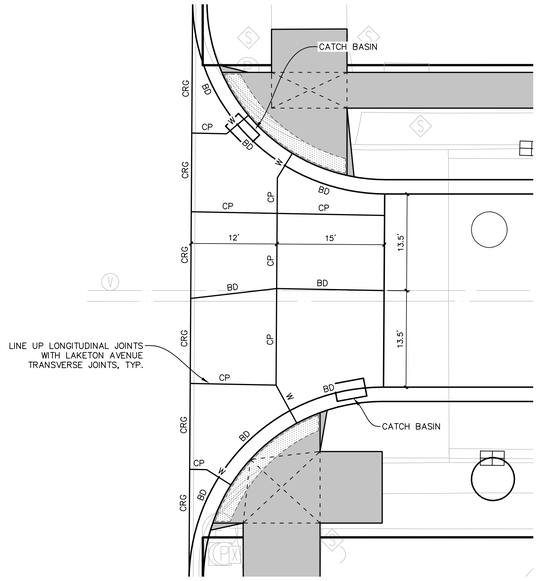
CITY OF MUSKEGON
MUSKEGON COUNTY, MICHIGAN

STREET IMPROVEMENTS
CONTRACT NO. 1

TYPICAL CROSS SECTIONS & DETAILS

PROJECT NO. 2211000
SHEET NO. 5 OF 42

I:\CIVIL\3D PROJECTS\2021\2211000_MUSKEGON_SANFORD STREET RECON\4_PROD\2211000_TYPS.DWG - JSMITH - JUL 05 2022 - 09:49am - PrintMeNewhof



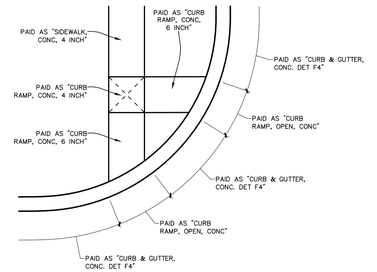
CONCRETE JOINT PLAN
LAKETON AVENUE INTERSECTION

SCALE : 1" = 10'

North

NOTE

JOINTS IN THE CURB SHALL LINE UP WITH THE JOINTS IN THE PAVEMENT

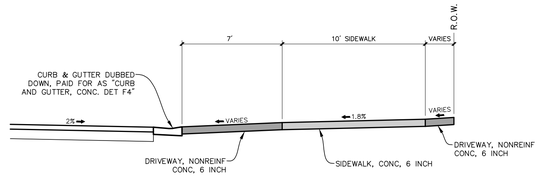


ADA RAMP PAY ITEM DETAIL

SCALE : NONE

NOTES

SIDEWALK WITH ROLLED CURB AT RAMPS WILL BE PAID FOR AS "CURB RAMP, CONC, ___ INCH". PAYMENT FOR ROLLED CURB WILL BE INCLUDED IN THE PAYMENT FOR SIDEWALK RAMP. ADA RAMP LANDINGS ON THE EAST SIDE OF SANFORD STREET SHALL BE PAID FOR AS "CURB RAMP, CONC, 6 INCH"



10' PATH TYPICAL CROSS SECTION

SCALE : NONE

NOTE

DETAIL APPLIES TO ALL DRIVES ON EAST SIDE OF SANFORD STREET

NO.	REVISIONS	BY	DATE

DRAWN J.J.S.
DATE FEB. '22
CHECKED M.R.H.
DATE APR. '22

Prein&Newhof
Engineers • Surveyors • Environmental • Laboratory

CITY OF MUSKEGON
MUSKEGON COUNTY, MICHIGAN

STREET IMPROVEMENTS
CONTRACT NO. 1

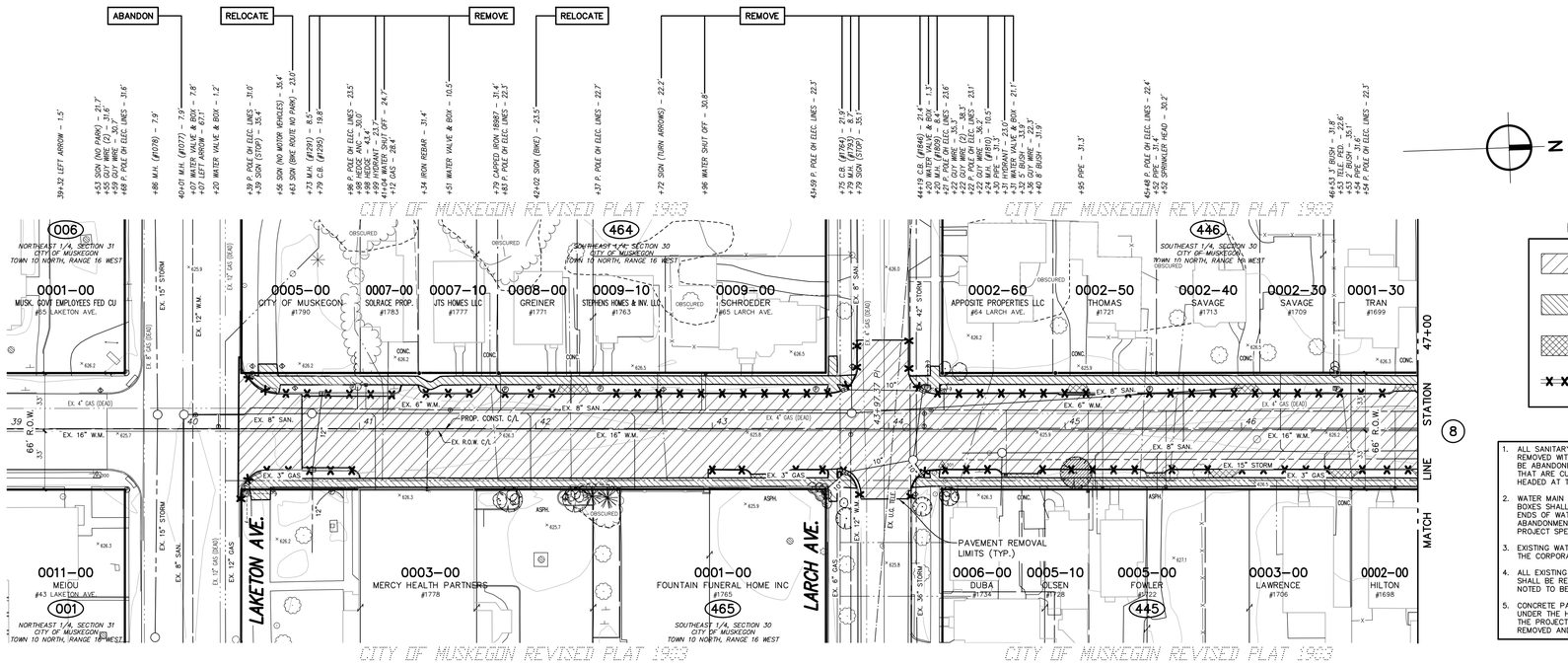
DETAILS

PROJECT NO. 2211000

SHEET NO. 6 OF 42

T:\DWG JOB PROJECTS\2021\2211000_MUSKEGON_SANFORD STREET RECONV_PROD\2211000_TYPS.DWG - JSMITH - JUL 05 2022 - 09:49am - PreinANewhof

CONTROL POINT TABLE			
POINT No.	NORTHING	EASTING	ELEVATION
300	632258.004	12622585.300	625.88
301	632737.125	12622605.930	625.49



REMOVAL LEGEND

- REMOVE HMA SURFACE, PAID FOR AS: HMA SURFACE, REM
- REMOVE CONCRETE SIDEWALK PAID FOR AS: SIDEWALK, REM
- REMOVE CONCRETE PAVEMENT OR CONCRETE DRIVEWAY, PAID FOR AS: PAVT, REM
- REMOVE CURB, GUTTER OR CURB AND GUTTER, PAID FOR AS: CURB AND GUTTER, REM

REMOVAL NOTES

1. ALL SANITARY SEWER PIPE AND MANHOLES SHALL BE REMOVED WITHIN THE PROJECT LIMITS UNLESS NOTED TO BE ABANDONED ON THE DRAWINGS. EXISTING LATERALS THAT ARE CUT AND NOT REPLACED SHALL BE BULK HEADED AT THE EDGE OF THE TRENCH.
2. WATER MAIN SHALL BE ABANDONED IN PLACE. ALL VALVE BOXES SHALL BE REMOVED AND DISPOSED OF. ALL CUT ENDS OF WATER MAIN SHALL BE BULK HEADED. ABANDONMENT SHALL BE DONE IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
3. EXISTING WATER SERVICES SHALL BE CAPPED OR SHUT AT THE CORPORATION STOP.
4. ALL EXISTING CATCH BASINS AND CATCH BASIN LEADS SHALL BE REMOVED WITHIN THE PROJECT LIMITS UNLESS NOTED TO BE ABANDONED WITHIN THE DRAWINGS.
5. CONCRETE PAVEMENT IS ANTICIPATED TO BE LOCATED UNDER THE HMA SURFACE ON SANFORD STREET WITHIN THE PROJECT LIMITS. CONCRETE PAVEMENT SHALL BE REMOVED AND PAID FOR AS: PAVT, REM.

811 Know what's below. Call before you dig.

UTILITY LOCATIONS ARE DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.

SCALES : 1" = 40' HORZ. (CONTOURS AT ONE FOOT INTERVALS)

NO.	REVISIONS	BY	DATE

DRAWN J.J.S.
DATE FEB. '22
CHECKED M.R.H.
DATE APR. '22

Prein&Newhof
Engineers • Surveyors • Environmental • Laboratory

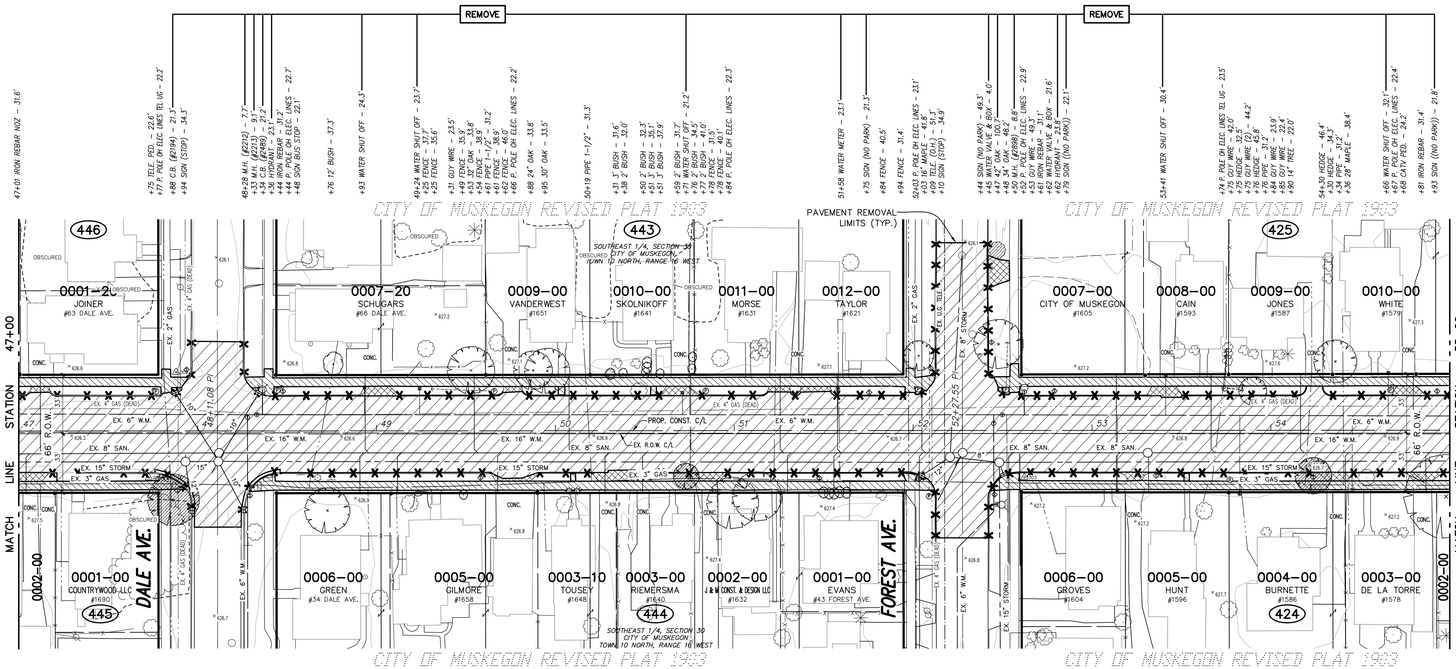
CITY OF MUSKEGON
MUSKEGON COUNTY, MICHIGAN
REMOVAL PLAN
CONTRACT NO. 1
SANFORD STREET

PROJECT NO. 2211000
SHEET NO. 7 OF 42

T:\DWL30 PROJECTS\2021\2211000_MUSKEGON_SANFORD STREET RECON\4_PROD\2211000_DEMO SANFORD.DWG - JSMITH - JUL 05 2022 - 09:51am - PreinNewhof

B.M. EL. 627.18
SANFORD STREET & DALE AVENUE, 30'± N & 20'± W OF C/L "X", RR SPIKE IN E SIDE OF P. POLE

CONTROL POINT TABLE			
POINT No.	NORTHING	EASTING	ELEVATION
200	633079.109	12622623.090	630.46
302	633096.413	12622564.800	626.74
303	633568.290	12622639.950	626.72



SANFORD STREET

(66' RIGHT OF WAY WIDTH)
(44'± ASPHALT PAVEMENT WIDTH)

N

REMOVAL LEGEND

- REMOVE HMA SURFACE, PAID FOR AS: HMA SURFACE, REM
- REMOVE CONCRETE SIDEWALK PAID FOR AS: SIDEWALK, REM
- REMOVE CONCRETE PAVEMENT OR CONCRETE DRIVEWAY, PAID FOR AS: PAVT, REM
- REMOVE CURB, GUTTER OR CURB AND GUTTER, PAID FOR AS: CURB AND GUTTER, REM

REMOVAL NOTES

1. ALL SANITARY SEWER PIPE AND MANHOLES SHALL BE REMOVED WITHIN THE PROJECT LIMITS UNLESS NOTED TO BE ABANDONED ON THE DRAWINGS. EXISTING LATERALS THAT ARE CUT AND NOT REPLACED SHALL BE BULK HEADED AT THE EDGE OF THE TRENCH.
2. WATER MAIN SHALL BE ABANDONED IN PLACE. ALL VALVE BOXES SHALL BE REMOVED AND DISPOSED OF. ALL CUT ENDS OF WATER MAIN SHALL BE BULK HEADED. ABANDONMENT SHALL BE DONE IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
3. EXISTING WATER SERVICES SHALL BE CAPPED OR SHUT AT THE CORPORATION STOP.
4. ALL EXISTING CATCH BASINS AND CATCH BASIN LEADS SHALL BE REMOVED WITHIN THE PROJECT LIMITS UNLESS NOTED TO BE ABANDONED WITHIN THE DRAWINGS.
5. CONCRETE PAVEMENT IS ANTICIPATED TO BE LOCATED UNDER THE HMA SURFACE ON SANFORD STREET WITHIN THE PROJECT LIMITS. CONCRETE PAVEMENT SHALL BE REMOVED AND PAID FOR AS: PAVT, REM.

811 Know what's below. Call before you dig.

UTILITY LOCATIONS ARE DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.

0' 40' 80' 120'
SCALES : 1" = 40' HORZ. (CONTOURS AT ONE FOOT INTERVALS)

NO.	REVISIONS	BY	DATE

DRAWN J.J.S.
DATE FEB. '22
CHECKED M.R.H.
DATE APR. '22

Prein&Newhof
Engineers • Surveyors • Environmental • Laboratory

CITY OF MUSKEGON
MUSKEGON COUNTY, MICHIGAN
REMOVAL PLAN
CONTRACT NO. 1
SANFORD STREET

PROJECT NO. 2211000
SHEET NO. 8 OF 42

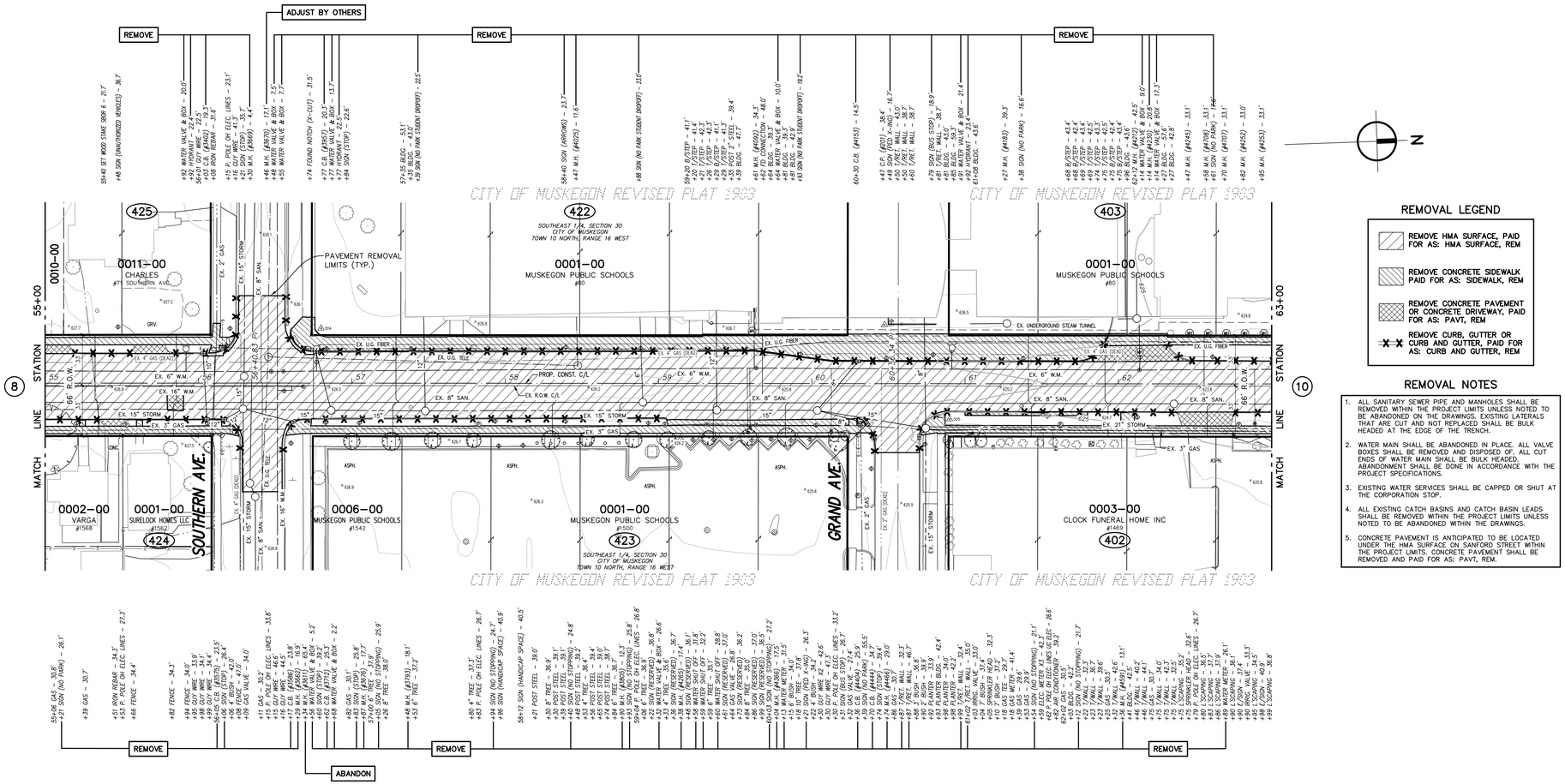
I:\CIVIL3D PROJECTS\2021\2211000_MUSKEGON_SANFORD STREET RECON\4_PROD\2211000_DEMO SANFORD.DWG – ASMITH – Jul. 05 2022 – 09:51am – PrintAllNewhof

B.M. EL. 627.32
SANFORD STREET & SOUTHERN AVENUE, 25'± S & 20'± W OF C/L "X", RR SPIKE IN E SIDE P. POLE

B.M. EL. 627.91
SANFORD STREET & GRAND AVENUE, 5'± S & 40'± W OF C/L "X", TOP OF SE COR. CONC. RET. WALL FOR RAMP ON E SIDE SCHOOL (1.8' A/GROUND)

CONTROL POINT TABLE

POINT No.	NORTHING	EASTING	ELEVATION
201	634355.294	12622602.810	626.14
304	633987.954	12622592.360	626.50
305	634395.642	12622665.810	625.63



REMOVAL LEGEND

- REMOVE HMA SURFACE, PAID FOR AS: HMA SURFACE, REM
- REMOVE CONCRETE SIDEWALK PAID FOR AS: SIDEWALK, REM
- REMOVE CONCRETE PAVEMENT OR CONCRETE DRIVEWAY, PAID FOR AS: PAVT, REM
- REMOVE CURB, GUTTER OR CURB AND GUTTER, PAID FOR AS: CURB AND GUTTER, REM

REMOVAL NOTES

1. ALL SANITARY SEWER PIPE AND MANHOLES SHALL BE REMOVED WITHIN THE PROJECT LIMITS UNLESS NOTED TO BE ABANDONED ON THE DRAWINGS. EXISTING LATERALS THAT ARE CUT AND NOT REPLACED SHALL BE BULK HEADED AT THE EDGE OF THE TRENCH.
2. WATER MAIN SHALL BE ABANDONED IN PLACE. ALL VALVE BOXES SHALL BE REMOVED AND DISPOSED OF. ALL CUT ENDS OF WATER MAIN SHALL BE BULK HEADED. ABANDONMENT SHALL BE DONE IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
3. EXISTING WATER SERVICES SHALL BE CAPPED OR SHUT AT THE CORPORATION STOP.
4. ALL EXISTING CATCH BASINS AND CATCH BASIN LEADS SHALL BE REMOVED WITHIN THE PROJECT LIMITS UNLESS NOTED TO BE ABANDONED WITHIN THE DRAWINGS.
5. CONCRETE PAVEMENT IS ANTICIPATED TO BE LOCATED UNDER THE HMA SURFACE ON SANFORD STREET WITHIN THE PROJECT LIMITS. CONCRETE PAVEMENT SHALL BE REMOVED AND PAID FOR AS: PAVT, REM.

Know what's below. Call before you dig.

UTILITY LOCATIONS ARE DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.

SCALES : 1" = 40' HORZ. (CONTOURS AT ONE FOOT INTERVALS)

NO.	REVISIONS	BY	DATE

DRAWN J.J.S.
DATE FEB. '22
CHECKED M.R.H.
DATE APR. '22

Prein&Newhof
Engineers • Surveyors • Environmental • Laboratory

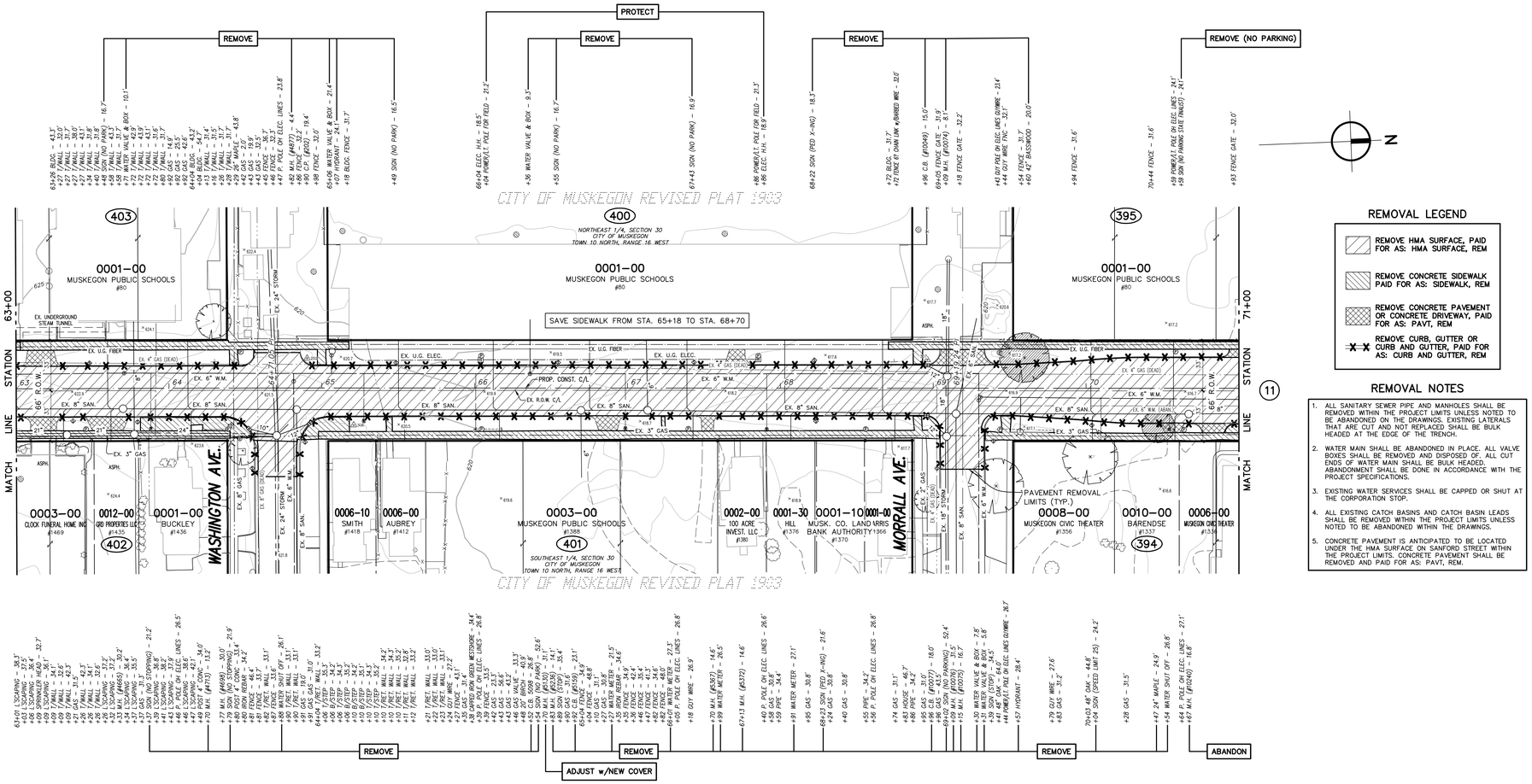
CITY OF MUSKEGON
MUSKEGON COUNTY, MICHIGAN
REMOVAL PLAN
CONTRACT NO. 1
SANFORD STREET

PROJECT NO. 2211000
SHEET NO. 9 OF 42

T:\JOWL30 PROJECTS\2021\2211000_MUSKEGON_SANFORD STREET RECON\4_PROD\2211000_DEMO SANFORD.DWG - JSMITH - JUL 05 2022 - 09:51am - Prein&Newhof

B.M. EL. 622.78
SANFORD STREET & WASHINGTON AVENUE, 30'± S & 25'± E OF C/L "X", RR SPIKE IN W SIDE P. POLE

CONTROL POINT TABLE			
POINT No.	NORTHING	EASTING	ELEVATION
202	634797.329	12622637.580	625.10
306	634826.103	12622682.420	621.14
307	635202.759	12622654.300	616.94



SANFORD STREET
(66' RIGHT OF WAY WIDTH ASPHALT PAVEMENT WIDTH VARIES)

REMOVAL LEGEND

- REMOVE HMA SURFACE, PAID FOR AS: HMA SURFACE, REM
- REMOVE CONCRETE SIDEWALK PAID FOR AS: SIDEWALK, REM
- REMOVE CONCRETE PAVEMENT OR CONCRETE DRIVEWAY, PAID FOR AS: PAVT, REM
- REMOVE CURB, GUTTER OR CURB AND GUTTER, PAID FOR AS: CURB AND GUTTER, REM

REMOVAL NOTES

1. ALL SANITARY SEWER PIPE AND MANHOLES SHALL BE REMOVED WITHIN THE PROJECT LIMITS UNLESS NOTED TO BE ABANDONED ON THE DRAWINGS. EXISTING LATERALS THAT ARE CUT AND NOT REPLACED SHALL BE BULK HEADED AT THE EDGE OF THE TRENCH.
2. WATER MAIN SHALL BE ABANDONED IN PLACE. ALL VALVE BOXES SHALL BE REMOVED AND DISPOSED OF. ALL CUT ENDS OF WATER MAIN SHALL BE BULK HEADED. ABANDONMENT SHALL BE DONE IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
3. EXISTING WATER SERVICES SHALL BE CAPPED OR SHUT AT THE CORPORATION STOP.
4. ALL EXISTING CATCH BASINS AND CATCH BASIN LEADS SHALL BE REMOVED WITHIN THE PROJECT LIMITS UNLESS NOTED TO BE ABANDONED WITHIN THE DRAWINGS.
5. CONCRETE PAVEMENT IS ANTICIPATED TO BE LOCATED UNDER THE HMA SURFACE ON SANFORD STREET WITHIN THE PROJECT LIMITS. CONCRETE PAVEMENT SHALL BE REMOVED AND PAID FOR AS: PAVT, REM.

811 Know what's below. Call before you dig.

UTILITY LOCATIONS ARE DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.

0' 40' 80' 120'
SCALES : 1" = 40' HORZ. (CONTOURS AT ONE FOOT INTERVALS)

NO.	REVISIONS	BY	DATE

DRAWN J.J.S.
DATE FEB. '22
CHECKED M.R.H.
DATE APR. '22

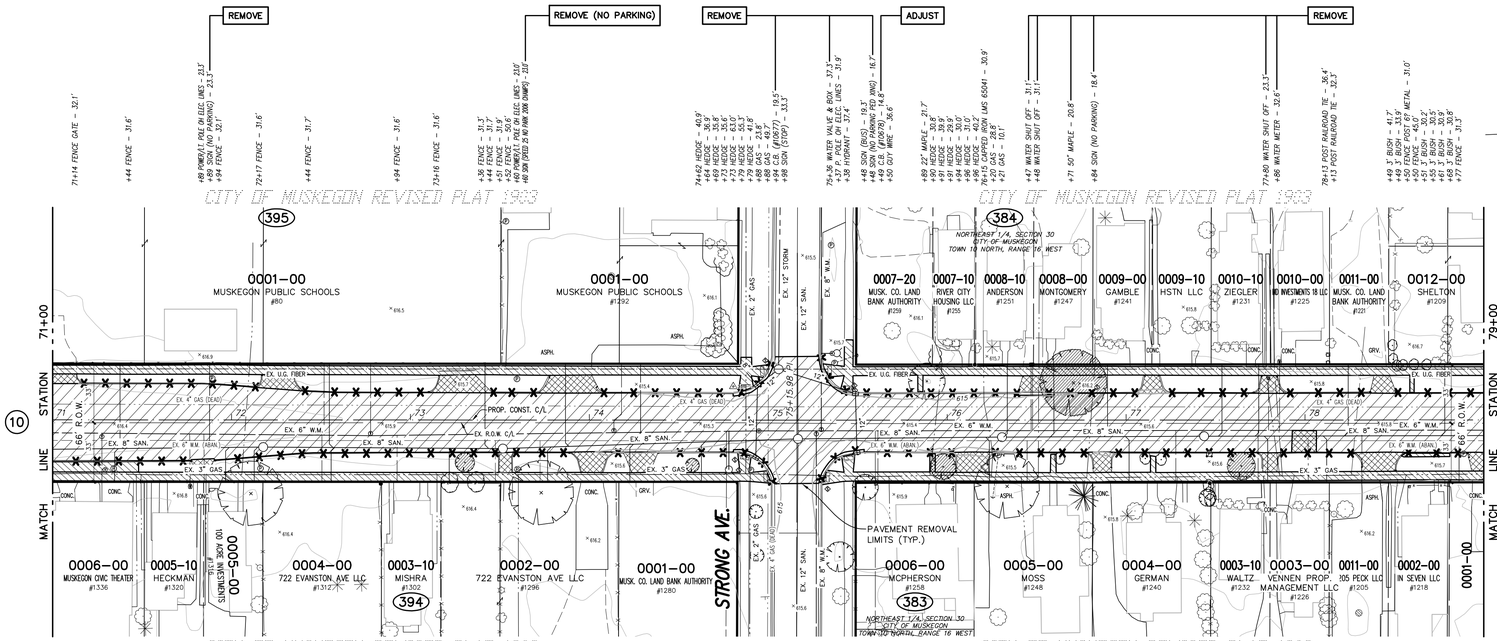
Prein&Newhof
Engineers • Surveyors • Environmental • Laboratory

CITY OF MUSKEGON
MUSKEGON COUNTY, MICHIGAN
REMOVAL PLAN
CONTRACT NO. 1
SANFORD STREET

PROJECT NO. 2211000
SHEET NO. 10 OF 42

T:\CIVIL3D PROJECTS\2021\2211000_MUSKEGON_SANFORD STREET RECON\4_PROD\2211000_DEMO_SANFORD.DWG - JSMITH - JUL 05 2022 - 09:52am - PreinNewhof

CONTROL POINT TABLE			
POINT No.	NORTHING	EASTING	ELEVATION
308	630786.643	1262267.130	615.41



REMOVAL LEGEND

- REMOVE HMA SURFACE, PAID FOR AS: HMA SURFACE, REM
- REMOVE CONCRETE SIDEWALK PAID FOR AS: SIDEWALK, REM
- REMOVE CONCRETE PAVEMENT OR CONCRETE DRIVEWAY, PAID FOR AS: PAVT, REM
- REMOVE CURB, GUTTER OR CURB AND GUTTER, PAID FOR AS: CURB AND GUTTER, REM

REMOVAL NOTES

1. ALL SANITARY SEWER PIPE AND MANHOLES SHALL BE REMOVED WITHIN THE PROJECT LIMITS UNLESS NOTED TO BE ABANDONED ON THE DRAWINGS. EXISTING LATERALS THAT ARE CUT AND NOT REPLACED SHALL BE BULK HEADED AT THE EDGE OF THE TRENCH.
2. WATER MAIN SHALL BE ABANDONED IN PLACE. ALL VALVE BOXES SHALL BE REMOVED AND DISPOSED OF. ALL CUT ENDS OF WATER MAIN SHALL BE BULK HEADED. ABANDONMENT SHALL BE DONE IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
3. EXISTING WATER SERVICES SHALL BE CAPPED OR SHUT AT THE CORPORATION STOP.
4. ALL EXISTING CATCH BASINS AND CATCH BASIN LEADS SHALL BE REMOVED WITHIN THE PROJECT LIMITS UNLESS NOTED TO BE ABANDONED WITHIN THE DRAWINGS.
5. CONCRETE PAVEMENT IS ANTICIPATED TO BE LOCATED UNDER THE HMA SURFACE ON SANFORD STREET WITHIN THE PROJECT LIMITS. CONCRETE PAVEMENT SHALL BE REMOVED AND PAID FOR AS: PAVT, REM.

811 Know what's below. Call before you dig.

UTILITY LOCATIONS ARE DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.

SCALES : 1" = 40' HORZ. (CONTOURS AT ONE FOOT INTERVALS)

NO.	REVISIONS	BY	DATE

DRAWN J.J.S.
DATE FEB. '22
CHECKED M.R.H.
DATE APR. '22

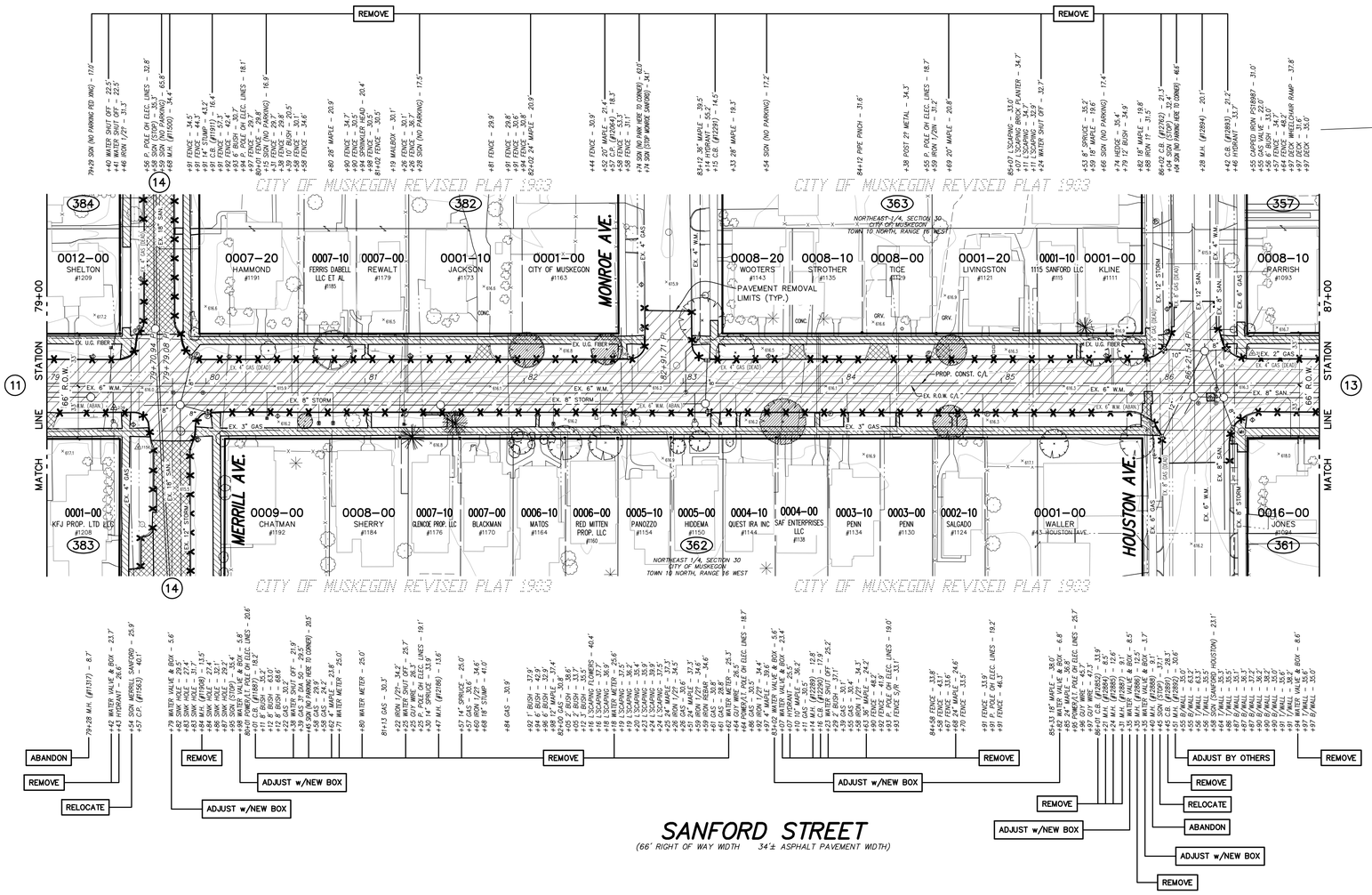
Prein&Newhof
Engineers • Surveyors • Environmental • Laboratory

CITY OF MUSKEGON
MUSKEGON COUNTY, MICHIGAN
REMOVAL PLAN
CONTRACT NO. 1
SANFORD STREET

PROJECT NO. 2211000
SHEET NO. 11 OF 42

I:\LOWL30 PROJECTS\2021\2211000_MUSKEGON_SANFORD STREET RECON\4_PROD\2211000_DEMO SANFORD.DWG – SMITH – JUL 05 2022 – 09:52am – Prein&Newhof

CONTROL POINT TABLE			
POINT No.	NORTHING	EASTING	ELEVATION
309	636246.820	12622729.050	615.63
310	636963.102	12622722.770	616.19
11563	636260.954	12622754.440	616.44
12064	636562.130	12622707.630	615.81



REMOVAL LEGEND

- REMOVE HMA SURFACE, PAID FOR AS: HMA SURFACE, REM
- REMOVE CONCRETE SIDEWALK PAID FOR AS: SIDEWALK, REM
- REMOVE CONCRETE PAVEMENT OR CONCRETE DRIVEWAY, PAID FOR AS: PAVT, REM
- REMOVE CURB, GUTTER OR CURB AND GUTTER, PAID FOR AS: CURB AND GUTTER, REM

REMOVAL NOTES

1. ALL SANITARY SEWER PIPE AND MANHOLES SHALL BE REMOVED WITHIN THE PROJECT LIMITS UNLESS NOTED TO BE ABANDONED ON THE DRAWINGS. EXISTING LATERALS THAT ARE CUT AND NOT REPLACED SHALL BE BULK HEADED AT THE EDGE OF THE TRENCH.
2. WATER MAIN SHALL BE ABANDONED IN PLACE. ALL VALVE BOXES SHALL BE REMOVED AND DISPOSED OF. ALL CUT ENDS OF WATER MAIN SHALL BE BULK HEADED. ABANDONMENT SHALL BE DONE IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
3. EXISTING WATER SERVICES SHALL BE CAPPED OR SHUT AT THE CORPORATION STOP.
4. ALL EXISTING CATCH BASINS AND CATCH BASIN LEADS SHALL BE REMOVED WITHIN THE PROJECT LIMITS UNLESS NOTED TO BE ABANDONED WITHIN THE DRAWINGS.
5. CONCRETE PAVEMENT IS ANTICIPATED TO BE LOCATED UNDER THE HMA SURFACE ON SANFORD STREET WITHIN THE PROJECT LIMITS. CONCRETE PAVEMENT SHALL BE REMOVED AND PAID FOR AS: PAVT, REM.

SANFORD STREET

(66' RIGHT OF WAY WIDTH 34'± ASPHALT PAVEMENT WIDTH)

SCALES : 1" = 40' HORZ. (CONTOURS AT ONE FOOT INTERVALS)

NO.	REVISIONS	BY	DATE

DRAWN J.J.S.
DATE FEB. '22
CHECKED M.R.H.
DATE APR. '22

Prein&Newhof
Engineers • Surveyors • Environmental • Laboratory

CITY OF MUSKEGON
MUSKEGON COUNTY, MICHIGAN
REMOVAL PLAN
CONTRACT NO. 1
SANFORD STREET

PROJECT NO. 2211000
SHEET NO. 12 OF 42

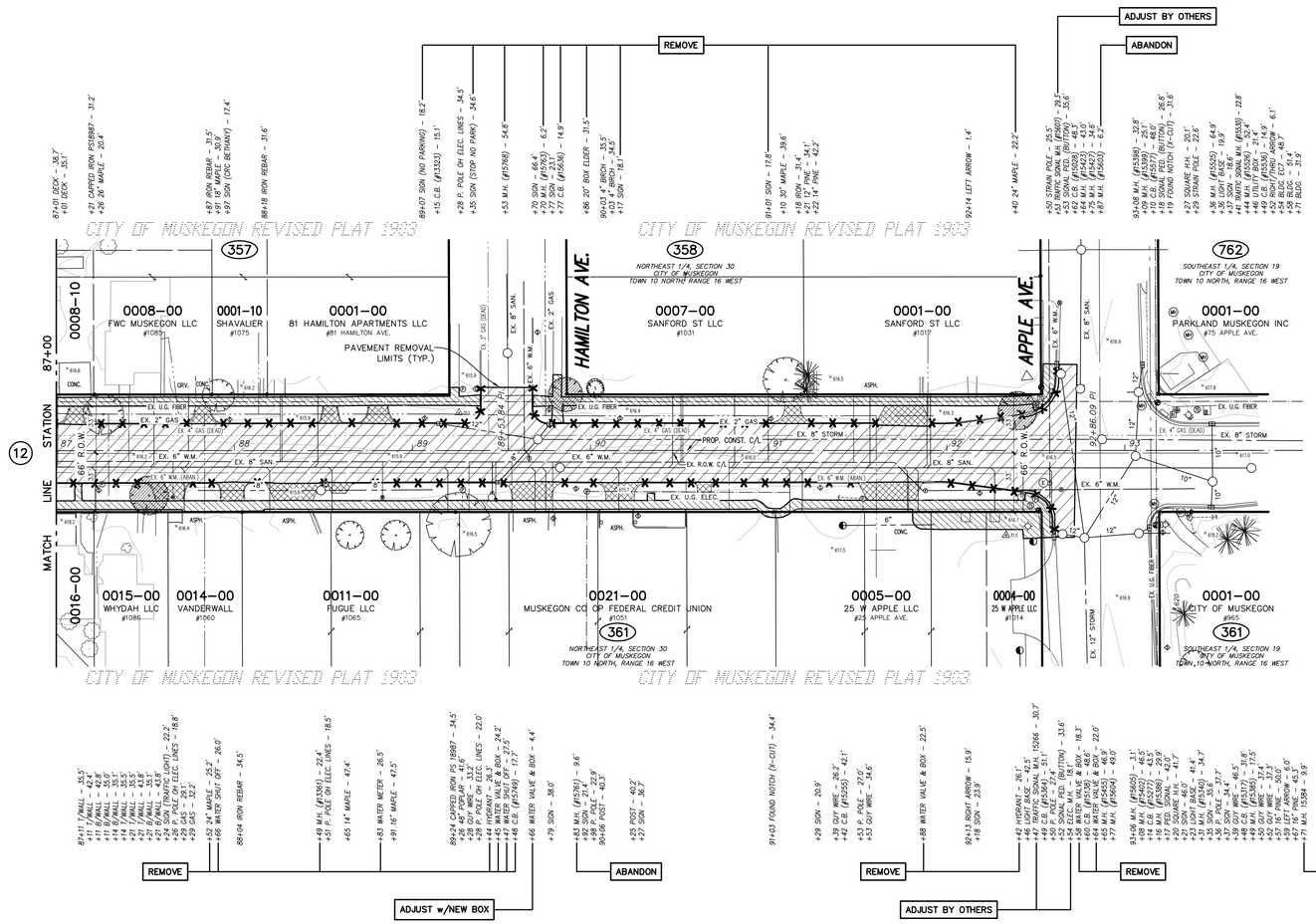
811 Know what's below. Call before you dig.

UTILITY LOCATIONS ARE DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.

T:\CIVIL3D PROJECTS\2021\2211000_MUSKEGON_SANFORD STREET RECON\4_PROD\2211000_DEMO_SANFORD.DWG - JSMITH - JUL 05 2022 - 09:53am - PreinNewhof

B.M. EL. 617.62
SANFORD STREET & APPLE AVENUE, 35'± S & 25'± W OF C/L "X", TOP OF SOUTH FLANGE BOLT ON STRAIN POLE

CONTROL POINT TABLE			
POINT No.	NORTHING	EASTING	ELEVATION
112	637535.605	12622811.220	617.06
311	637231.340	12622730.600	615.85
312	637535.605	12622811.220	617.00



REMOVAL LEGEND

- REMOVE HMA SURFACE, PAID FOR AS: HMA SURFACE, REM
- REMOVE CONCRETE SIDEWALK PAID FOR AS: SIDEWALK, REM
- REMOVE CONCRETE PAVEMENT OR CONCRETE DRIVEWAY, PAID FOR AS: PAVT, REM
- REMOVE CURB, GUTTER OR CURB AND GUTTER, PAID FOR AS: CURB AND GUTTER, REM

REMOVAL NOTES

1. ALL SANITARY SEWER PIPE AND MANHOLES SHALL BE REMOVED WITHIN THE PROJECT LIMITS UNLESS NOTED TO BE ABANDONED ON THE DRAWINGS. EXISTING LATERALS THAT ARE CUT AND NOT REPLACED SHALL BE BULK HEADED AT THE EDGE OF THE TRENCH.
2. WATER MAIN SHALL BE ABANDONED IN PLACE. ALL VALVE BOXES SHALL BE REMOVED AND DISPOSED OF. ALL CUT ENDS OF WATER MAIN SHALL BE BULK HEADED. ABANDONMENT SHALL BE DONE IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
3. EXISTING WATER SERVICES SHALL BE CAPPED OR SHUT AT THE CORPORATION STOP.
4. ALL EXISTING CATCH BASINS AND CATCH BASIN LEADS SHALL BE REMOVED WITHIN THE PROJECT LIMITS UNLESS NOTED TO BE ABANDONED WITHIN THE DRAWINGS.
5. CONCRETE PAVEMENT IS ANTICIPATED TO BE LOCATED UNDER THE HMA SURFACE ON SANFORD STREET WITHIN THE PROJECT LIMITS. CONCRETE PAVEMENT SHALL BE REMOVED AND PAID FOR AS: PAVT, REM.

SANFORD STREET

(66' RIGHT OF WAY WIDTH 34'± ASPHALT PAVEMENT WIDTH)

SCALES : 1" = 40' HORZ. (CONTOURS AT ONE FOOT INTERVALS)

UTILITY LOCATIONS ARE DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.

Know what's below. Call before you dig.

NO.	REVISIONS	BY	DATE

DRAWN J.J.S.
DATE FEB. '22
CHECKED M.R.H.
DATE APR. '22

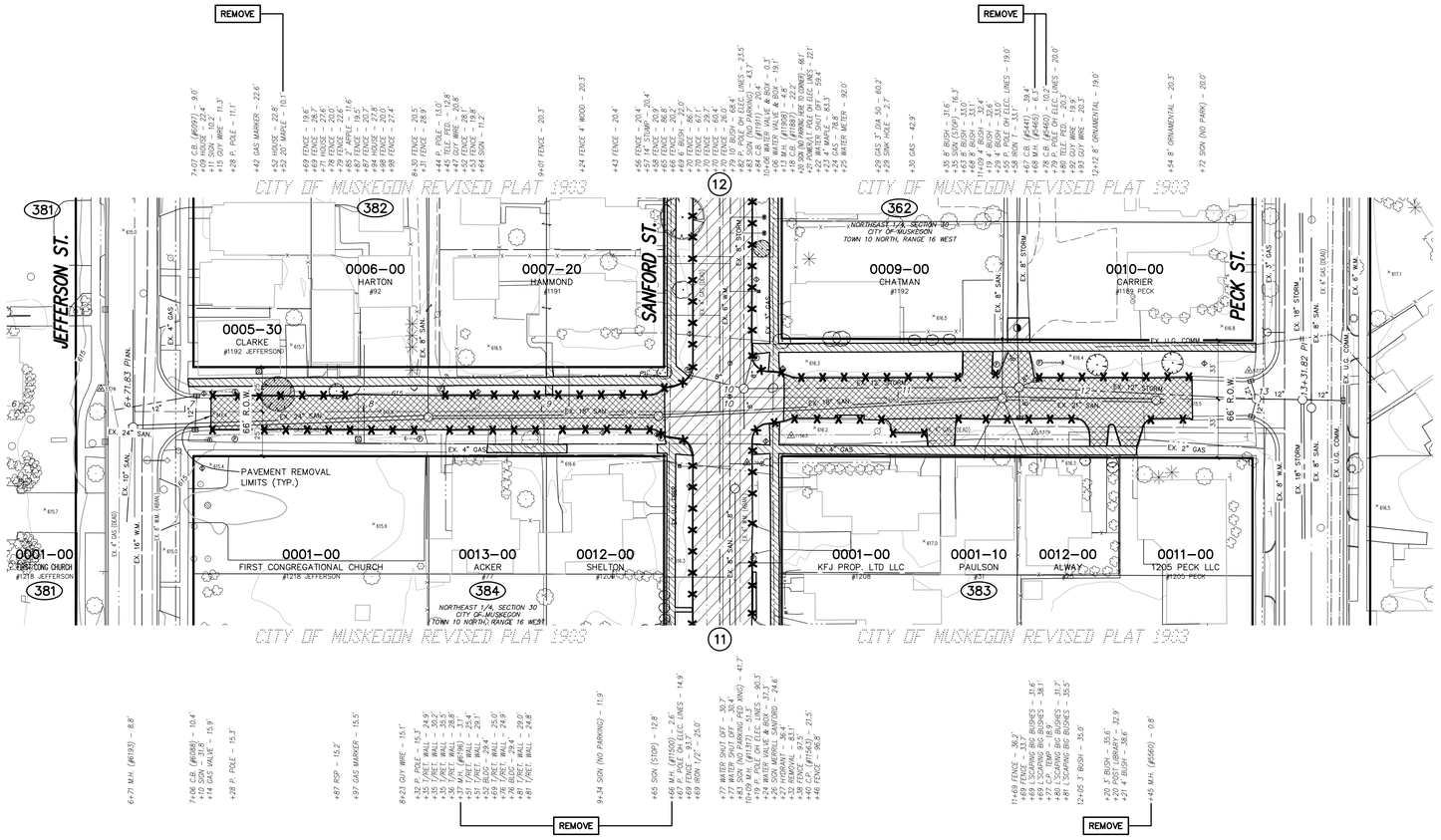
Prein&Newhof
Engineers • Surveyors • Environmental • Laboratory

CITY OF MUSKEGON
MUSKEGON COUNTY, MICHIGAN
REMOVAL PLAN
CONTRACT NO. 1
SANFORD STREET

PROJECT NO. 2211000
SHEET NO. 13 OF 42

T:\DWG\3D PROJECTS\2021\2211000_MUSKEGON_SANFORD STREET RECON\4_PROD\2211000_DEMO SANFORD.DWG - JSMITH - JUL 05 2022 - 09:53am - Prein&Newhof

CONTROL POINT TABLE			
POINT No.	NORTHING	EASTING	ELEVATION
2	636246.820	12622729.050	615.59
3	636302.034	12622368.530	614.75
8	636246.820	12622729.050	615.59
309	636246.820	12622729.050	615.63
5377	636287.630	12623012.300	615.38
5378	636302.034	12622368.530	614.75
5379	636257.760	12622891.330	620.17
11563	636260.954	12622754.440	616.44



MERRILL STREET

(RIGHT OF WAY WIDTH VARIES ASPHALT PAVEMENT WIDTH VARIES)

811 Know what's below. Call before you dig.

UTILITY LOCATIONS ARE DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.

0' 40' 80' 120'

SCALES : 1" = 40' HORZ. (CONTOURS AT ONE FOOT INTERVALS)

NO.	REVISIONS	BY	DATE

DRAWN J.J.S.
DATE FEB. '22
CHECKED M.R.H.
DATE APR. '22

Prein&Newhof
Engineers • Surveyors • Environmental • Laboratory

CITY OF MUSKEGON
MUSKEGON COUNTY, MICHIGAN

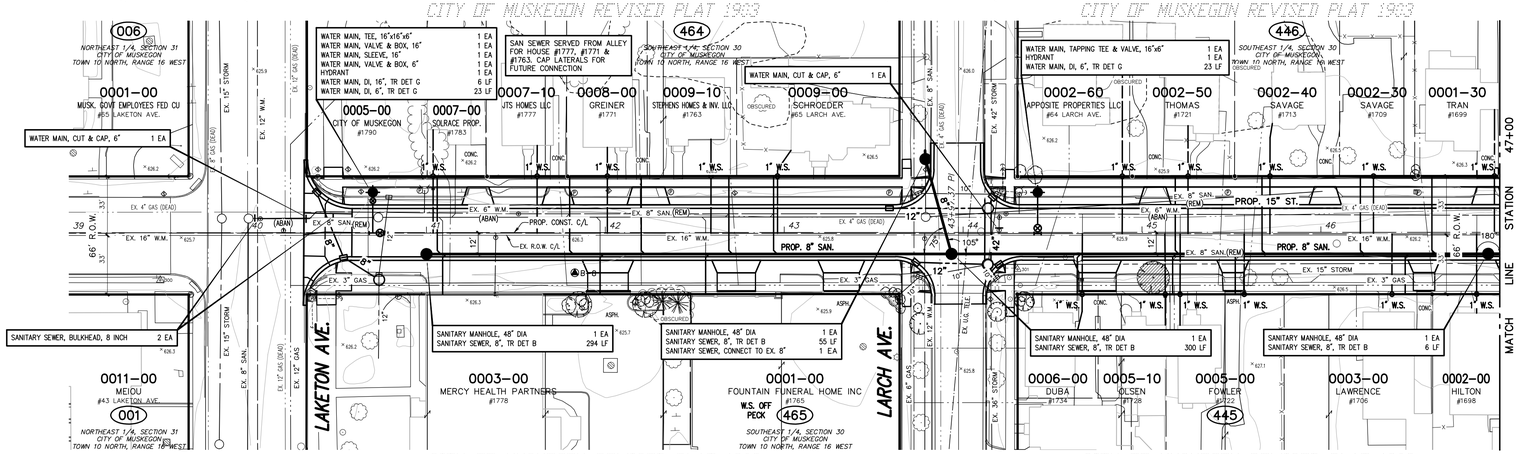
REMOVAL PLAN
CONTRACT NO. 1

MERRILL STREET

PROJECT NO. 2211000
SHEET NO. 14 OF 42

T:\DATA\30 PROJECTS\2021\2211000_MUSKEGON_SANFORD STREET RECON\4_PROD\2211000_DEMO MERRILL.DWG – JSMITH – JUL 05 2022 – 09:55am – PreinANewhof

CONTROL POINT TABLE			
POINT No.	NORTHING	EASTING	ELEVATION
300	632258.004	12622585.300	625.88
301	632737.125	12622605.930	625.49



TOPOGRAPHY TEXT NOTE

TOPOGRAPHY TEXT STATIONS AND OFFSETS BASED ON SECTION LINE WHICH IS INDEPENDENT OF CONSTRUCTION CENTERLINE.

SANITARY LATERAL TOTALS (THIS SHEET)

SANITARY SEWER, WYE, 8 INCH x 6 INCH	16 EA
SANITARY LATERAL, 6 INCH	558 LF
SANITARY LATERAL, CONNECTION TO EX.	13 EA

WATER SERVICE TOTALS (THIS SHEET)

WATER SERVICE, CORPORATION STOP, 1 INCH	16 EA
WATER SERVICE, CURB STOP AND BOX, 1 INCH	16 EA
WATER SERVICE, 1 INCH	840 LF
WATER SERVICE, CONNECT TO EX.	16 EA
WATER SERVICE, RESTORATION, PRIVATE	13 EA

WATER MAIN CONSTRUCTION NOTES

1. CONTRACTOR SHALL PROVIDE A MINIMUM OF 18" VERTICAL CLEARANCE AND 10' HORIZONTAL CLEARANCE BETWEEN PROPOSED WATER MAIN, AND STORM AND SANITARY SEWERS.
2. USE HYDRANT EXTENSIONS OR VERTICAL BENDS ON HYDRANT LEADS TO ENSURE HYDRANT BREAKAWAY FLANGE IS 3"+/- FROM FINISHED GRADE. COST SHALL BE INCLUDED IN THE HYDRANT PAY ITEM.
3. SHADED WATER MAIN INDICATES RESTRAINED JOINT WATER MAIN.
4. ALL HYDRANTS SHALL BE RESTRAINED TO THE TEE.

WATER SERVICE CONSTRUCTION NOTES

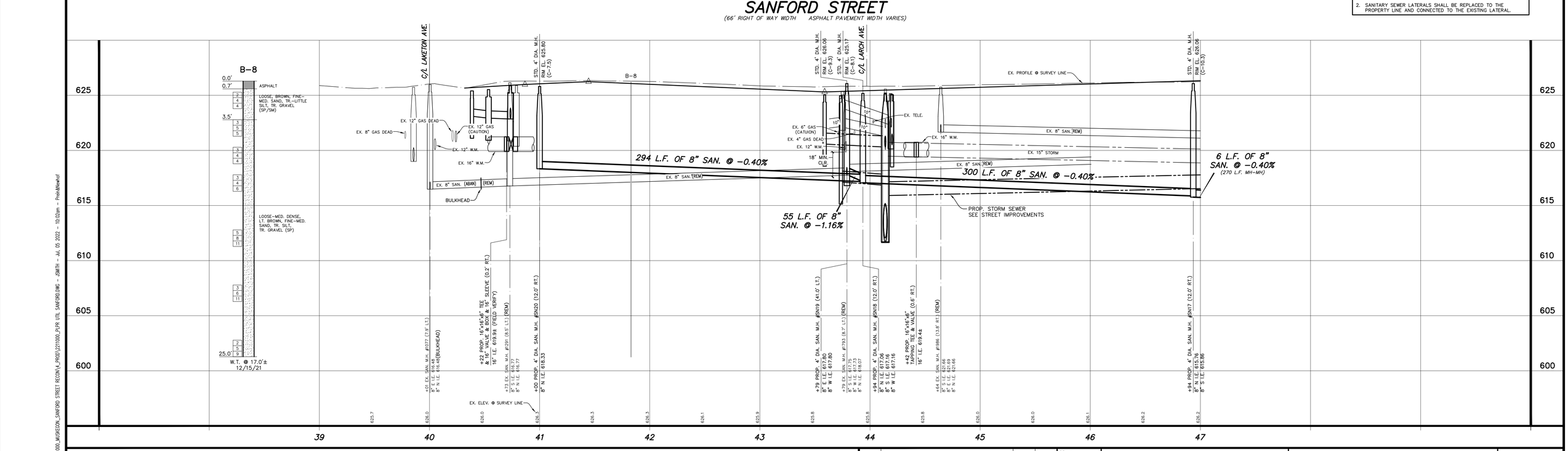
1. WATER SERVICES SHOWN ON THE PLANS ARE LOCATED BASED ON RECORDS, ACTUAL LOCATION MAY BE DIFFERENT THAN SHOWN. ALIGNMENT OF EXISTING WATER SERVICES FROM THE CURB STOP BOX TO THE HOUSE IS UNKNOWN AND MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO REPLACEMENT.
2. WATER SERVICES ARE TO BE REPLACED TO THE WATER METER IF THE METER IS LOCATED INSIDE THE RESIDENCE UNLESS NOTED OTHERWISE. WATER SERVICES TO BE REPLACED TO 18 INCHES INSIDE THE RESIDENCES IF THE METER IS LOCATED OUTSIDE. LOCATION OF ENTRY INTO THE RESIDENCE, AND PLUMBING REQUIRED TO CONNECT TO THE EXISTING METER SHALL BE APPROVED BY THE HOME OWNER AND ENGINEER PRIOR TO INSTALLATION. A NEW CURB STOP SHALL BE INSTALLED AT THE PROPERTY LINE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE AND COMMUNICATE WITH THE PROPERTY OWNER AND RESIDENT FOR ENTRY INTO THE RESIDENCE.
3. IF THE WATER SERVICE METER IS LOCATED IN A PIT OUTSIDE THE HOUSE, THE CONTRACTOR SHALL ATTEMPT TO RELOCATE THE METER INTO THE RESIDENCE. RELOCATION SHALL BE COORDINATED WITH THE CITY AND THE PROPERTY OWNER.
4. CONTRACTOR TO COORDINATE WITH THE CITY FOR METER REMOVAL AND REINSTALLATION.

SANITARY SEWER CONSTRUCTION NOTES

1. ALIGNMENT & LOCATION OF EXISTING SANITARY SEWER LATERALS ARE FROM AVAILABLE RECORDS. EXACT LOCATION IS UNKNOWN. CONTRACTOR TO FIELD VERIFY LOCATION OF SANITARY LATERALS PRIOR TO INSTALLATION OF WYES.
2. SANITARY SEWER LATERALS SHALL BE REPLACED TO THE PROPERTY LINE AND CONNECTED TO THE EXISTING LATERAL.

SANFORD STREET

(66' RIGHT OF WAY WIDTH ASPHALT PAVEMENT WIDTH VARIES)



811 Know what's below. Call before you dig.

UTILITY LOCATIONS ARE DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.

SCALES : 1" = 40' HORZ. (CONTOURS AT ONE FOOT INTERVALS)
1" = 4' VERT.

NO.	REVISIONS	BY	DATE

DRAWN J.J.S.
DATE FEB. '22
CHECKED M.R.H.
DATE APR. '22

Prein&Newhof
Engineers • Surveyors • Environmental • Laboratory

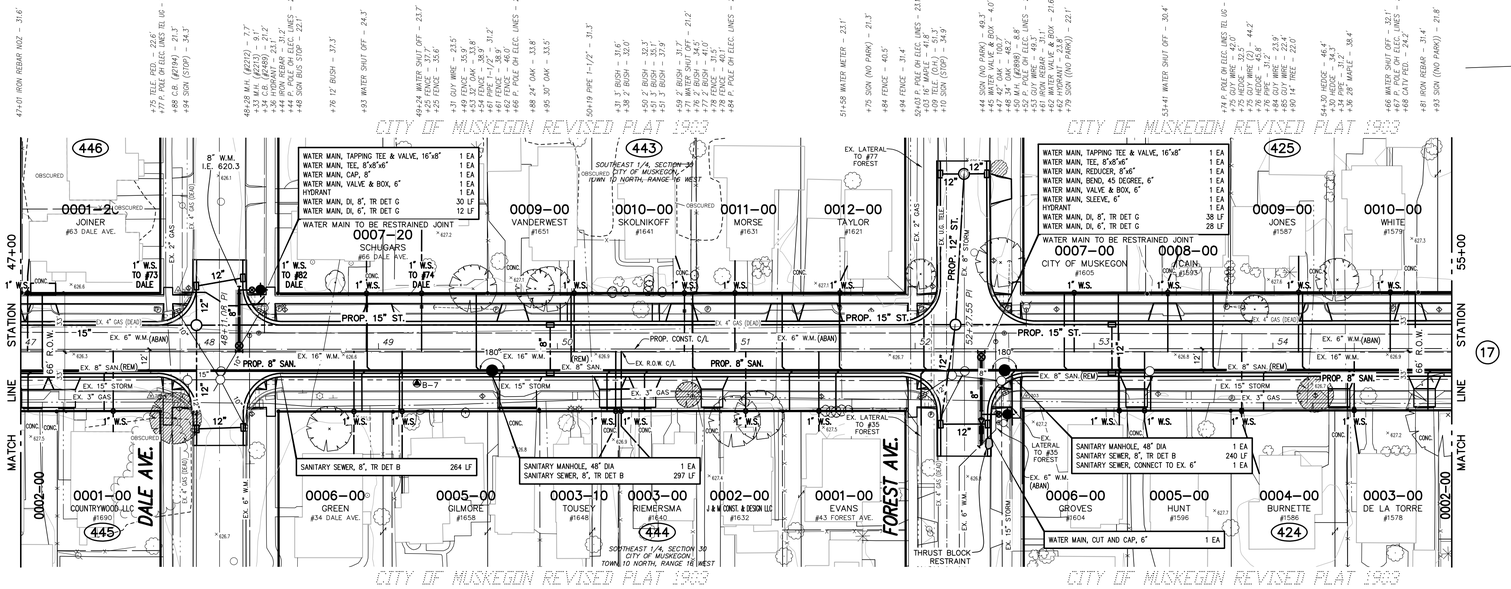
CITY OF MUSKEGON
MUSKEGON COUNTY, MICHIGAN
UTILITY IMPROVEMENTS
CONTRACT NO. 1
SANFORD STREET

PROJECT NO. 2211000
SHEET NO. 15 OF 42

T:\DWL3D PROJECTS\2211000_MUSKEGON_SANFORD STREET RECON\4_PROD\2211000_PLPR UTIL SANFORD.DWG - JSMITH - JUL 05 2022 - 10:02am - PreinANewhof

B.M. EL. 627.18
SANFORD STREET & DALE AVENUE, 30'± N & 20'± W OF C/L "X", RR SPIKE IN E SIDE OF P. POLE

CONTROL POINT TABLE			
POINT No.	NORTHING	EASTING	ELEVATION
200	633079.109	12622623.090	630.46
302	633096.413	12622564.800	626.74
303	633568.290	12622639.950	626.72



TOPOGRAPHY TEXT NOTE

TOPOGRAPHY TEXT STATIONS AND OFFSETS BASED ON SECTION LINE WHICH IS INDEPENDENT OF CONSTRUCTION CENTERLINE.

SANITARY LATERAL TOTALS (THIS SHEET)

SANITARY SEWER, WYE, 8 INCH x 6 INCH	28 EA
SANITARY LATERAL, 6 INCH	950 LF
SANITARY LATERAL, CONNECTION TO EX.	28 EA

WATER SERVICE TOTALS (THIS SHEET)

WATER SERVICE, CORPORATION STOP, 1 INCH	24 EA
WATER SERVICE, CURB STOP AND BOX, 1 INCH	24 EA
WATER SERVICE, 1 INCH	1290 LF
WATER SERVICE, METER	5 EA
WATER SERVICE, CONNECT TO EX.	24 EA
WATER SERVICE, RESTORATION, PRIVATE	20 EA

WATER MAIN CONSTRUCTION NOTES

1. CONTRACTOR SHALL PROVIDE A MINIMUM OF 18" VERTICAL CLEARANCE AND 10' HORIZONTAL CLEARANCE BETWEEN PROPOSED WATER MAIN, AND STORM AND SANITARY SEWERS.
2. USE HYDRANT EXTENSIONS OR VERTICAL BENDS ON HYDRANT LEADS TO ENSURE HYDRANT BREAKAWAY FLANGE IS 3"+/– FROM FINISHED GRADE. COST SHALL BE INCLUDED IN THE HYDRANT PAY ITEM.
3. SHADED WATER MAIN INDICATES RESTRAINED JOINT WATER MAIN.
4. ALL HYDRANTS SHALL BE RESTRAINED TO THE TEE.

WATER SERVICE CONSTRUCTION NOTES

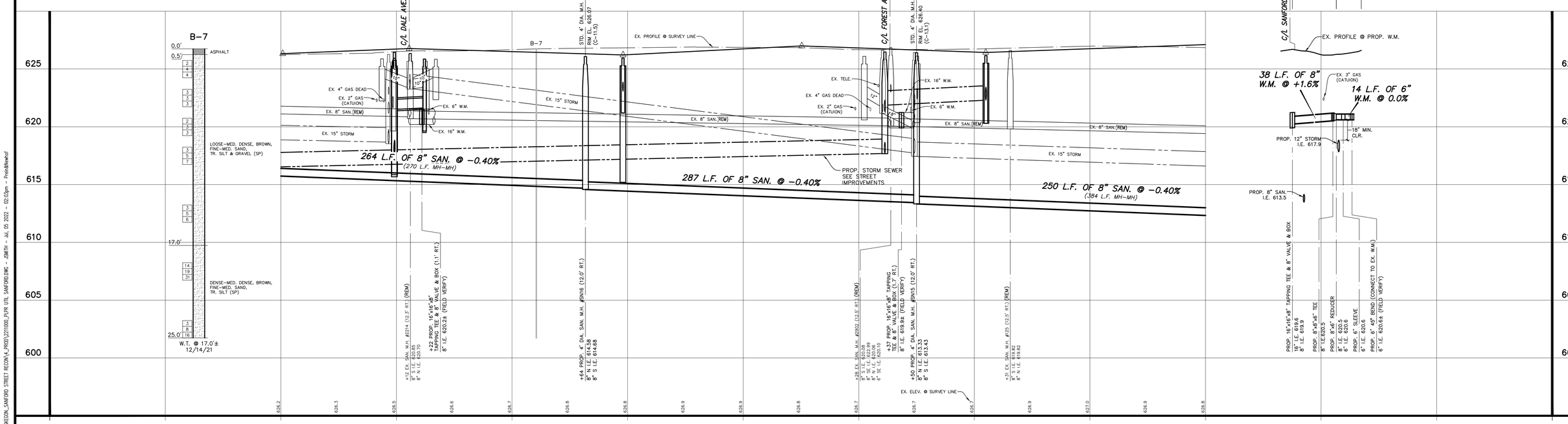
1. WATER SERVICES SHOWN ON THE PLANS ARE LOCATED BASED ON RECORDS, ACTUAL LOCATION MAY BE DIFFERENT THAN SHOWN. ALIGNMENT OF EXISTING WATER SERVICES FROM THE CURB STOP BOX TO THE HOUSE IS UNKNOWN AND MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO REPLACEMENT.
2. WATER SERVICES ARE TO BE REPLACED TO THE WATER METER IF THE METER IS LOCATED INSIDE THE RESIDENCE UNLESS NOTED OTHERWISE. WATER SERVICES TO BE REPLACED TO 18 INCHES INSIDE THE RESIDENCES IF THE METER IS LOCATED OUTSIDE. LOCATION OF ENTRY INTO THE RESIDENCE, AND PLUMBING REQUIRED TO CONNECT TO THE EXISTING METER SHALL BE APPROVED BY THE HOME OWNER AND ENGINEER PRIOR TO INSTALLATION. A NEW CURB STOP SHALL BE INSTALLED AT THE PROPERTY LINE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE AND COMMUNICATE WITH THE PROPERTY OWNER AND RESIDENT FOR ENTRY INTO THE RESIDENCE.
3. IF THE WATER SERVICE METER IS LOCATED IN A PIT OUTSIDE THE HOUSE, THE CONTRACTOR SHALL ATTEMPT TO RELOCATE THE METER INTO THE RESIDENCE. RELOCATION SHALL BE COORDINATED WITH THE CITY AND THE PROPERTY OWNER.
4. CONTRACTOR TO COORDINATE WITH THE CITY FOR METER REMOVAL AND REINSTALLATION.

SANITARY SEWER CONSTRUCTION NOTES

1. ALIGNMENT & LOCATION OF EXISTING SANITARY SEWER LATERALS ARE FROM AVAILABLE RECORDS. EXACT LOCATION IS UNKNOWN. CONTRACTOR TO FIELD VERIFY LOCATION OF SANITARY LATERALS PRIOR TO INSTALLATION OF WYES.
2. SANITARY SEWER LATERALS SHALL BE REPLACED TO THE PROPERTY LINE AND CONNECTED TO THE EXISTING LATERAL.

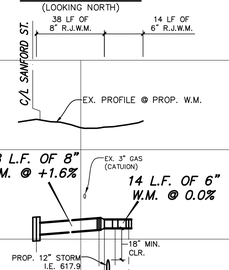
SANFORD STREET

(66' RIGHT OF WAY WIDTH)
(44'± ASPHALT PAVEMENT WIDTH)



W.M. CONNECTION @ FOREST AVE.

(LOOKING NORTH)



811 Know what's below. Call before you dig.

UTILITY LOCATIONS ARE DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.

SCALES : 1" = 40' HORZ. (CONTOURS AT ONE FOOT INTERVALS)
1" = 4' VERT.

NO.	REVISIONS	BY	DATE

DRAWN J.J.S.
DATE FEB. '22
CHECKED M.R.H.
DATE APR. '22

Prein&Newhof
Engineers • Surveyors • Environmental • Laboratory

CITY OF MUSKEGON
MUSKEGON COUNTY, MICHIGAN
UTILITY IMPROVEMENTS
CONTRACT NO. 1
SANFORD STREET

PROJECT NO. 2211000
SHEET NO. 16 OF 42

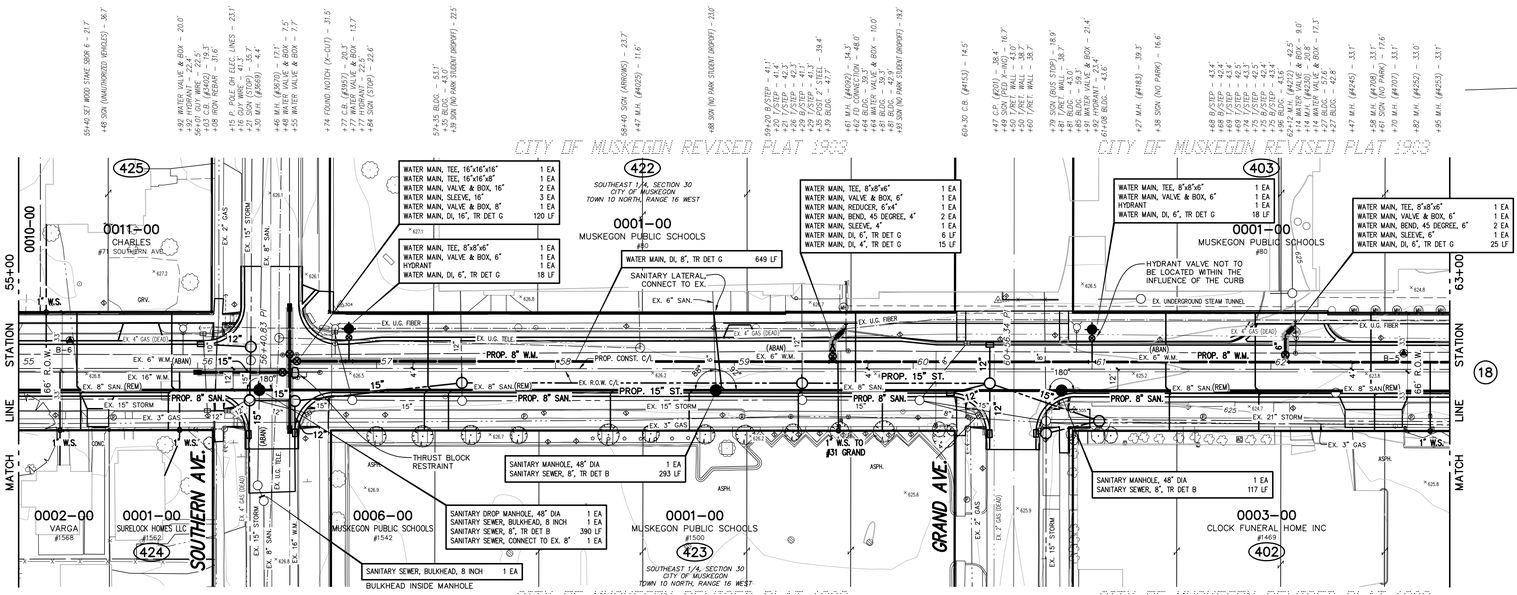
T:\DWL30 PROJECTS\2021\2211000_MUSKEGON_SANFORD STREET RECON\4_PROD\2211000_PLPR UTIL SANFORD.DWG – JSMITH – JUL 05 2022 – 02:53pm – PreinANewhof

B.M. EL. 627.32
SANFORD STREET & SOUTHERN AVENUE, 25'± S & 20'± W OF C/L "X", RR SPIKE IN E SIDE P. POLE

B.M. EL. 627.91
SANFORD STREET & GRAND AVENUE, 5'± S & 40'± W OF C/L "X", TOP OF SE COR. CONC. RET. WALL FOR RAMP ON E SIDE SCHOOL (1.8' A/GROUND)

CONTROL POINT TABLE

POINT No.	NORTHING	EASTING	ELEVATION
201	634355.294	12622602.810	626.14
304	633987.954	12622592.360	626.50
305	634395.642	12622665.810	625.63



TOPOGRAPHY TEXT NOTE

TOPOGRAPHY TEXT STATIONS AND OFFSETS BASED ON SECTION LINE WHICH IS INDEPENDENT OF CONSTRUCTION CENTERLINE.

SANITARY LATERAL TOTALS (THIS SHEET)

SANITARY SEWER, WYE, 8 INCH x 6 INCH	19 EA
SANITARY LATERAL, 6 INCH	600 LF
SANITARY LATERAL, CONNECTION TO EX.	18 EA

WATER SERVICE TOTALS (THIS SHEET)

WATER SERVICE, CORPORATION STOP, 1 INCH	5 EA
WATER SERVICE, CURB STOP AND BOX, 1 INCH	5 EA
WATER SERVICE, 1 INCH	240 LF
WATER SERVICE, CONNECT TO EX.	5 EA
WATER SERVICE, RESTORATION, PRIVATE	2 EA

WATER MAIN CONSTRUCTION NOTES

1. CONTRACTOR SHALL PROVIDE A MINIMUM OF 18" VERTICAL CLEARANCE AND 10' HORIZONTAL CLEARANCE BETWEEN PROPOSED WATER MAIN, AND STORM AND SANITARY SEWERS.
2. USE HYDRANT EXTENSIONS OR VERTICAL BENDS ON HYDRANT LEADS TO ENSURE HYDRANT BREAKAWAY FLANGE IS 3"+/- FROM FINISHED GRADE. COST SHALL BE INCLUDED IN THE HYDRANT PAY ITEM.
3. SHADED WATER MAIN INDICATES RESTRAINED JOINT WATER MAIN.
4. ALL HYDRANTS SHALL BE RESTRAINED TO THE TEE.

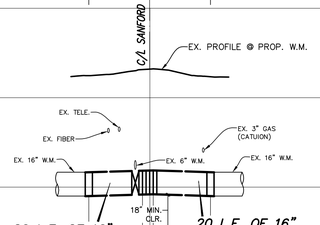
WATER SERVICE CONSTRUCTION NOTES

1. WATER SERVICES SHOWN ON THE PLANS ARE LOCATED BASED ON RECORDS, ACTUAL LOCATION MAY BE DIFFERENT THAN SHOWN. ALIGNMENT OF EXISTING WATER SERVICES FROM THE CURB STOP BOX TO THE HOUSE IS UNKNOWN AND MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO REPLACEMENT.
2. WATER SERVICES ARE TO BE REPLACED TO THE WATER METER IF THE METER IS LOCATED INSIDE THE RESIDENCE UNLESS NOTED OTHERWISE. A WATER SERVICES TO BE REPLACED TO 18 INCHES INSIDE THE RESIDENCES IF THE METER IS LOCATED OUTSIDE. LOCATION OF ENTRY INTO THE RESIDENCE, AND PLUMBING REQUIRED TO CONNECT TO THE METER SHALL BE APPROVED BY THE HOME OWNER AND ENGINEER PRIOR TO INSTALLATION. A NEW CURB STOP SHALL BE INSTALLED AT THE PROPERTY LINE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE AND COMMUNICATE WITH THE PROPERTY OWNER AND RESIDENT FOR ENTRY INTO THE RESIDENCE.
3. IF THE WATER SERVICE METER IS LOCATED IN A PIT OUTSIDE THE HOUSE, THE CONTRACTOR SHALL ATTEMPT TO RELOCATE THE METER INTO THE RESIDENCE. RELOCATION SHALL BE COORDINATED WITH THE CITY AND THE PROPERTY OWNER.
4. CONTRACTOR TO COORDINATE WITH THE CITY FOR METER REMOVAL AND REINSTALLATION.

SANITARY SEWER CONSTRUCTION NOTES

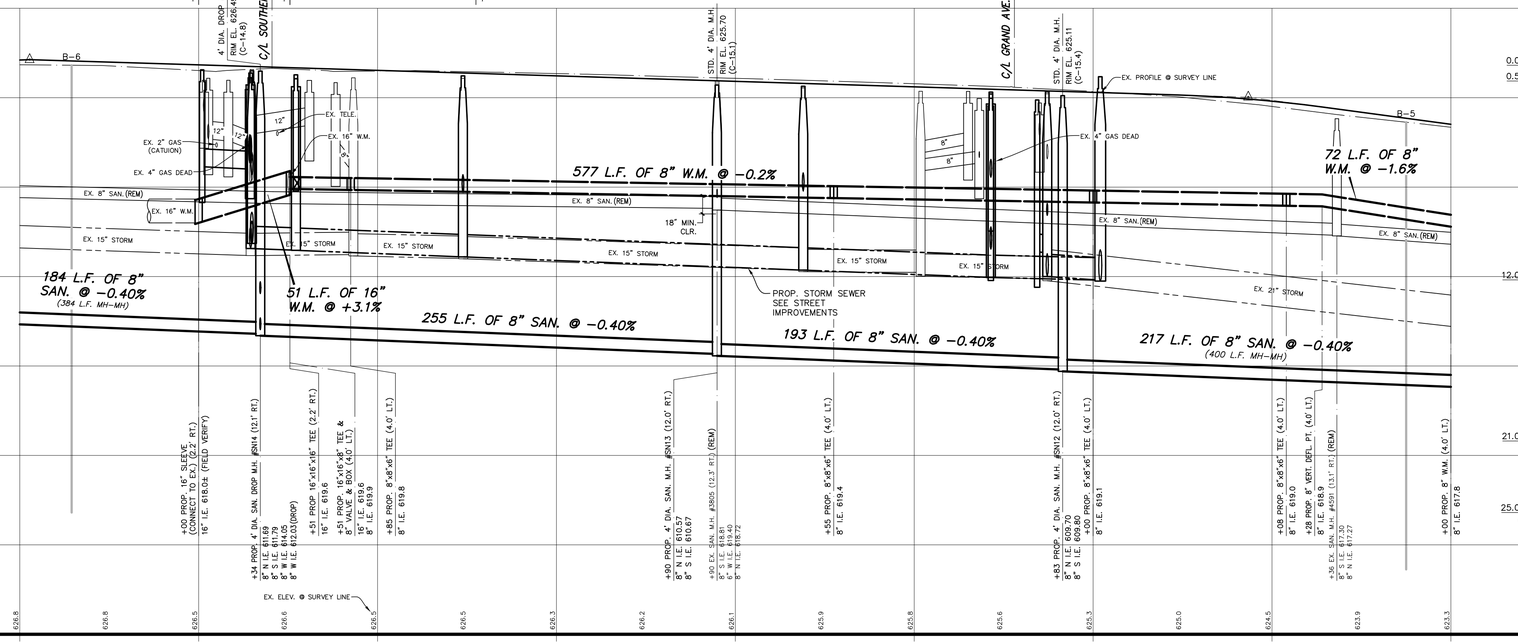
1. ALIGNMENT & LOCATION OF EXISTING SANITARY SEWER LATERALS ARE FROM AVAILABLE RECORDS. EXACT LOCATION IS UNKNOWN. CONTRACTOR TO FIELD VERIFY LOCATION OF SANITARY LATERALS PRIOR TO INSTALLATION OF WYES.
2. SANITARY SEWER LATERALS SHALL BE REPLACED TO THE PROPERTY LINE AND CONNECTED TO THE EXISTING LATERAL.

W.M. CONNECTION @ SOUTHERN AVE.
(LOOKING NORTH)



SANFORD STREET

(66' RIGHT OF WAY WIDTH ASPHALT PAVEMENT WIDTH VARIES)



811 Know what's below. Call before you dig.

UTILITY LOCATIONS ARE DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.

SCALES : 1" = 40' HORZ. (CONTOURS AT ONE FOOT INTERVALS)
1" = 4' VERT.

NO.	REVISIONS	BY	DATE

DRAWN J.J.S.
DATE FEB. '22
CHECKED M.R.H.
DATE APR. '22

Prein&Newhof
Engineers • Surveyors • Environmental • Laboratory

CITY OF MUSKEGON
MUSKEGON COUNTY, MICHIGAN
UTILITY IMPROVEMENTS
CONTRACT NO. 1
SANFORD STREET

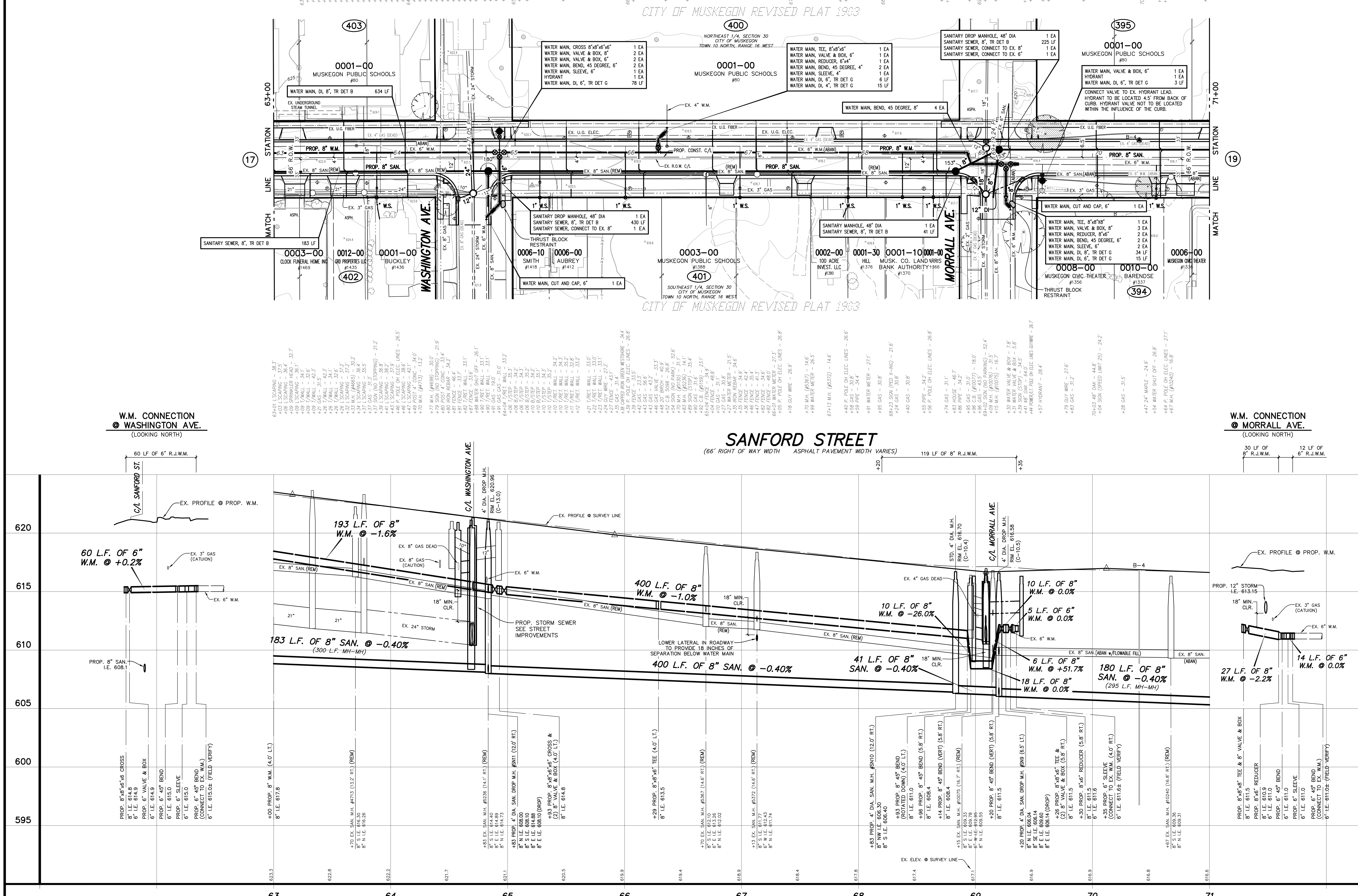
PROJECT NO. 2211000
SHEET NO. 17 OF 42

T:\CIVIL3D PROJECTS\2021\2211000_MUSKEGON_SANFORD STREET RECON\4_PROD\2211000_PLPR UTIL SANFORD.DWG - JSMITH - JUL 05 2022 - 10:05am - PreinNewhof

B.M.	EL. 622.78
SANFORD STREET & WASHINGTON AVENUE, 30'± S & 25'± E OF C/L "X", RR SPIKE IN W SIDE P. POLE	

CONTROL POINT TABLE

POINT No.	NORTHING	EASTING	ELEVATION
202	634797.329	12622637.580	625.10
306	634826.103	12622682.420	621.14
307	635202.759	12622654.300	616.94



TOPOGRAPHY TEXT NOTE

TOPOGRAPHY TEXT STATIONS AND OFFSETS BASED ON SECTION LINE WHICH IS INDEPENDENT OF CONSTRUCTION CENTERLINE.

SANITARY LATERAL TOTALS (THIS SHEET)

SANITARY SEWER, WYE, 8 INCH x 6 INCH	23 EA
SANITARY LATERAL, 6 INCH	731 LF
SANITARY LATERAL, CONNECTION TO EX.	23 EA

WATER SERVICE TOTALS (THIS SHEET)

WATER SERVICE, CORPORATION STOP, 1 INCH	8 EA
WATER SERVICE, CURB STOP AND BOX, 1 INCH	8 EA
WATER SERVICE, 1 INCH	300 LF
WATER SERVICE, METER	3 EA
WATER SERVICE, CONNECT TO EX.	8 EA
WATER SERVICE, RESTORATION, PRIVATE	4 EA

WATER MAIN CONSTRUCTION NOTES

1. CONTRACTOR SHALL PROVIDE A MINIMUM OF 18" VERTICAL CLEARANCE AND 10' HORIZONTAL CLEARANCE BETWEEN PROPOSED WATER MAIN, AND STORM AND SANITARY SEWERS.
2. USE HYDRANT EXTENSIONS OR VERTICAL BENDS ON HYDRANT LEADS TO ENSURE HYDRANT BREAKAWAY FLANGE IS 3"+/- FROM FINISHED GRADE. COST SHALL BE INCLUDED IN THE HYDRANT PAY ITEM.
3. SHADED WATER MAIN INDICATES RESTRAINED JOINT WATER MAIN.
4. ALL HYDRANTS SHALL BE RESTRAINED TO THE TEE.

WATER SERVICE CONSTRUCTION NOTES

1. WATER SERVICES SHOWN ON THE PLANS ARE LOCATED BASED ON RECORDS, ACTUAL LOCATION MAY BE DIFFERENT THAN SHOWN. ALIGNMENT OF EXISTING WATER SERVICES FROM THE CURB STOP BOX TO THE HOUSE IS UNKNOWN AND MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO REPLACEMENT.
2. WATER SERVICES ARE TO BE REPLACED TO THE WATER METER IF THE METER IS LOCATED INSIDE THE RESIDENCE UNLESS NOTED OTHERWISE. WATER SERVICES TO BE REPLACED TO 18 INCHES INSIDE THE RESIDENCES IF THE METER IS LOCATED OUTSIDE. LOCATION OF ENTRY INTO THE RESIDENCE, AND PLUMBING REQUIRED TO CONNECT TO THE EXISTING METER SHALL BE APPROVED BY THE HOME OWNER AND ENGINEER PRIOR TO INSTALLATION. A NEW CURB STOP SHALL BE INSTALLED AT THE PROPERTY LINE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE AND COMMUNICATE WITH THE PROPERTY OWNER AND RESIDENT FOR ENTRY INTO THE RESIDENCE.
3. IF THE WATER SERVICE METER IS LOCATED IN A PIT OUTSIDE THE HOUSE, THE CONTRACTOR SHALL ATTEMPT TO RELOCATE THE METER INTO THE RESIDENCE. RELOCATION SHALL BE COORDINATED WITH THE CITY AND THE PROPERTY OWNER.
4. CONTRACTOR TO COORDINATE WITH THE CITY FOR METER REMOVAL AND REINSTALLATION.

SANITARY SEWER CONSTRUCTION NOTES

1. ALIGNMENT & LOCATION OF EXISTING SANITARY SEWER LATERALS ARE FROM AVAILABLE RECORDS. EXACT LOCATION IS UNKNOWN. CONTRACTOR TO FIELD VERIFY LOCATION OF SANITARY LATERALS PRIOR TO INSTALLATION OF WYES.
2. SANITARY SEWER LATERALS SHALL BE REPLACED TO THE PROPERTY LINE AND CONNECTED TO THE EXISTING LATERAL.

811 Know what's below. Call before you dig.

UTILITY LOCATIONS ARE DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.

SCALES : 1" = 40' HORZ. (CONTOURS AT ONE FOOT INTERVALS)
1" = 4' VERT.

NO.	REVISIONS	BY	DATE

DRAWN J.J.S. | DATE FEB. '22 | CHECKED M.R.H. | DATE APR. '22

Prein&Newhof
Engineers▪Surveyors▪Environmental▪Laboratory

CITY OF MUSKEGON
MUSKEGON COUNTY, MICHIGAN

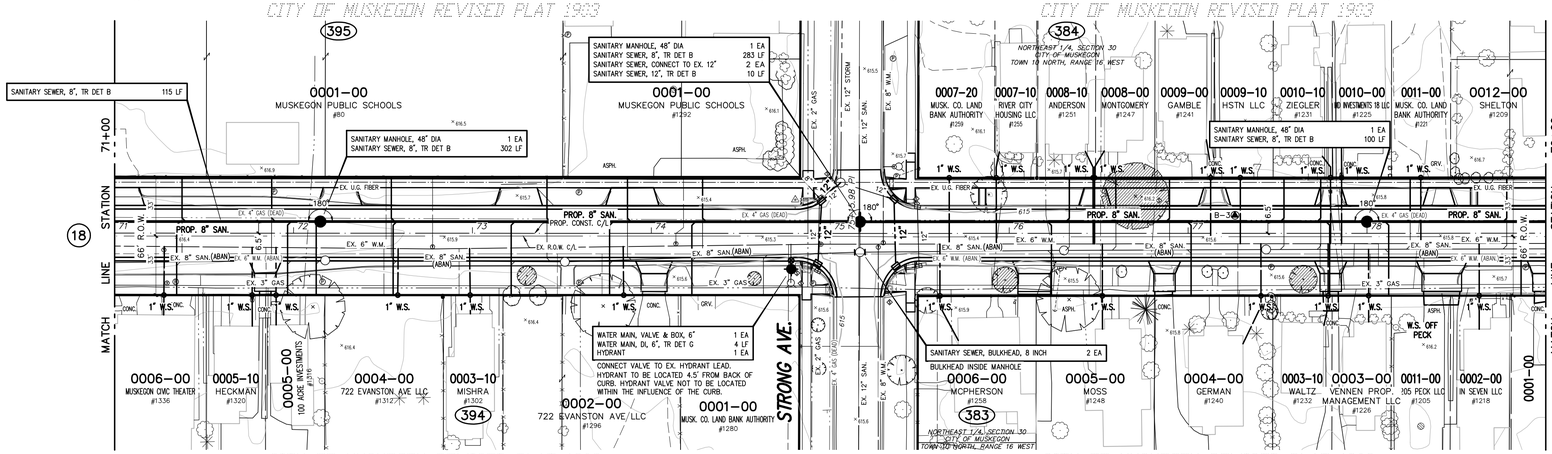
UTILITY IMPROVEMENTS
CONTRACT NO. 1

SANFORD STREET

PROJECT NO. 2211000

T:\CIVIL3D PROJECTS\2021\2211000_MUSKEGON_SANFORD STREET RECON\4_PROD\2211000_PLPR UTIL SANFORD.DWG - JSMITH - Jul, 05 2022 - 10:06am - Prein&Newhof

CONTROL POINT TABLE			
POINT No.	NORTHING	EASTING	ELEVATION
308	630786.643	1262677.130	615.41



TOPOGRAPHY TEXT NOTE

TOPOGRAPHY TEXT STATIONS AND OFFSETS BASED ON SECTION LINE WHICH IS INDEPENDENT OF CONSTRUCTION CENTERLINE.

SANITARY LATERAL TOTALS (THIS SHEET)

SANITARY SEWER, WYE, 8 INCH x 6 INCH	22 EA
SANITARY LATERAL, 6 INCH	738 LF
SANITARY LATERAL, CONNECTION TO EX.	22 EA

WATER SERVICE TOTALS (THIS SHEET)

WATER SERVICE, CORPORATION STOP, 1 INCH	21 EA
WATER SERVICE, CURB STOP AND BOX, 1 INCH	21 EA
WATER SERVICE, 1 INCH	900 LF
WATER SERVICE, METER	6 EA
WATER SERVICE, CONNECT TO EX.	21 EA
WATER SERVICE, RESTORATION, PRIVATE	16 EA

WATER SERVICE CONSTRUCTION NOTES

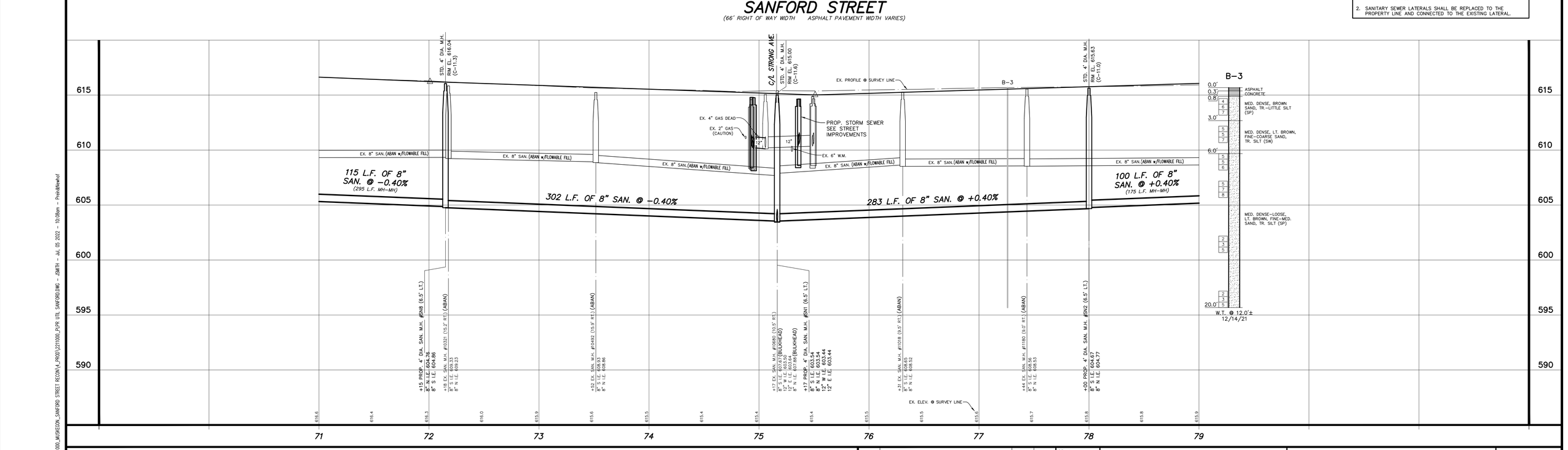
1. WATER SERVICES SHOWN ON THE PLANS ARE LOCATED BASED ON RECORDS, ACTUAL LOCATION MAY BE DIFFERENT THAN SHOWN. ALIGNMENT OF EXISTING WATER SERVICES FROM THE CURB STOP BOX TO THE HOUSE IS UNKNOWN AND MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO REPLACEMENT.
2. WATER SERVICES ARE TO BE REPLACED TO THE WATER METER IF THE METER IS LOCATED INSIDE THE RESIDENCE UNLESS NOTED OTHERWISE. WATER SERVICES TO BE REPLACED TO 18 INCHES INSIDE THE RESIDENCES IF THE METER IS LOCATED OUTSIDE. LOCATION OF ENTRY INTO THE RESIDENCE, AND PLUMBING REQUIRED TO CONNECT TO THE EXISTING METER SHALL BE APPROVED BY THE HOME OWNER AND ENGINEER PRIOR TO INSTALLATION. A NEW CURB STOP SHALL BE INSTALLED AT THE PROPERTY LINE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE AND COMMUNICATE WITH THE PROPERTY OWNER AND RESIDENT FOR ENTRY INTO THE RESIDENCE.
3. IF THE WATER SERVICE METER IS LOCATED IN A PIT OUTSIDE THE HOUSE, THE CONTRACTOR SHALL ATTEMPT TO RELOCATE THE METER INTO THE RESIDENCE. RELOCATION SHALL BE COORDINATED WITH THE CITY AND THE PROPERTY OWNER.
4. CONTRACTOR TO COORDINATE WITH THE CITY FOR METER REMOVAL AND REINSTALLATION.

SANITARY SEWER CONSTRUCTION NOTES

1. ALIGNMENT & LOCATION OF EXISTING SANITARY SEWER LATERALS ARE FROM AVAILABLE RECORDS. EXACT LOCATION IS UNKNOWN. CONTRACTOR TO FIELD VERIFY LOCATION OF SANITARY LATERALS PRIOR TO INSTALLATION OF WYES.
2. SANITARY SEWER LATERALS SHALL BE REPLACED TO THE PROPERTY LINE AND CONNECTED TO THE EXISTING LATERAL.

SANFORD STREET

(66' RIGHT OF WAY WIDTH ASPHALT PAVEMENT WIDTH VARIES)



SCALES : 1" = 40' HORZ. (CONTOURS AT ONE FOOT INTERVALS)
1" = 4' VERTICAL.

811 Know what's below. Call before you dig.

UTILITY LOCATIONS ARE DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.

NO.	REVISIONS	BY	DATE

DRAWN J.J.S.
DATE FEB. '22
CHECKED M.R.H.
DATE APR. '22

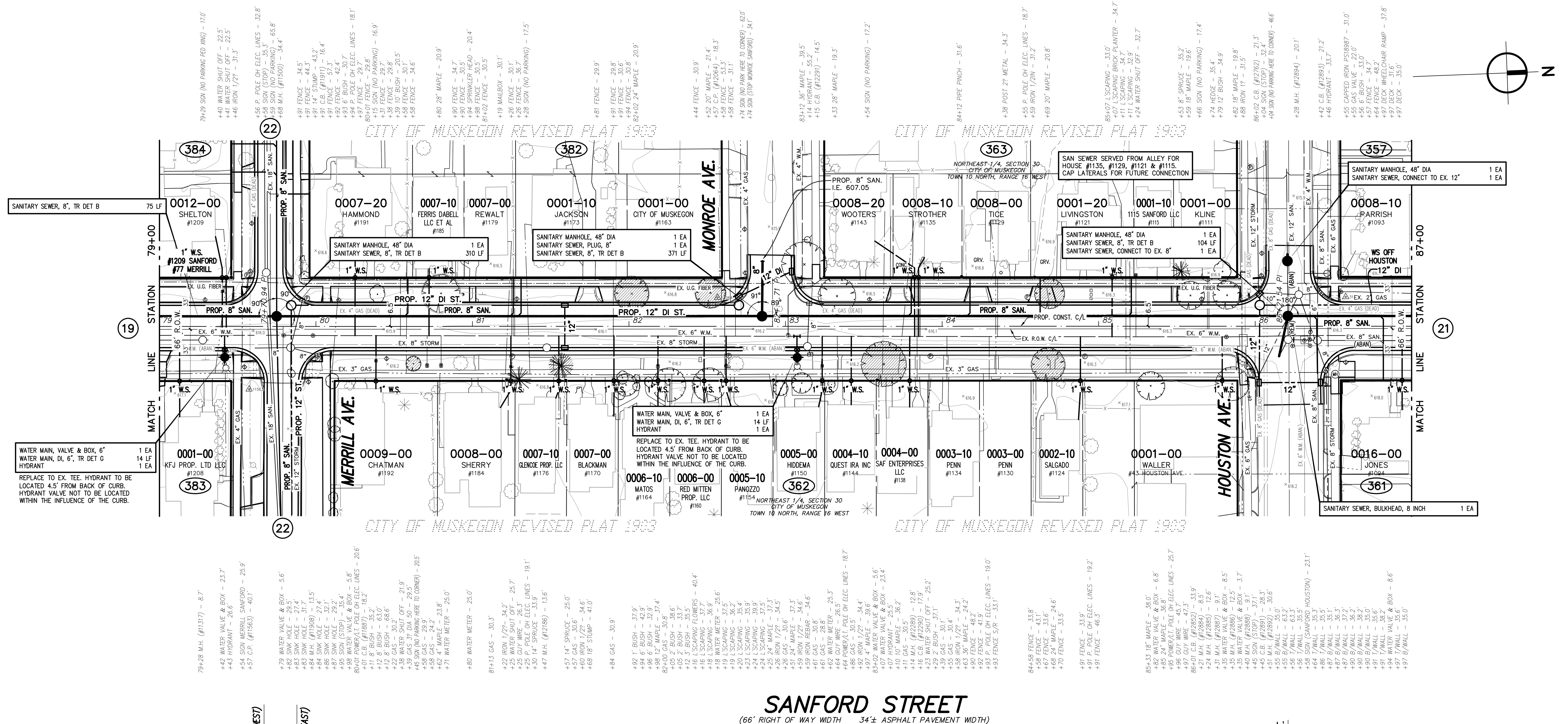
Prein&Newhof
Engineers • Surveyors • Environmental • Laboratory

CITY OF MUSKEGON
MUSKEGON COUNTY, MICHIGAN
UTILITY IMPROVEMENTS
CONTRACT NO. 1
SANFORD STREET

PROJECT NO. 2211000
SHEET NO. 19 OF 42

T:\CIVIL3D PROJECTS\2211000_MUSKEGON_SANFORD STREET RECON\4_PROD\2211000_PLPR UTIL_SANFORD.DWG – JSMITH – JUL 05 2022 – 10:08am – PreinNewhof

CONTROL POINT TABLE			
POINT No.	NORTHING	EASTING	ELEVATION
309	636246.820	12622729.050	615.63
310	636963.102	12622722.770	616.19
11563	636260.954	12622754.440	616.44
12064	636562.130	12622707.630	615.81



TOPOGRAPHY TEXT NOTE

TOPOGRAPHY TEXT STATIONS AND OFFSETS BASED ON SECTION LINE WHICH IS INDEPENDENT OF CONSTRUCTION CENTERLINE.

SANITARY LATERAL TOTALS (THIS SHEET)

SANITARY SEWER, WYE, 8 INCH x 6 INCH	9 EA
SANITARY LATERAL, 6 INCH	252 LF
SANITARY LATERAL, CONNECTION TO EX.	5 EA

WATER SERVICE TOTALS (THIS SHEET)

WATER SERVICE, CORPORATION STOP, 1 INCH	21 EA
WATER SERVICE, CURB STOP AND BOX, 1 INCH	21 EA
WATER SERVICE, 1 INCH	920 LF
WATER SERVICE, METER	9 EA
WATER SERVICE, CONNECT TO EX.	21 EA
WATER SERVICE, RESTORATION, PRIVATE	21 EA

WATER MAIN CONSTRUCTION NOTES

1. CONTRACTOR SHALL PROVIDE A MINIMUM OF 18" VERTICAL CLEARANCE AND 10' HORIZONTAL CLEARANCE BETWEEN PROPOSED WATER MAIN, AND STORM AND SANITARY SEWERS.
2. USE HYDRANT EXTENSIONS OR VERTICAL BENDS ON HYDRANT LEADS TO ENSURE HYDRANT BREAKAWAY FLANGE IS 3"+/- FROM FINISHED GRADE. COST SHALL BE INCLUDED IN THE HYDRANT PAY ITEM.
3. SHADED WATER MAIN INDICATES RESTRAINED JOINT WATER MAIN.
4. ALL HYDRANTS SHALL BE RESTRAINED TO THE TEE.

WATER SERVICE CONSTRUCTION NOTES

1. WATER SERVICES SHOWN ON THE PLANS ARE LOCATED BASED ON RECORDS, ACTUAL LOCATION MAY BE DIFFERENT THAN SHOWN. ALIGNMENT OF EXISTING WATER SERVICES FROM THE CURB STOP BOX TO THE HOUSE IS UNKNOWN AND MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO REPLACEMENT.
2. WATER SERVICES ARE TO BE REPLACED TO THE WATER METER IF THE METER IS LOCATED INSIDE THE RESIDENCE UNLESS NOTED OTHERWISE. WATER SERVICES TO BE REPLACED TO 18 INCHES INSIDE THE RESIDENCES IF THE METER IS LOCATED OUTSIDE. LOCATION OF ENTRY INTO THE RESIDENCE, AND PLUMBING REQUIRED TO CONNECT TO THE EXISTING METER SHALL BE APPROVED BY THE HOME OWNER AND ENGINEER PRIOR TO INSTALLATION. A NEW CURB STOP SHALL BE INSTALLED AT THE PROPERTY LINE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE AND COMMUNICATE WITH THE PROPERTY OWNER AND RESIDENT FOR ENTRY INTO THE RESIDENCE.
3. IF THE WATER SERVICE METER IS LOCATED IN A PIT OUTSIDE THE HOUSE, THE CONTRACTOR SHALL ATTEMPT TO RELOCATE THE METER INTO THE RESIDENCE. RELOCATION SHALL BE COORDINATED WITH THE CITY AND THE PROPERTY OWNER.
4. CONTRACTOR TO COORDINATE WITH THE CITY FOR METER REMOVAL AND REINSTALLATION.

SANITARY SEWER CONSTRUCTION NOTES

1. ALIGNMENT & LOCATION OF EXISTING SANITARY SEWER LATERALS ARE FROM AVAILABLE RECORDS. EXACT LOCATION IS UNKNOWN. CONTRACTOR TO FIELD VERIFY LOCATION OF SANITARY LATERALS PRIOR TO INSTALLATION OF WYES.
2. SANITARY SEWER LATERALS SHALL BE REPLACED TO THE PROPERTY LINE AND CONNECTED TO THE EXISTING LATERAL.

UTILITY LOCATIONS ARE DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.

811 Know what's below. Call before you dig.

SCALES : 1" = 40' HORZ. (CONTOURS AT ONE FOOT INTERVALS)
1" = 4' VERT.

NO.	REVISIONS	BY	DATE

DRAWN J.J.S. — DATE FEB. '22 — CHECKED M.R.H. — DATE APR. '22

Prein&Newhof
Engineers • Surveyors • Environmental • Laboratory

CITY OF MUSKEGON
MUSKEGON COUNTY, MICHIGAN

UTILITY IMPROVEMENTS
CONTRACT NO. 1

SANFORD STREET

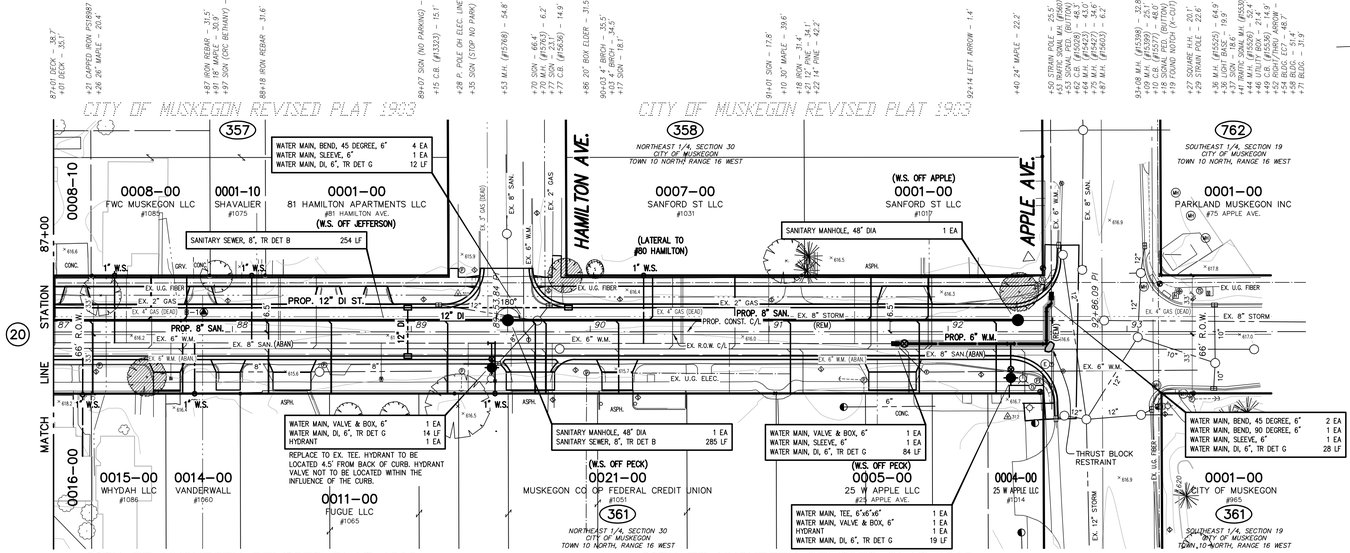
PROJECT NO. 2211000

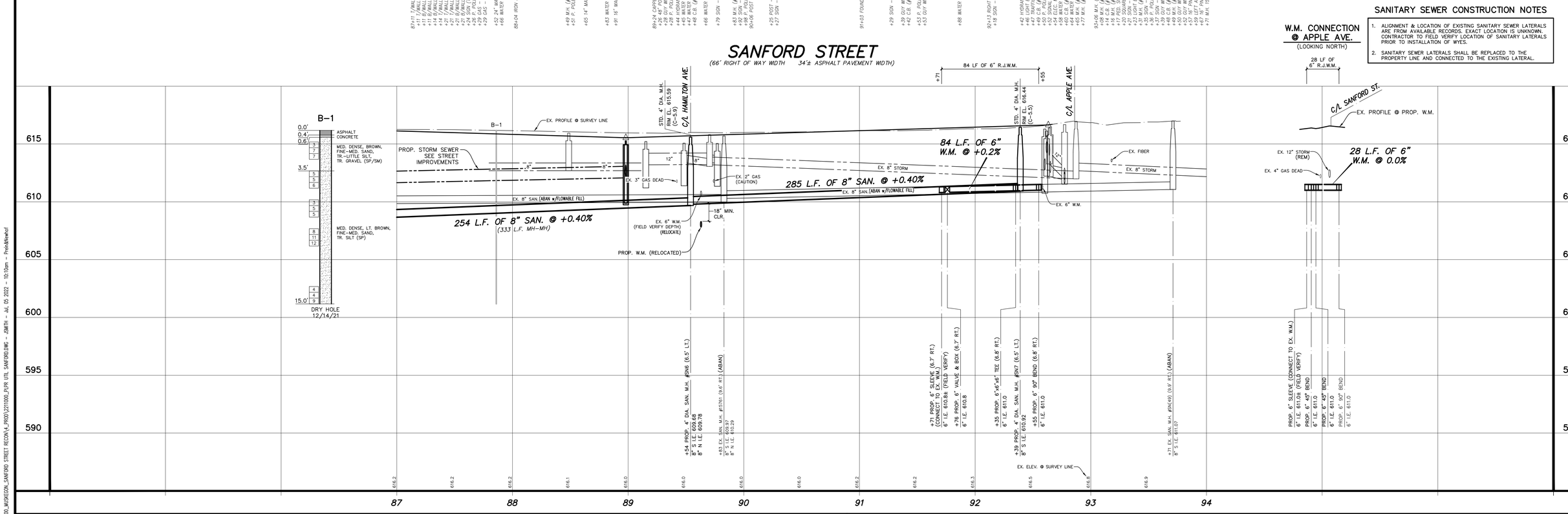
SHEET NO. 20 OF 42

T:\CIVIL3D PROJECTS\2021\2211000_MUSKEGON_SANFORD STREET RECON\4_PROD\2211000_PLPR UTIL SANFORD.DWG - JSMITH - Jul, 05 2022 - 10:09am - Prein&Newhof

B.M.	EL. 617.62
SANFORD STREET & APPLE AVENUE, 35'± S & 25'± W OF C/L "X", TOP OF SOUTH FLANGE BOLT ON STRAIN POLE	

CONTROL POINT TABLE			
POINT No.	NORTHING	EASTING	ELEVATION
112	637535.605	1262811.220	617.06
311	637231.340	1262730.600	615.85
312	637535.605	1262811.220	617.00





TOPOGRAPHY TEXT NOTE

TOPOGRAPHY TEXT STATIONS AND OFFSETS BASED ON SECTION LINE WHICH IS INDEPENDENT OF CONSTRUCTION CENTERLINE.

SANITARY LATERAL TOTALS (THIS SHEET)

SANITARY SEWER, WYE, 8 INCH x 6 INCH	16 EA
SANITARY LATERAL, 6 INCH	557 LF
SANITARY LATERAL, CONNECTION TO EX.	15 EA

WATER SERVICE TOTALS (THIS SHEET)

WATER SERVICE, CORPORATION STOP, 1 INCH	6 EA
WATER SERVICE, CURB STOP AND BOX, 1 INCH	6 EA
WATER SERVICE, 1 INCH	240 LF
WATER SERVICE, METER	1 EA
WATER SERVICE, CONNECT TO EX.	6 EA
WATER SERVICE, RESTORATION, PRIVATE	2 EA

WATER MAIN CONSTRUCTION NOTES

1. CONTRACTOR SHALL PROVIDE A MINIMUM OF 18" VERTICAL CLEARANCE AND 10' HORIZONTAL CLEARANCE BETWEEN PROPOSED WATER MAIN, AND STORM AND SANITARY SEWERS.
2. USE HYDRANT EXTENSIONS OR VERTICAL BENDS ON HYDRANT LEADS TO ENSURE HYDRANT BREAKAWAY FLANGE IS 3"+/- FROM FINISHED GRADE. COST SHALL BE INCLUDED IN THE HYDRANT PAY ITEM.
3. SHADED WATER MAIN INDICATES RESTRAINED JOINT WATER MAIN.
4. ALL HYDRANTS SHALL BE RESTRAINED TO THE TEE.

WATER SERVICE CONSTRUCTION NOTES

1. WATER SERVICES SHOWN ON THE PLANS ARE LOCATED BASED ON RECORDS, ACTUAL LOCATION MAY BE DIFFERENT THAN SHOWN. ALIGNMENT OF EXISTING WATER SERVICES FROM THE CURB STOP BOX TO THE HOUSE IS UNKNOWN AND MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO REPLACEMENT.
2. WATER SERVICES ARE TO BE REPLACED TO THE WATER METER IF THE METER IS LOCATED INSIDE THE RESIDENCE UNLESS NOTED OTHERWISE. WATER SERVICES TO BE REPLACED TO 18 INCHES INSIDE THE RESIDENCE'S IF THE METER IS LOCATED OUTSIDE. LOCATION OF ENTRY INTO THE RESIDENCE, AND PLUMBING REQUIRED TO CONNECT TO THE EXISTING METER SHALL BE APPROVED BY THE HOME OWNER AND ENGINEER PRIOR TO INSTALLATION. A NEW CURB STOP SHALL BE INSTALLED AT THE PROPERTY LINE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE AND COMMUNICATE WITH THE PROPERTY OWNER AND RESIDENT FOR ENTRY INTO THE RESIDENCE.
3. IF THE WATER SERVICE METER IS LOCATED IN A PIT OUTSIDE THE HOUSE, THE CONTRACTOR SHALL ATTEMPT TO RELOCATE THE METER INTO THE RESIDENCE. RELOCATION SHALL BE COORDINATED WITH THE CITY AND THE PROPERTY OWNER.
4. CONTRACTOR TO COORDINATE WITH THE CITY FOR METER REMOVAL AND REINSTALLATION.

SANITARY SEWER CONSTRUCTION NOTES

1. ALIGNMENT & LOCATION OF EXISTING SANITARY SEWER LATERALS ARE FROM AVAILABLE RECORDS. EXACT LOCATION IS UNKNOWN. CONTRACTOR TO FIELD VERIFY LOCATION OF SANITARY LATERALS PRIOR TO INSTALLATION OF WYES.
2. SANITARY SEWER LATERALS SHALL BE REPLACED TO THE PROPERTY LINE AND CONNECTED TO THE EXISTING LATERAL.

W.M. CONNECTION @ APPLE AVE.
(LOOKING NORTH)

811 Know what's below. Call before you dig.
UTILITY LOCATIONS ARE DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.

SCALES : 1" = 40' HORZ. (CONTOURS AT ONE FOOT INTERVALS)
1" = 4' VERT.

NO.	REVISIONS	BY	DATE

DRAWN J.J.S.
DATE FEB. '22
CHECKED M.R.H.
DATE APR. '22

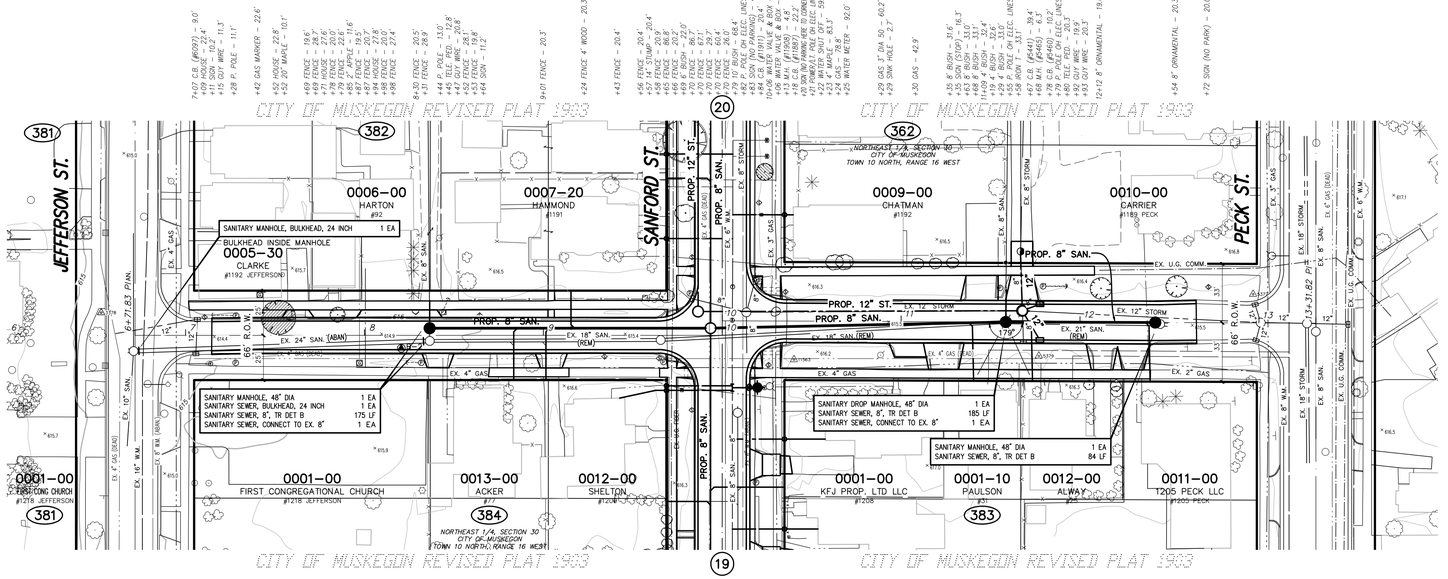
Prein&Newhof
Engineers • Surveyors • Environmental • Laboratory

CITY OF MUSKEGON
MUSKEGON COUNTY, MICHIGAN
UTILITY IMPROVEMENTS
CONTRACT NO. 1
SANFORD STREET

PROJECT NO. 2211000
SHEET NO. 21 OF 42

T:\CIVIL3D PROJECTS\2021\2211000_MUSKEGON_SANFORD STREET RECON\4_PROD\2211000_PLOPR UTIL SANFORD.DWG - JSMITH - JUL 05 2022 - 10:10am - PrintAsNewhof

CONTROL POINT TABLE			
POINT No.	NORTHING	EASTING	ELEVATION
2	636246.820	12622729.050	615.59
3	636302.034	12622368.530	614.75
8	636246.820	12622729.050	615.59
309	636246.820	12622729.050	615.63
5377	636287.630	12623012.300	615.38
5378	636302.034	12622368.530	614.75
5379	636257.760	12622891.330	620.17
11563	636260.954	12622754.440	616.44



TOPOGRAPHY TEXT NOTE

TOPOGRAPHY TEXT STATIONS AND OFFSETS BASED ON SECTION LINE WHICH IS INDEPENDENT OF CONSTRUCTION CENTERLINE.

SANITARY LATERAL TOTALS (THIS SHEET)

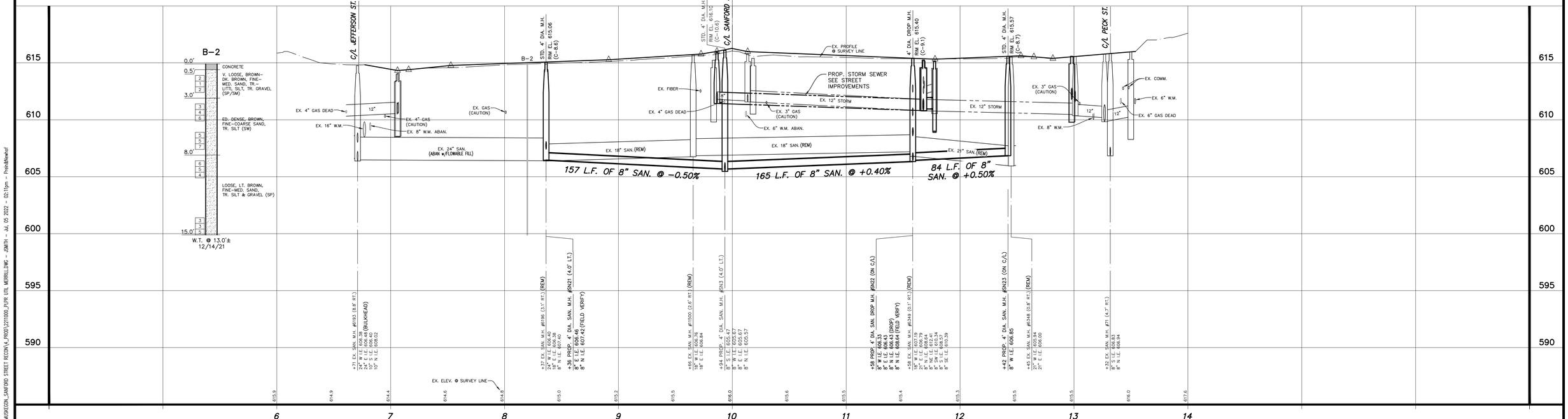
SANITARY SEWER, WYE, 8 INCH x 6 INCH	6 EA
SANITARY LATERAL, 6 INCH	183 LF
SANITARY LATERAL, CONNECTION TO EX.	6 EA

SANITARY SEWER CONSTRUCTION NOTES

1. ALIGNMENT & LOCATION OF EXISTING SANITARY SEWER LATERALS ARE FROM AVAILABLE RECORDS. EXACT LOCATION IS UNKNOWN. CONTRACTOR TO FIELD VERIFY LOCATION OF SANITARY LATERALS PRIOR TO INSTALLATION OF WYES.
2. SANITARY SEWER LATERALS SHALL BE REPLACED TO THE PROPERTY LINE AND CONNECTED TO THE EXISTING LATERAL.

MERRILL AVENUE

(RIGHT OF WAY WIDTH VARIES ASPHALT PAVEMENT WIDTH VARIES)



811 Know what's below. Call before you dig.

UTILITY LOCATIONS ARE DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.

SCALES : 1" = 40' HORZ. (CONTOURS AT ONE FOOT INTERVALS)
1" = 4' VERT.

NO.	REVISIONS	BY	DATE

DRAWN J.J.S.
DATE FEB. '22
CHECKED M.R.H.
DATE APR. '22

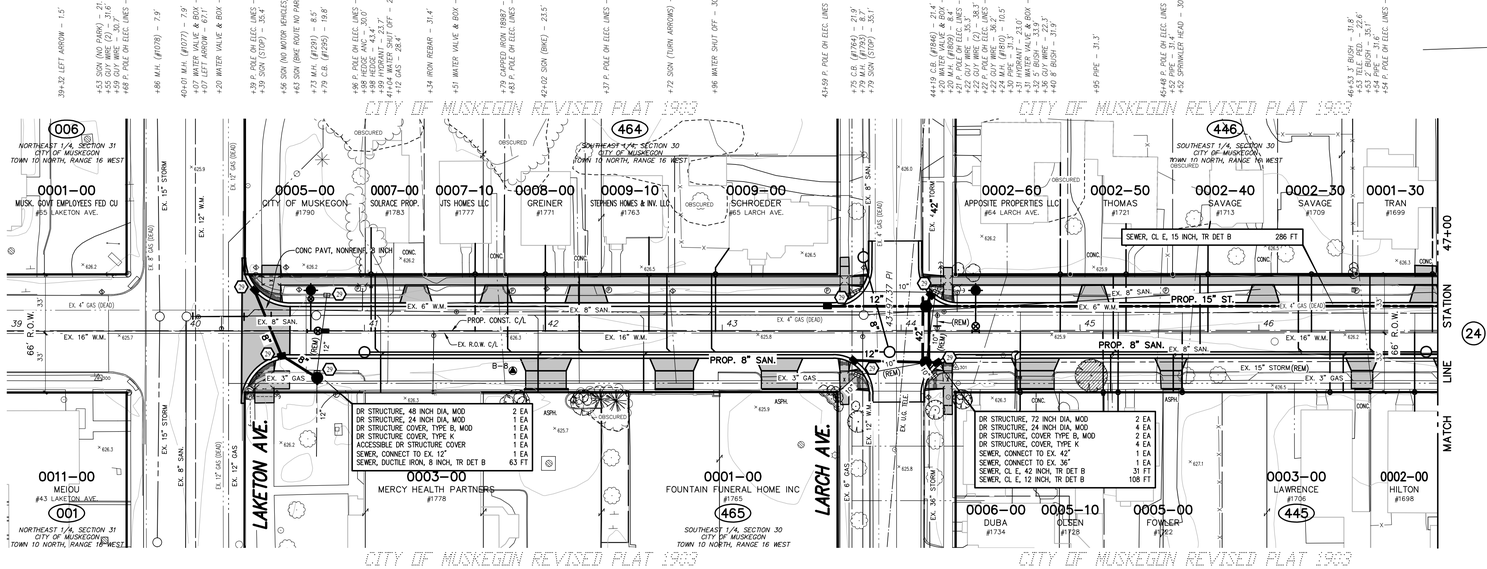
Prein&Newhof
Engineers • Surveyors • Environmental • Laboratory

CITY OF MUSKEGON
MUSKEGON COUNTY, MICHIGAN
UTILITY IMPROVEMENTS
CONTRACT NO. 1
MERRILL AVENUE

PROJECT NO. 2211000
SHEET NO. 22 OF 42

I:\CIVIL3D PROJECTS\2021\2211000_MUSKEGON_SANFORD STREET RECON\4_PROD\2211000_PLPR UTIL MERRILL.DWG — JSMITH — JUL 05, 2022 — 02:11pm — Prein&Newhof

CONTROL POINT TABLE			
POINT No.	NORTHING	EASTING	ELEVATION
300	632258.004	12622585.300	625.88
301	632737.125	12622605.930	625.49



TOPOGRAPHY TEXT NOTE

TOPOGRAPHY TEXT STATIONS AND OFFSETS BASED ON SECTION LINE WHICH IS INDEPENDENT OF CONSTRUCTION CENTERLINE.

PROPOSED PAVEMENT LEGEND

- PROPOSED HMA APPROACH
- PROPOSED DRIVEWAY, NONREINF CONC, 6 INCH OR SIDEWALK, CONC, 4/6 INCH CONC PAVT, NONREINF, 8 INCH

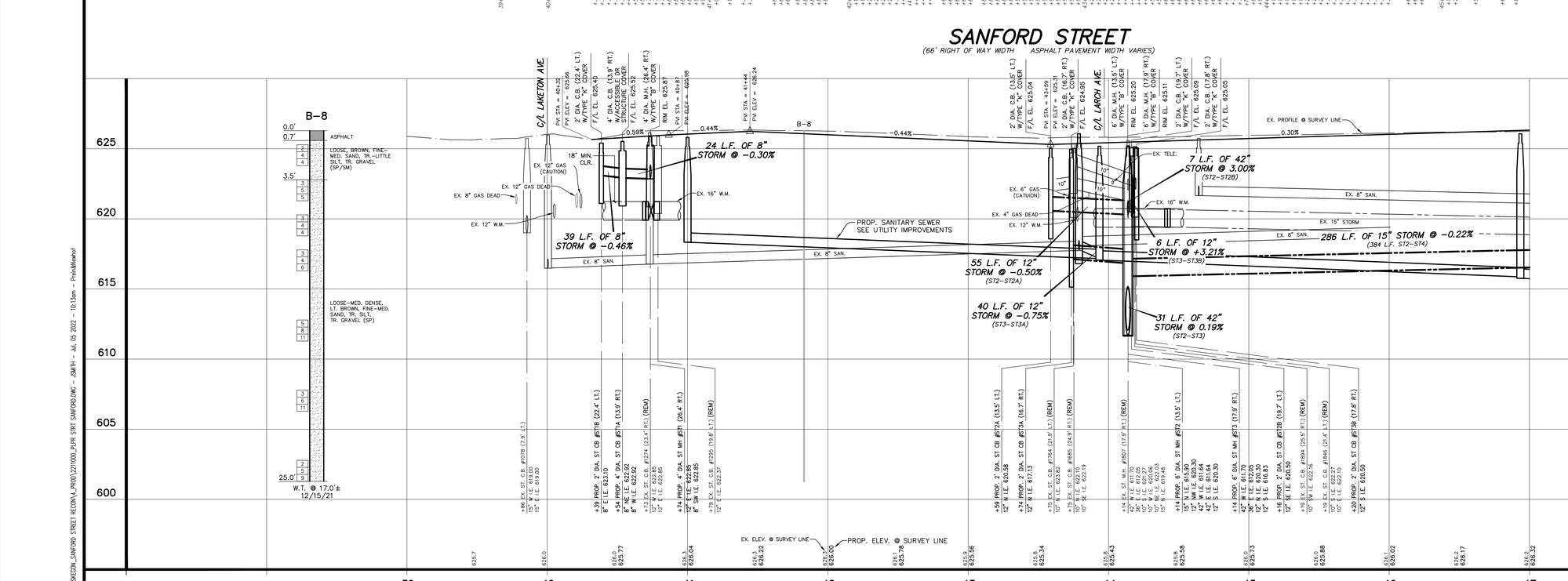
NOTES: PROPOSED PAVEMENT ON STREET & INTERSECTIONS NOT SHADED FOR CLARITY.

SOIL EROSION CONTROL LEGEND

- (XX) PROPOSED EROSION CONTROL INLET PROTECTION FABRIC DROP

SANFORD STREET

(66' RIGHT OF WAY WIDTH ASPHALT PAVEMENT WIDTH VARIES)



811 Know what's below. Call before you dig.

UTILITY LOCATIONS ARE DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.

SCALES : 1" = 40' HORZ. (CONTOURS AT ONE FOOT INTERVALS)
1" = 4' VERT.

NO.	REVISIONS	BY	DATE

DRAWN J.J.S.
DATE FEB. '22
CHECKED M.R.H.
DATE APR. '22

Prein&Newhof
Engineers • Surveyors • Environmental • Laboratory

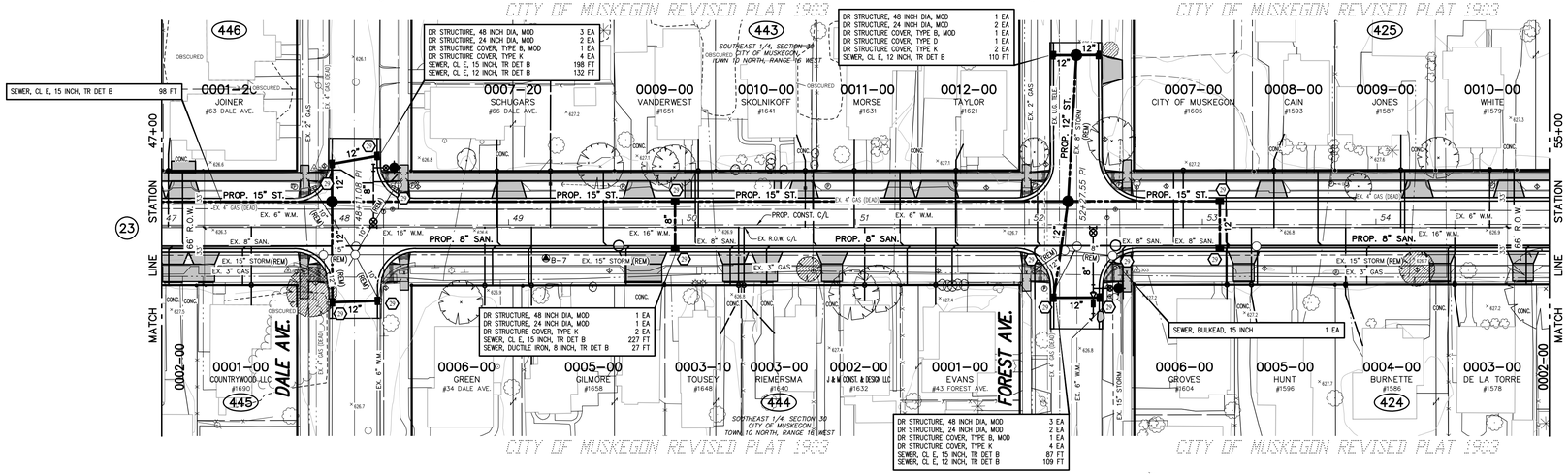
CITY OF MUSKEGON
MUSKEGON COUNTY, MICHIGAN
STREET IMPROVEMENTS
CONTRACT NO. 1
SANFORD STREET

PROJECT NO. 2211000
SHEET NO. 23 OF 42

I:\CIVIL3D PROJECTS\2021\2211000_MUSKEGON_SANFORD STREET RECON\4_PROD\2211000_PLPR SHT SANFORD.DWG - SMITH - JUL 05 2022 - 10:13am - Prein&Newhof

B.M. EL. 627.18
SANFORD STREET & DALE AVENUE, 30'± N & 20'± W OF C/L "X", RR SPIKE IN E SIDE OF P. POLE

CONTROL POINT TABLE			
POINT No.	NORTHING	EASTING	ELEVATION
200	633079.109	12622623.090	630.46
302	633096.413	12622564.800	626.74
303	633568.290	12622639.950	626.72



TOPOGRAPHY TEXT NOTE

TOPOGRAPHY TEXT STATIONS AND OFFSETS BASED ON SECTION LINE WHICH IS INDEPENDENT OF CONSTRUCTION CENTERLINE.

PROPOSED PAVEMENT LEGEND

- PROPOSED HMA APPROACH
- PROPOSED DRIVEWAY, NONREINF CONC, 6 INCH OR SIDEWALK, CONC, 4/6 INCH CONC PAVT, NONREINF, 8 INCH

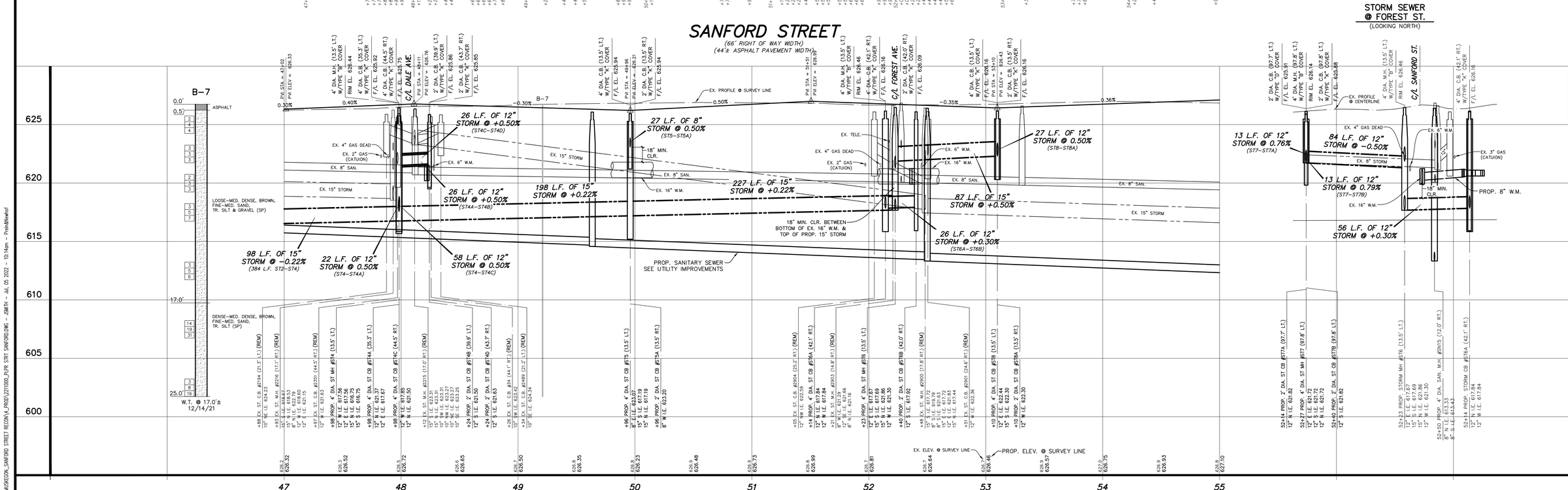
NOTES: PROPOSED PAVEMENT ON STREET & INTERSECTIONS NOT SHADED FOR CLARITY.

SOIL EROSION CONTROL LEGEND

- PROPOSED EROSION CONTROL INLET PROTECTION FABRIC DROP

SANFORD STREET

(66' RIGHT OF WAY WIDTH)
(44'± ASPHALT PAVEMENT WIDTH)



STORM SEWER @ FOREST ST.

(LOOKING NORTH)

UTILITY LOCATIONS ARE DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.

Know what's below. Call before you dig.

SCALES : 1" = 40' HORZ. (CONTOURS AT ONE FOOT INTERVALS)
1" = 4' VERT.

NO.	REVISIONS	BY	DATE

DRAWN J.J.S.
DATE FEB. '22
CHECKED M.R.H.
DATE APR. '22

Prein&Newhof
Engineers • Surveyors • Environmental • Laboratory

CITY OF MUSKEGON
MUSKEGON COUNTY, MICHIGAN
STREET IMPROVEMENTS
CONTRACT NO. 1
SANFORD STREET

PROJECT NO. 2211000
SHEET NO. 24 OF 42

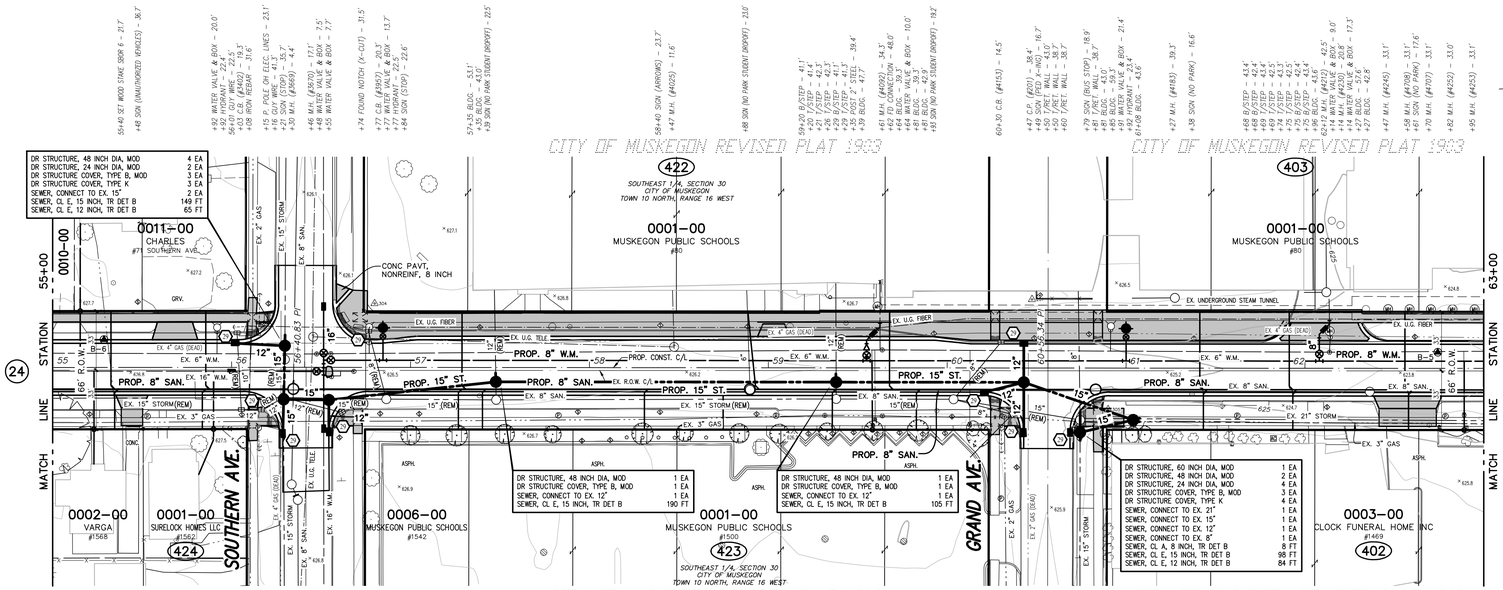
T:\CIVIL3D PROJECTS\2021\2211000_MUSKEGON_SANFORD STREET RECON\M_PROD\2211000_PLPR SHT SANFORD.DWG - ASMITH - JUL 05 2022 - 10:14am - PrintAsNewhof

B.M. EL. 627.32
SANFORD STREET & SOUTHERN AVENUE,
25'± S & 20'± W OF C/L "X", RR SPIKE
IN E SIDE P. POLE

B.M. EL. 627.91
SANFORD STREET & GRAND AVENUE, 5'± S
& 40'± W OF C/L "X", TOP OF SE COR.
CONC. RET. WALL FOR RAMP ON E SIDE
SCHOOL (1.8' A/GROUND)

CONTROL POINT TABLE

POINT No.	NORTHING	EASTING	ELEVATION
201	634355.294	12622602.810	626.14
304	633987.954	12622592.360	626.50
305	634395.642	12622665.810	625.63



TOPOGRAPHY TEXT NOTE

TOPOGRAPHY TEXT STATIONS AND OFFSETS BASED ON SECTION LINE WHICH IS INDEPENDENT OF CONSTRUCTION CENTERLINE.

PROPOSED PAVEMENT LEGEND

- PROPOSED HMA APPROACH
- PROPOSED DRIVEWAY, NONREINF CONC, 6 INCH OR SIDEWALK, CONC, 4/6 INCH CONC PAVT, NONREINF, 8 INCH

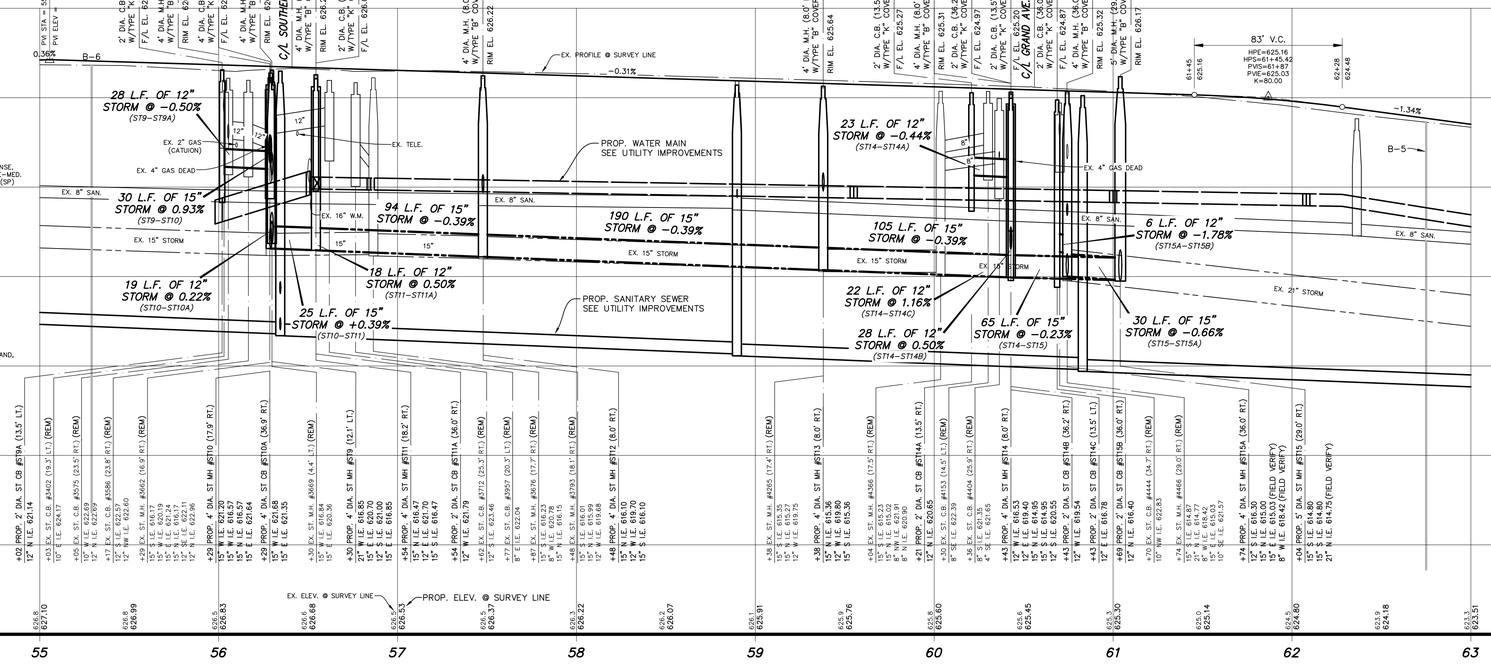
NOTES: PROPOSED PAVEMENT ON STREET & INTERSECTIONS NOT SHADED FOR CLARITY.

SOIL EROSION CONTROL LEGEND

- PROPOSED EROSION CONTROL INLET PROTECTION FABRIC DROP

SANFORD STREET

(66' RIGHT OF WAY WIDTH ASPHALT PAVEMENT WIDTH VARIES)



SCALES : 1" = 40' HORZ. (CONTOURS AT ONE FOOT INTERVALS)
1" = 4' VERT.

811 Know what's below. Call before you dig.

UTILITY LOCATIONS ARE DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.

NO.	REVISIONS	BY	DATE

DRAWN J.J.S.
DATE FEB. '22
CHECKED M.R.H.
DATE APR. '22

Prein&Newhof
Engineers • Surveyors • Environmental • Laboratory

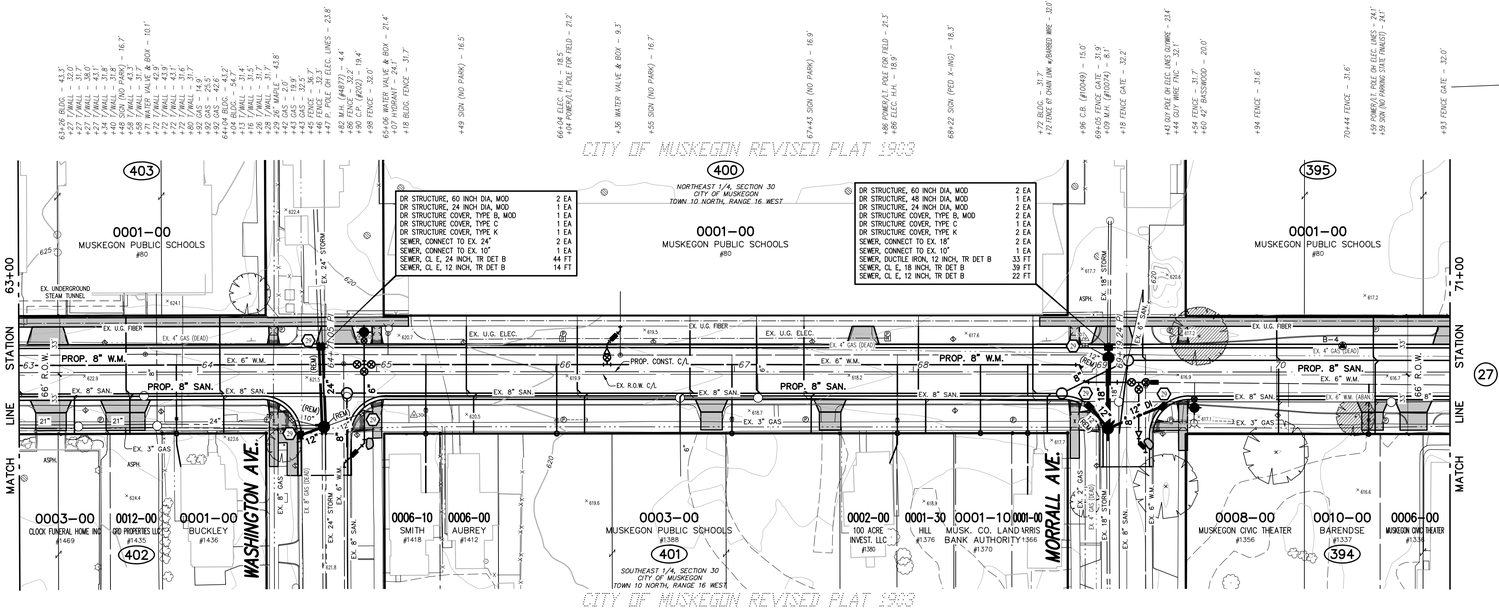
CITY OF MUSKEGON
MUSKEGON COUNTY, MICHIGAN
STREET IMPROVEMENTS
CONTRACT NO. 1
SANFORD STREET

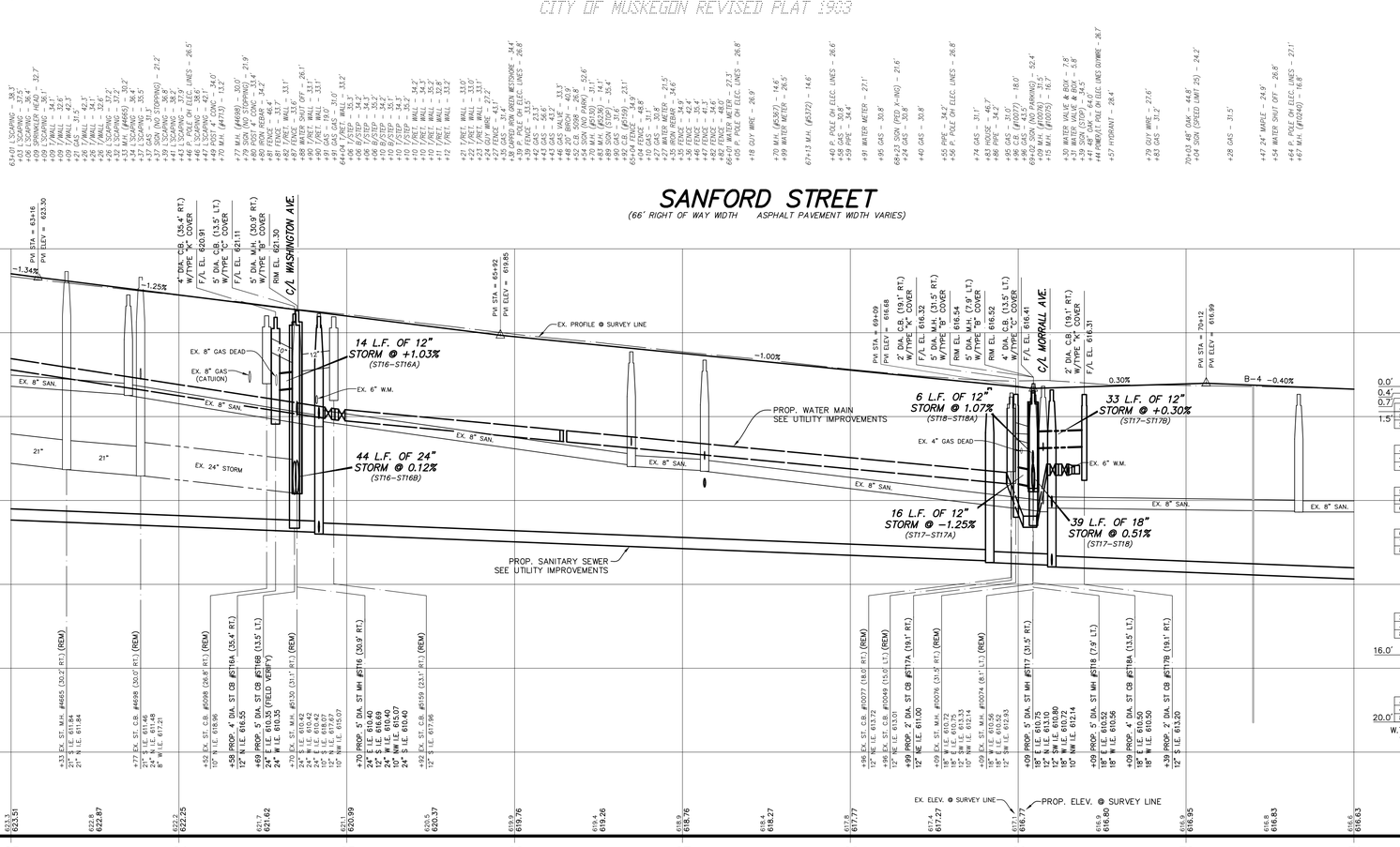
PROJECT NO. 2211000
SHEET NO. 25 OF 42

I:\CIVIL3D PROJECTS\2021\2211000_MUSKEGON_SANFORD STREET RECON\4_PROD\2211000_PLPR SHT SANFORD.DWG - SMITH - JUL 05 2022 - 10:15am - PrintMe4wf

B.M. EL. 622.78
SANFORD STREET & WASHINGTON AVENUE
30'± S & 25'± E OF C/L "X", RR SPIKE IN W SIDE P. POLE

CONTROL POINT TABLE			
POINT No.	NORTHING	EASTING	ELEVATION
202	634797.329	12622637.580	625.10
306	634826.103	12622682.420	621.14
307	635202.759	12622654.300	616.94





TOPOGRAPHY TEXT NOTE

TOPOGRAPHY TEXT STATIONS AND OFFSETS BASED ON SECTION LINE WHICH IS INDEPENDENT OF CONSTRUCTION CENTERLINE.

PROPOSED PAVEMENT LEGEND

- PROPOSED HMA APPROACH
- PROPOSED DRIVEWAY, NONREINF CONC, 6 INCH OR SIDEWALK, CONC, 4/6 INCH CONC PAVT, NONREINF, 8 INCH

NOTES: PROPOSED PAVEMENT ON STREET & INTERSECTIONS NOT SHADED FOR CLARITY.

SOIL EROSION CONTROL LEGEND

- PROPOSED EROSION CONTROL INLET PROTECTION FABRIC DROP

811 Know what's below. Call before you dig.

UTILITY LOCATIONS ARE DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.

SCALES : 1" = 40' HORZ. (CONTOURS AT ONE FOOT INTERVALS)
1" = 4' VERT.

NO.	REVISIONS	BY	DATE

DRAWN J.J.S.
DATE FEB. '22
CHECKED M.R.H.
DATE APR. '22

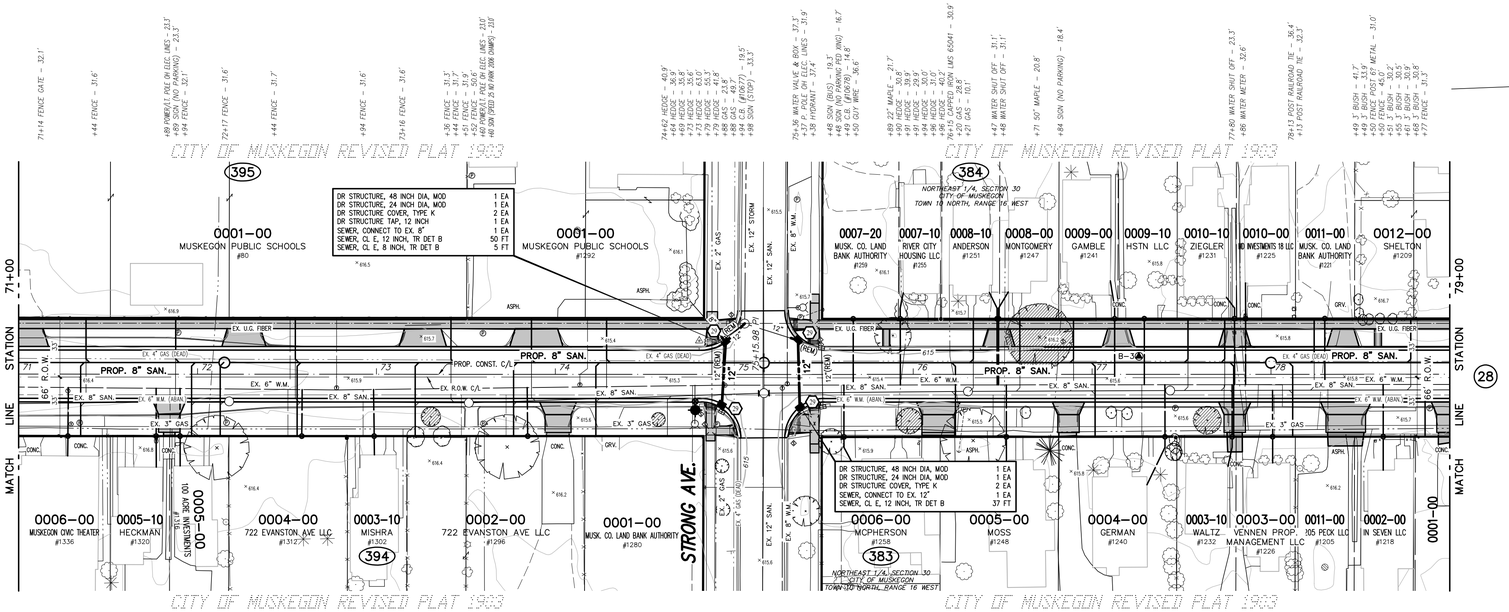
Prein&Newhof
Engineers • Surveyors • Environmental • Laboratory

CITY OF MUSKEGON
MUSKEGON COUNTY, MICHIGAN
STREET IMPROVEMENTS
CONTRACT NO. 1
SANFORD STREET

PROJECT NO. 2211000
SHEET NO. 26 OF 42

I:\CIVIL3D PROJECTS\2021\2211000_MUSKEGON_SANFORD STREET RECON\4_PROD\2211000_PLPR SHT SANFORD.DWG - JSMITH - JUL 05 2022 - 10:16am - Prein&Newhof

CONTROL POINT TABLE			
POINT No.	NORTHING	EASTING	ELEVATION
308	630786.643	1262267.130	615.41



TOPOGRAPHY TEXT NOTE

TOPOGRAPHY TEXT STATIONS AND OFFSETS BASED ON SECTION LINE WHICH IS INDEPENDENT OF CONSTRUCTION CENTERLINE.

PROPOSED PAVEMENT LEGEND

- PROPOSED HMA APPROACH
- PROPOSED DRIVEWAY, NONREINF CONC, 6 INCH OR SIDEWALK, CONC, 4/6 INCH CONC PAVT, NONREINF, 8 INCH

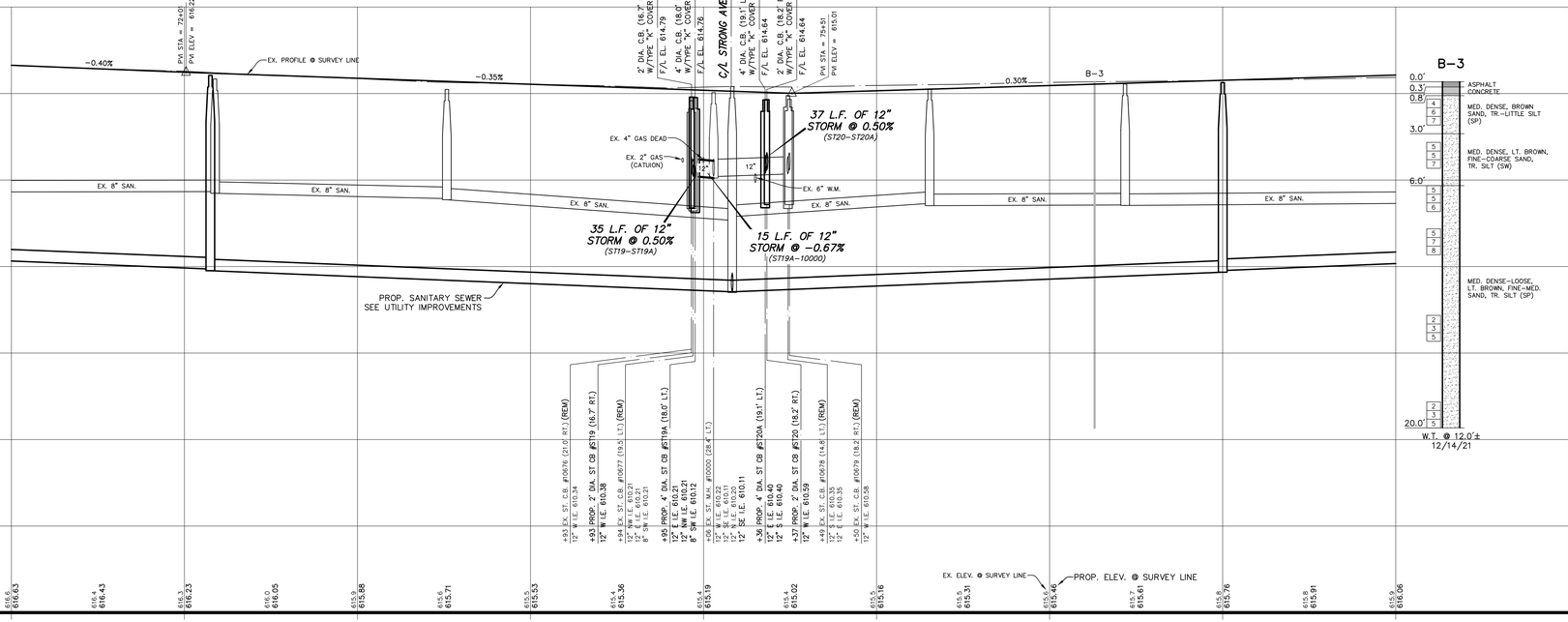
NOTES: PROPOSED PAVEMENT ON STREET & INTERSECTIONS NOT SHADED FOR CLARITY.

SOIL EROSION CONTROL LEGEND

- PROPOSED EROSION CONTROL INLET PROTECTION FABRIC DROP

SANFORD STREET

(66' RIGHT OF WAY WIDTH ASPHALT PAVEMENT WIDTH VARIES)



811 Know what's below. Call before you dig.

UTILITY LOCATIONS ARE DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.

SCALES : 1" = 40' HORZ. (CONTOURS AT ONE FOOT INTERVALS)
1" = 4' VERT.

NO.	REVISIONS	BY	DATE

DRAWN J.J.S.
DATE FEB. '22
CHECKED M.R.H.
DATE APR. '22

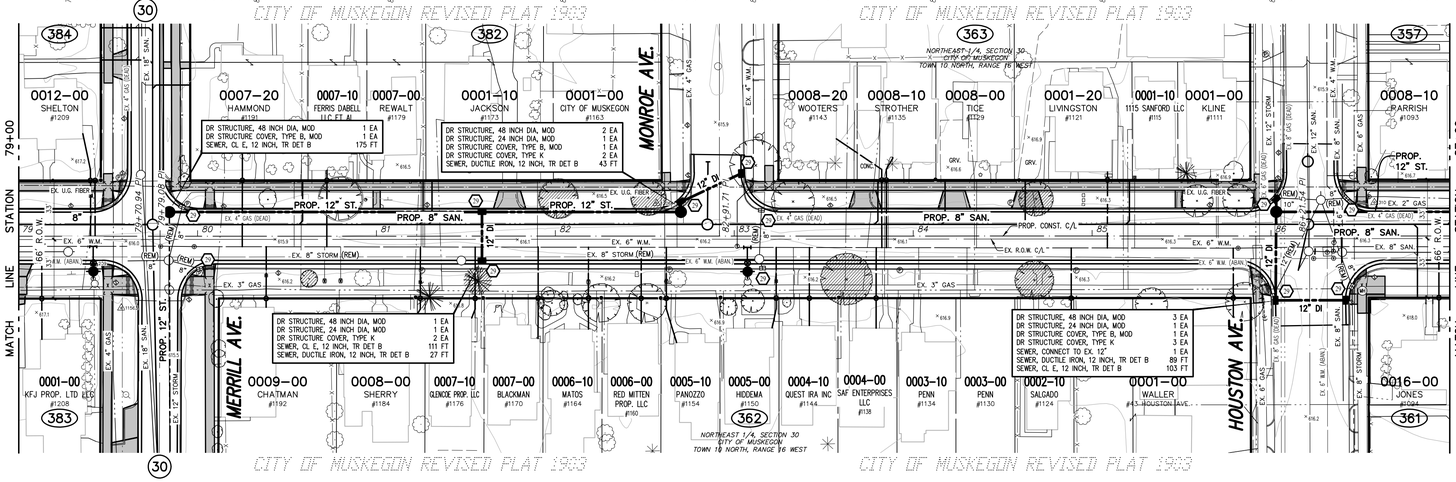
Prein&Newhof
Engineers • Surveyors • Environmental • Laboratory

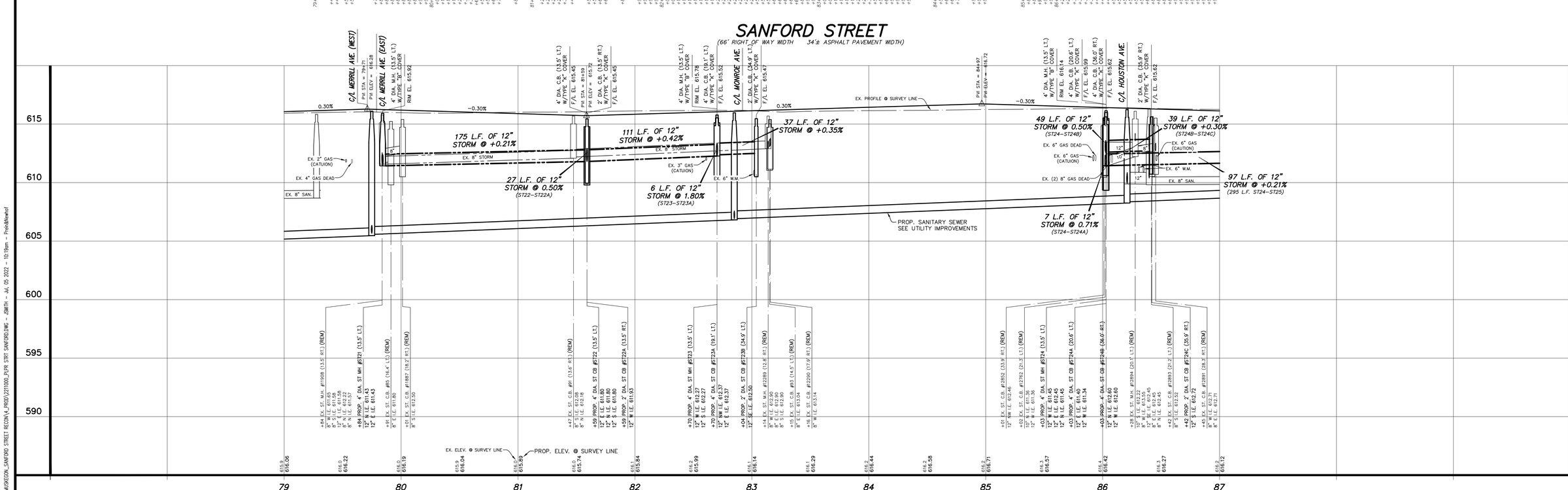
CITY OF MUSKEGON
MUSKEGON COUNTY, MICHIGAN
STREET IMPROVEMENTS
CONTRACT NO. 1
SANFORD STREET

PROJECT NO. 2211000
SHEET NO. 27 OF 42

I:\CIVIL3D PROJECTS\2021\2211000_MUSKEGON_SANFORD STREET RECON\4_PROD\2211000_PLPR SHT SANFORD.DWG – JSMITH – JUL 05 2022 – 10:18am – PrintMe4hnf

CONTROL POINT TABLE			
POINT No.	NORTHING	EASTING	ELEVATION
309	636246.820	12622729.050	615.63
310	636963.102	12622722.770	616.19
11563	636260.954	12622754.440	616.44
12064	636562.130	12622707.630	615.81





TOPOGRAPHY TEXT NOTE

TOPOGRAPHY TEXT STATIONS AND OFFSETS BASED ON SECTION LINE WHICH IS INDEPENDENT OF CONSTRUCTION CENTERLINE.

PROPOSED PAVEMENT LEGEND

- PROPOSED HMA APPROACH
- PROPOSED DRIVEWAY, NONREINF CONC, 6 INCH OR SIDEWALK, CONC, 4/6 INCH CONC PAVT, NONREINF, 8 INCH

NOTES: PROPOSED PAVEMENT ON STREET & INTERSECTIONS NOT SHADED FOR CLARITY.

SOIL EROSION CONTROL LEGEND

- PROPOSED EROSION CONTROL INLET PROTECTION FABRIC DROP

811 Know what's below. Call before you dig.

UTILITY LOCATIONS ARE DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.

SCALES : 1" = 40' HORZ. (CONTOURS AT ONE FOOT INTERVALS)
1" = 4' VERT.

NO.	REVISIONS	BY	DATE

DRAWN J.J.S.
DATE FEB. '22
CHECKED M.R.H.
DATE APR. '22

Prein&Newhof
Engineers • Surveyors • Environmental • Laboratory

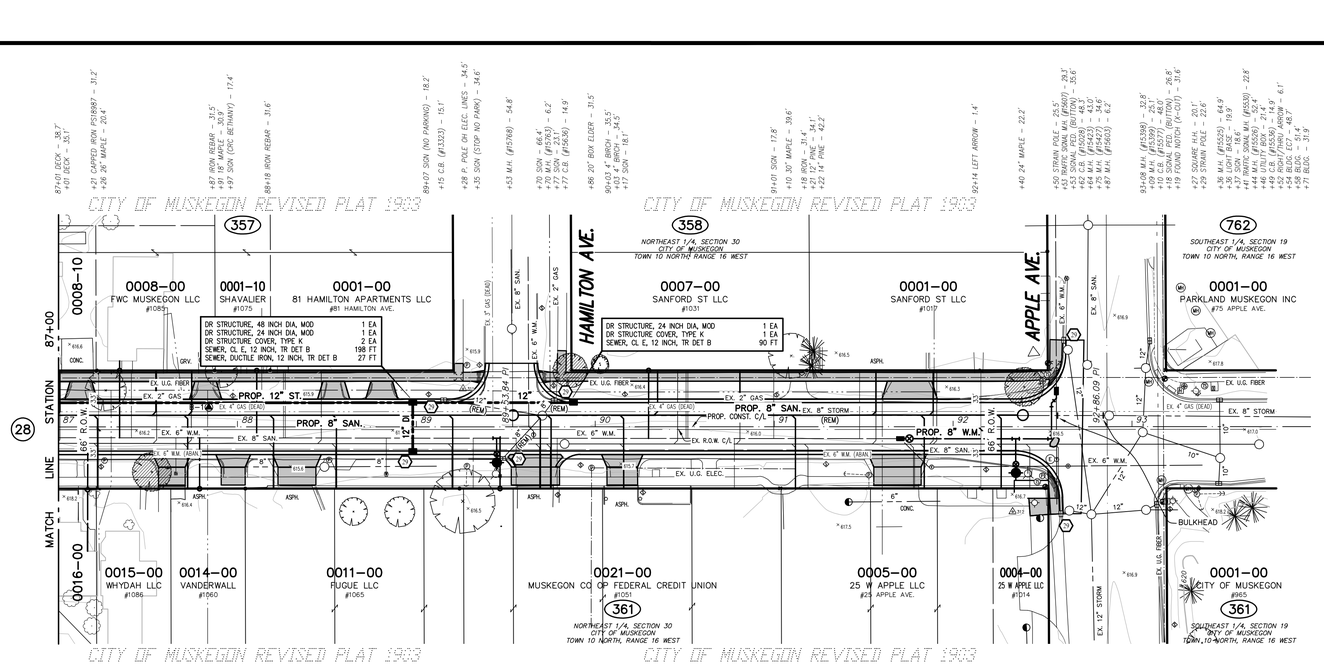
CITY OF MUSKEGON
MUSKEGON COUNTY, MICHIGAN
STREET IMPROVEMENTS
CONTRACT NO. 1
SANFORD STREET

PROJECT NO. 2211000
SHEET NO. 28 OF 42

I:\CIVIL3D PROJECTS\2021\2211000_MUSKEGON_SANFORD STREET RECON\4_PROD\2211000_PLPR SHT SANFORD.DWG - JSMITH - JUL 05 2022 - 10:19am - PreinNewhof

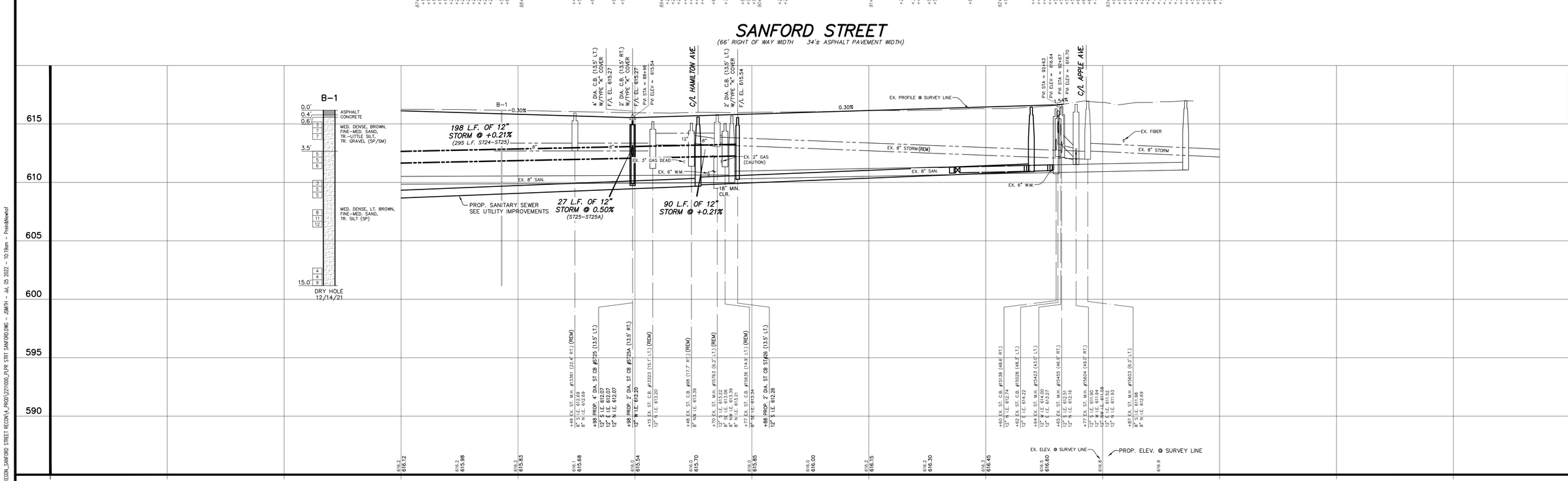
B.M.	EL. 617.62
SANFORD STREET & APPLE AVENUE, 35'± S & 25'± W OF C/L "X", TOP OF SOUTH FLANGE BOLT ON STRAIN POLE	

CONTROL POINT TABLE			
POINT No.	NORTHING	EASTING	ELEVATION
112	637535.605	12622811.220	617.06
311	637231.340	12622730.600	615.85
312	637535.605	12622811.220	617.00



SANFORD STREET

(66' RIGHT OF WAY WIDTH 34'± ASPHALT PAVEMENT WIDTH)



TOPOGRAPHY TEXT NOTE

TOPOGRAPHY TEXT STATIONS AND OFFSETS BASED ON SECTION LINE WHICH IS INDEPENDENT OF CONSTRUCTION CENTERLINE.

PROPOSED PAVEMENT LEGEND

- PROPOSED HMA APPROACH
- PROPOSED DRIVEWAY, NONREINF CONC, 6 INCH OR SIDEWALK, CONC, 4/6 INCH CONC PAVT, NONREINF, 8 INCH

NOTES: PROPOSED PAVEMENT ON STREET & INTERSECTIONS NOT SHADED FOR CLARITY.

SOIL EROSION CONTROL LEGEND

- PROPOSED EROSION CONTROL INLET PROTECTION FABRIC DROP

UTILITY LOCATIONS ARE DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.

Know what's below. Call before you dig. 811

SCALES : 1" = 40' HORZ. (CONTOURS AT ONE FOOT INTERVALS)
1" = 4' VERT.

NO.	REVISIONS	BY	DATE

DRAWN J.J.S.
DATE FEB. '22
CHECKED M.R.H.
DATE APR. '22

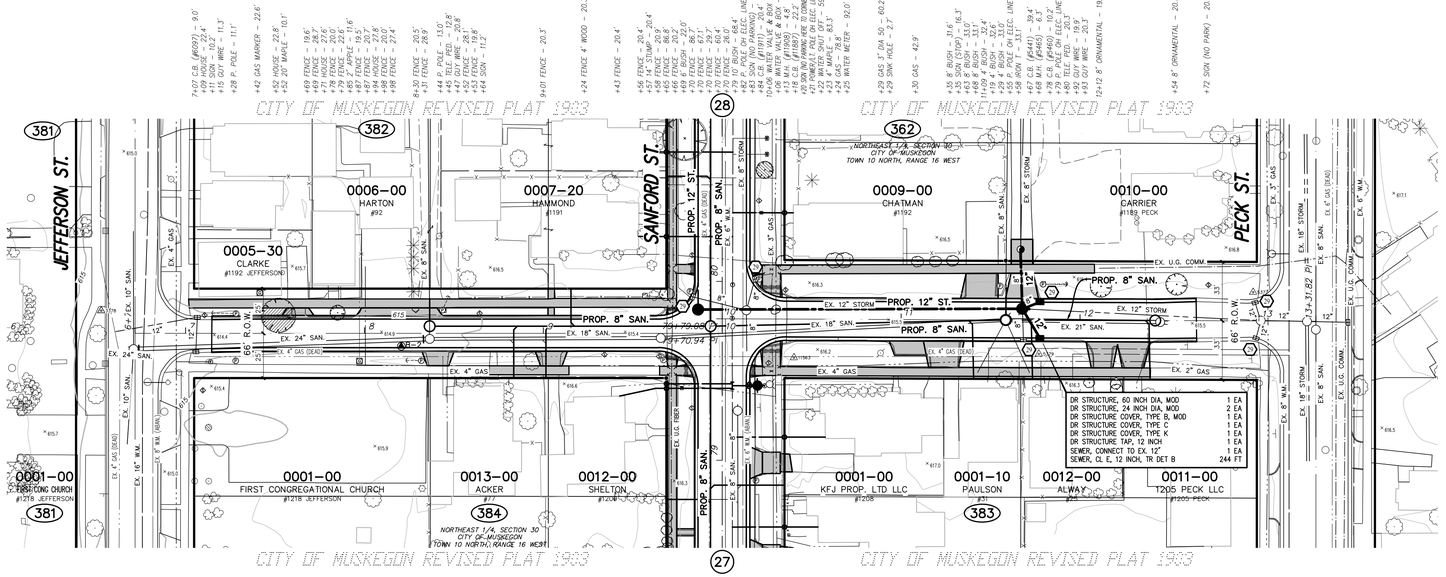
Prein&Newhof
Engineers • Surveyors • Environmental • Laboratory

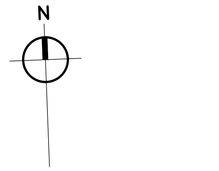
CITY OF MUSKEGON
MUSKEGON COUNTY, MICHIGAN
STREET IMPROVEMENTS
CONTRACT NO. 1
SANFORD STREET

PROJECT NO. 2211000
SHEET NO. 29 OF 42

I:\CIVIL3D PROJECTS\2021\2211000_MUSKEGON_SANFORD STREET RECON\4_PROD\2211000_PLPR SHT SANFORD.DWG - JSMITH - JUL 05 2022 - 10:19am - PreinNewhof

CONTROL POINT TABLE			
POINT No.	NORTHING	EASTING	ELEVATION
2	636246.820	12622729.050	615.59
3	636302.034	12622368.530	614.75
8	636246.820	12622729.050	615.59
309	636246.820	12622729.050	615.63
5377	636287.630	12623012.300	615.38
5378	636302.034	12622368.530	614.75
5379	636257.760	12622891.330	620.17
11563	636260.954	12622754.440	616.44





TOPOGRAPHY TEXT NOTE

TOPOGRAPHY TEXT STATIONS AND OFFSETS BASED ON SECTION LINE WHICH IS INDEPENDENT OF CONSTRUCTION CENTERLINE.

PROPOSED PAVEMENT LEGEND

- PROPOSED HMA APPROACH
- PROPOSED DRIVEWAY, NONREINF CONC, 6 INCH OR SIDEWALK, CONC, 4/6 INCH CONC PAVT, NONREINF, 8 INCH

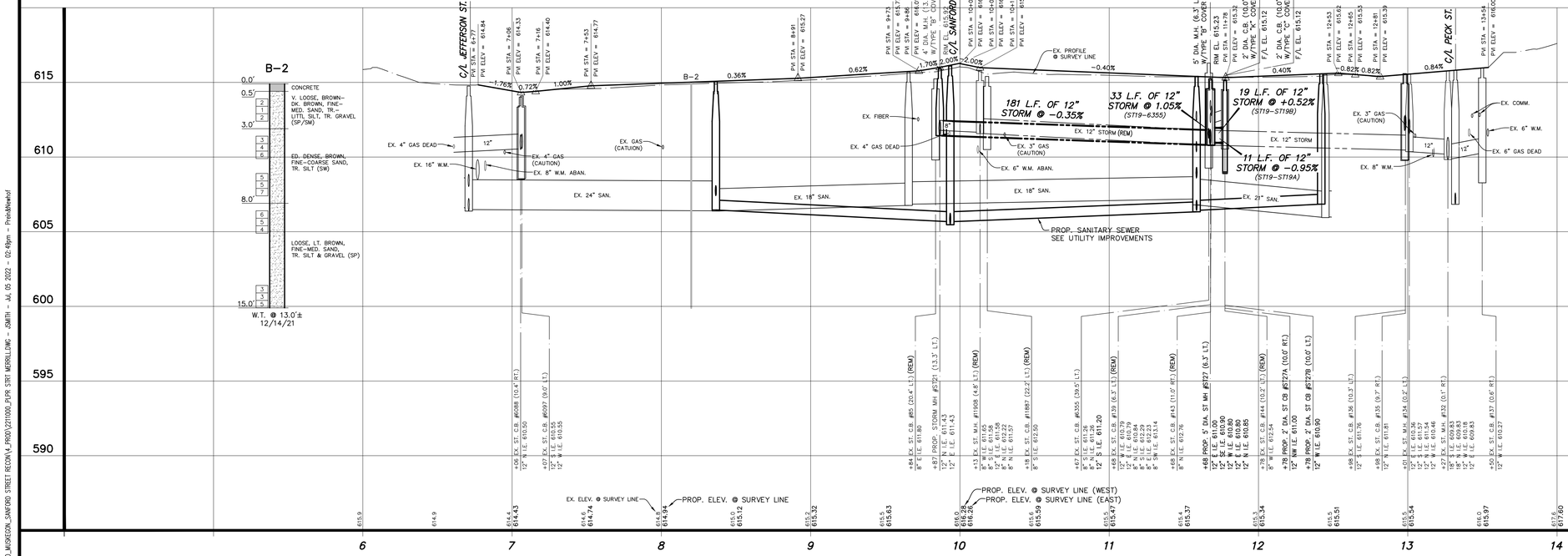
NOTES: PROPOSED PAVEMENT ON STREET & INTERSECTIONS NOT SHADED FOR CLARITY.

SOIL EROSION CONTROL LEGEND

- PROPOSED EROSION CONTROL INLET PROTECTION FABRIC DROP

MERRILL AVENUE

(RIGHT OF WAY WIDTH VARIES ASPHALT PAVEMENT WIDTH VARIES)



811 Know what's below. Call before you dig.

UTILITY LOCATIONS ARE DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.

SCALES : 1" = 40' HORZ. (CONTOURS AT ONE FOOT INTERVALS)
1" = 4' VERT.

NO.	REVISIONS	BY	DATE

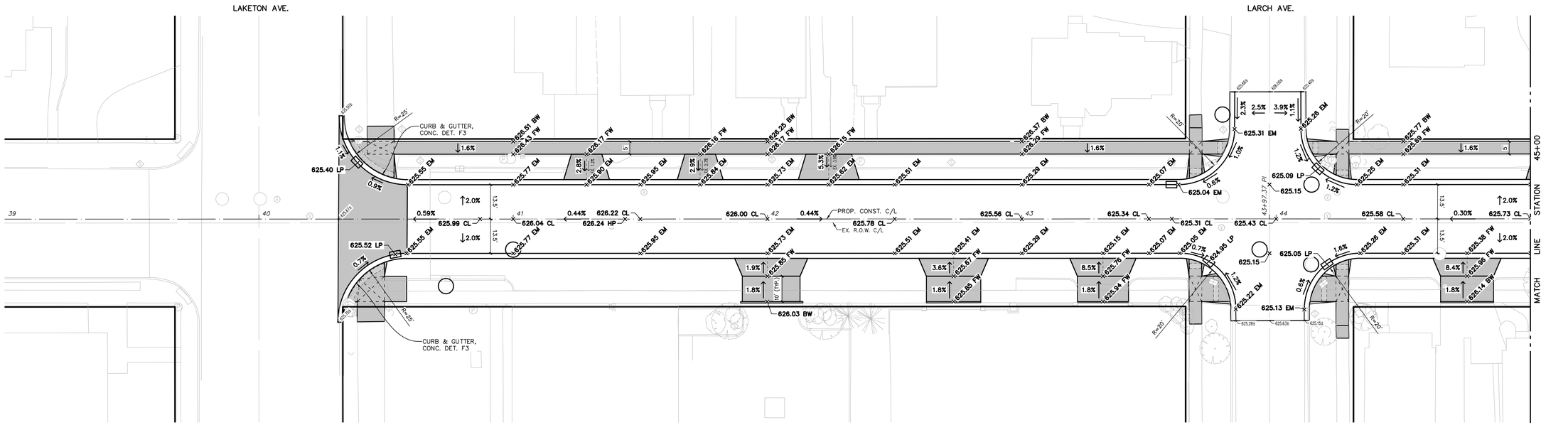
DRAWN J.J.S.
DATE FEB. '22
CHECKED M.R.H.
DATE APR. '22

Prein&Newhof
Engineers • Surveyors • Environmental • Laboratory

CITY OF MUSKEGON
MUSKEGON COUNTY, MICHIGAN
STREET IMPROVEMENTS
CONTRACT NO. 1
MERRILL AVENUE

PROJECT NO. 2211000
SHEET NO. 30 OF 42

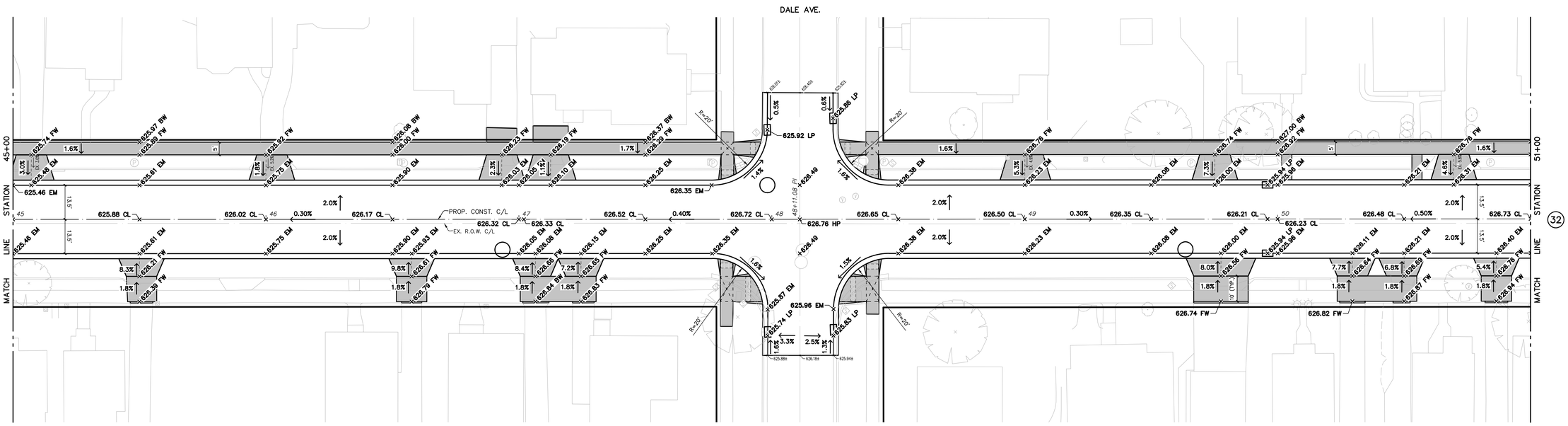
I:\CIVIL3D PROJECTS\2021\2211000_MUSKEGON_SANFORD STREET RECON\4_PROD\2211000_PLPR SHT MERRILL.DWG - JSMITH - JUL 05, 2022 - 02:49pm - PrintMeNewhof



GRADING DETAILS – SANFORD STREET

SCALE : 1" = 20'

North



GRADING DETAILS – SANFORD STREET

SCALE : 1" = 20'

North

NO.	REVISIONS	BY	DATE

DRAWN J.J.S.
DATE FEB. '22
CHECKED M.R.H.
DATE APR. '22

Prein&Newhof
Engineers • Surveyors • Environmental • Laboratory

CITY OF MUSKEGON
MUSKEGON COUNTY, MICHIGAN

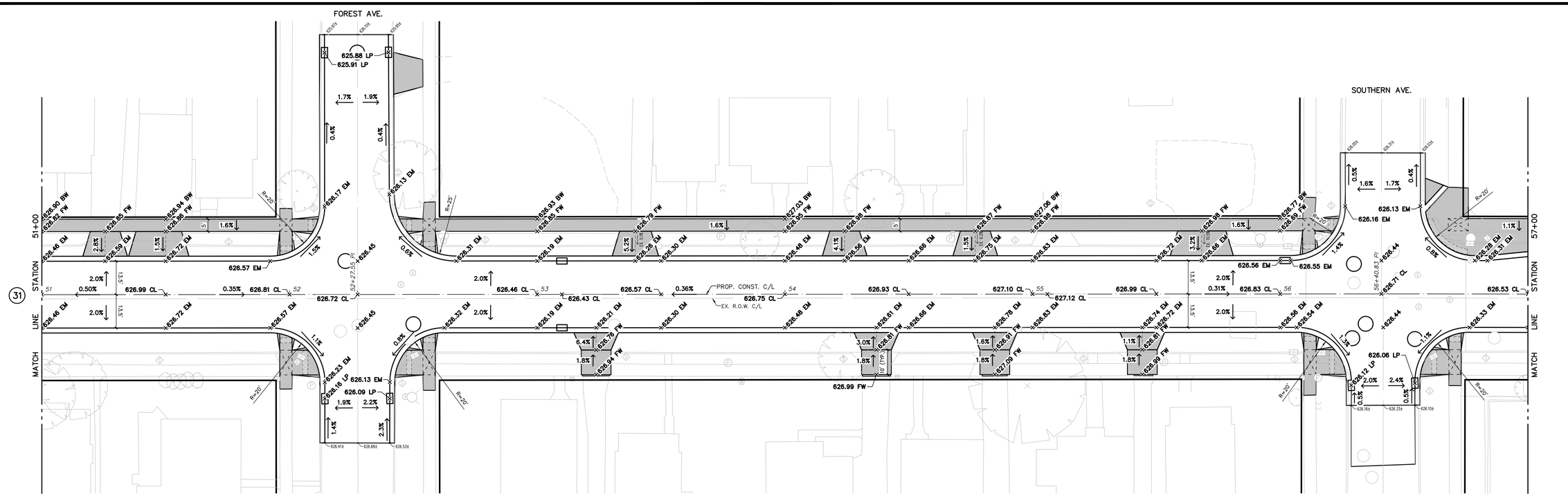
STREET IMPROVEMENTS
CONTRACT NO. 1

GRADING DETAILS

PROJECT NO. 2211000

SHEET NO. 31 OF 42

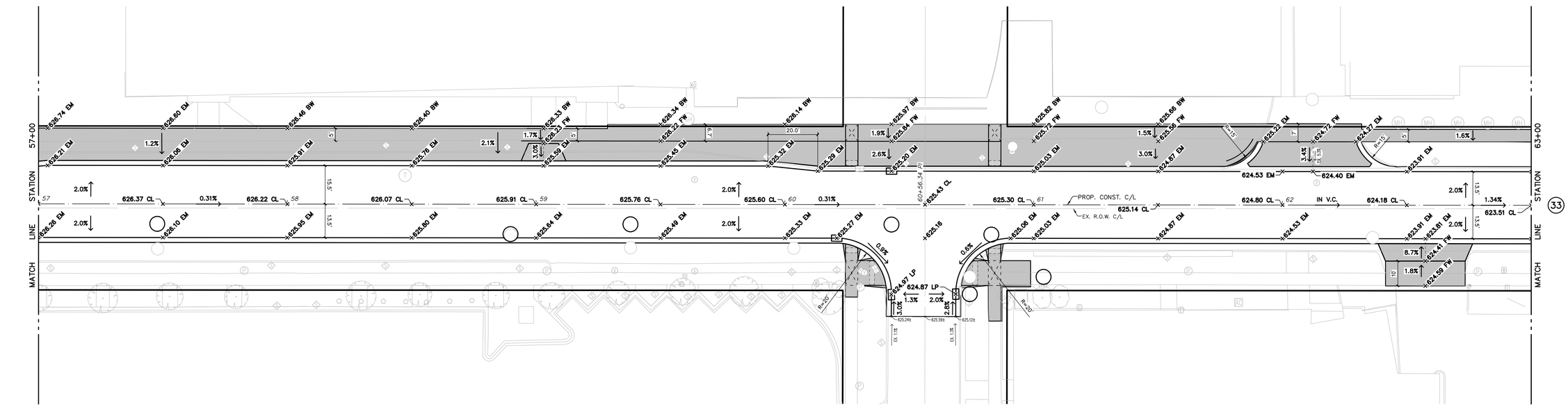
T:\CIVIL3D PROJECTS\2021\2211000_MUSKEGON_SANFORD STREET RECON\4_PRO3\2211000_GRAD SANFORD.DWG – JSMITH – JUL 05, 2022 – 12:22pm – PreinNewhof



GRADING DETAILS – SANFORD STREET

SCALE : 1" = 20'

North



GRADING DETAILS – SANFORD STREET

SCALE : 1" = 20'

North

NO.	REVISIONS	BY	DATE

DRAWN J.J.S.
DATE FEB. '22
CHECKED M.R.H.
DATE APR. '22

Prein&Newhof
Engineers • Surveyors • Environmental • Laboratory

CITY OF MUSKEGON
MUSKEGON COUNTY, MICHIGAN

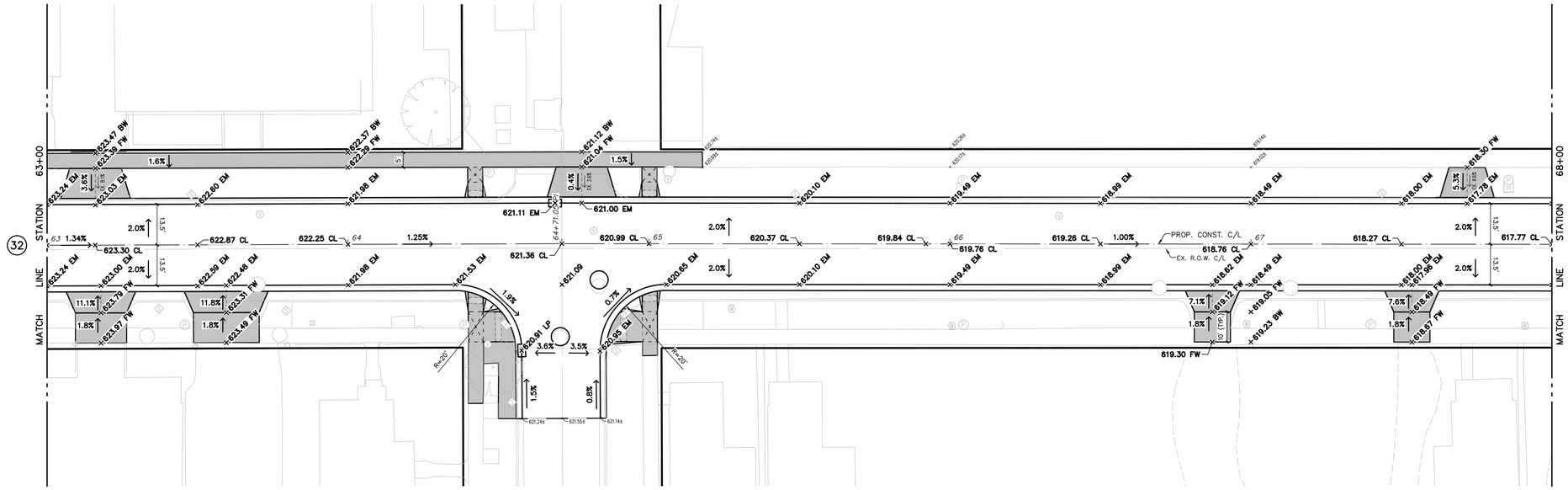
STREET IMPROVEMENTS
CONTRACT NO. 1

GRADING DETAILS

PROJECT NO. 2211000

SHEET NO. 32 OF 42

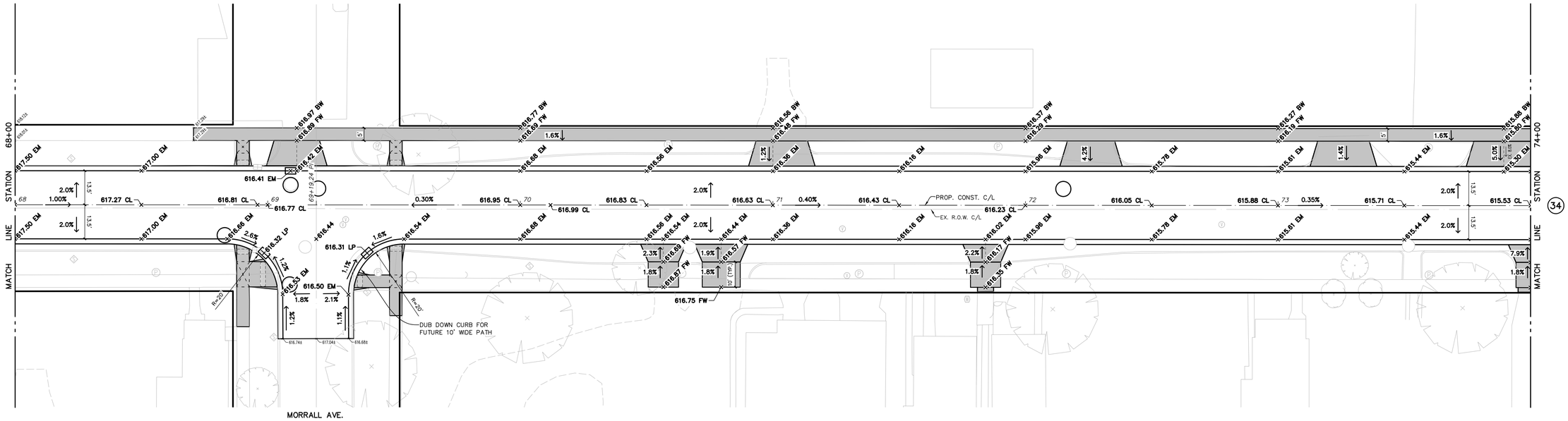
T:\CIVIL3D PROJECTS\2021\2211000_MUSKEGON_SANFORD STREET RECON\4_PRO3\2211000_GRAD SANFORD.DWG - JSMITH - JUL 05 2022 - 12:23pm - PreinNewhof



GRADING DETAILS – SANFORD STREET

SCALE : 1" = 20'

North



GRADING DETAILS – SANFORD STREET

SCALE : 1" = 20'

North

NO.	REVISIONS	BY	DATE

DRAWN: J.J.S.
DATE: FEB. '22
CHECKED: M.R.H.
DATE: APR. '22

Prein&Newhof
Engineers • Surveyors • Environmental • Laboratory

CITY OF MUSKEGON
MUSKEGON COUNTY, MICHIGAN

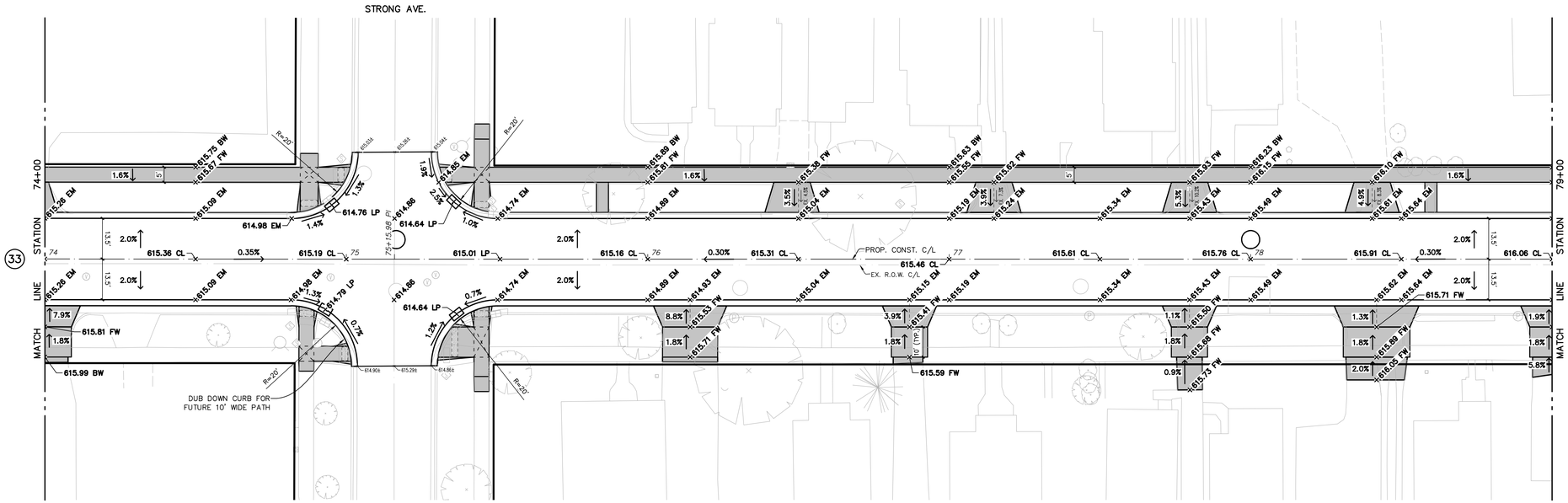
STREET IMPROVEMENTS
CONTRACT NO. 1

GRADING DETAILS

PROJECT NO. 2211000

SHEET NO. 33 OF 42

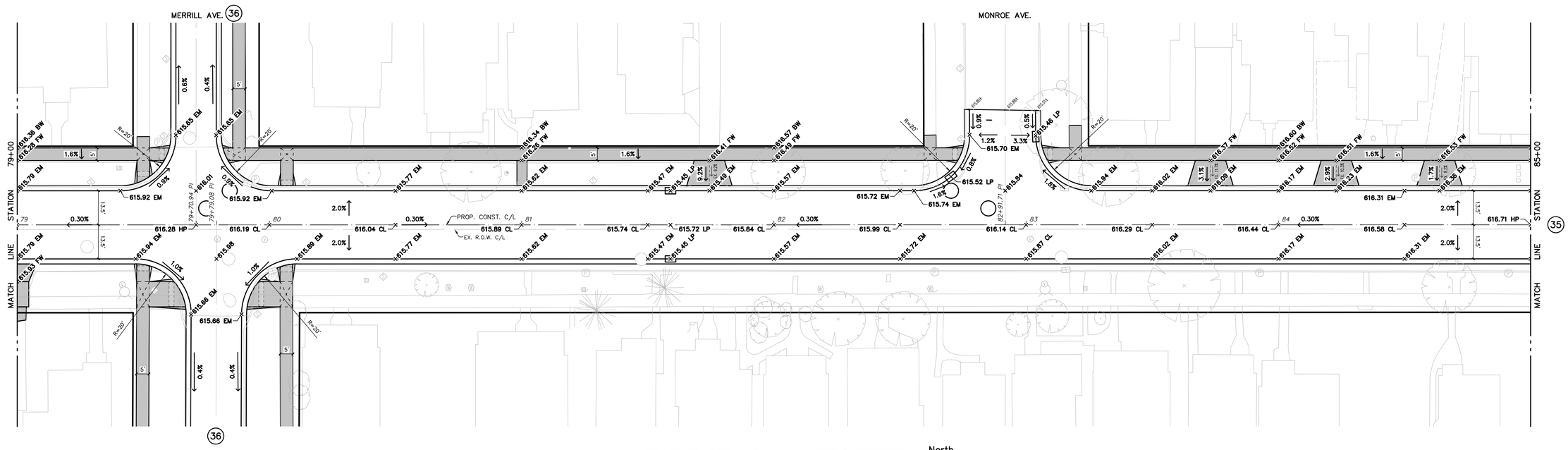
T:\CIVIL3D PROJECTS\2021\2211000_MUSKEGON_SANFORD STREET RECON\4_PRO3\2211000_GRAD SANFORD.DWG - JSMITH - JUL 05 2022 - 01:24pm - PreinNewhof



GRADING DETAILS – SANFORD STREET

SCALE : 1" = 20'

North



GRADING DETAILS – SANFORD STREET

SCALE : 1" = 20'

North

NO.	REVISIONS	BY	DATE

DRAWN J.J.S.
DATE FEB. '22
CHECKED M.R.H.
DATE APR. '22

Prein&Newhof
Engineers • Surveyors • Environmental • Laboratory

CITY OF MUSKEGON
MUSKEGON COUNTY, MICHIGAN

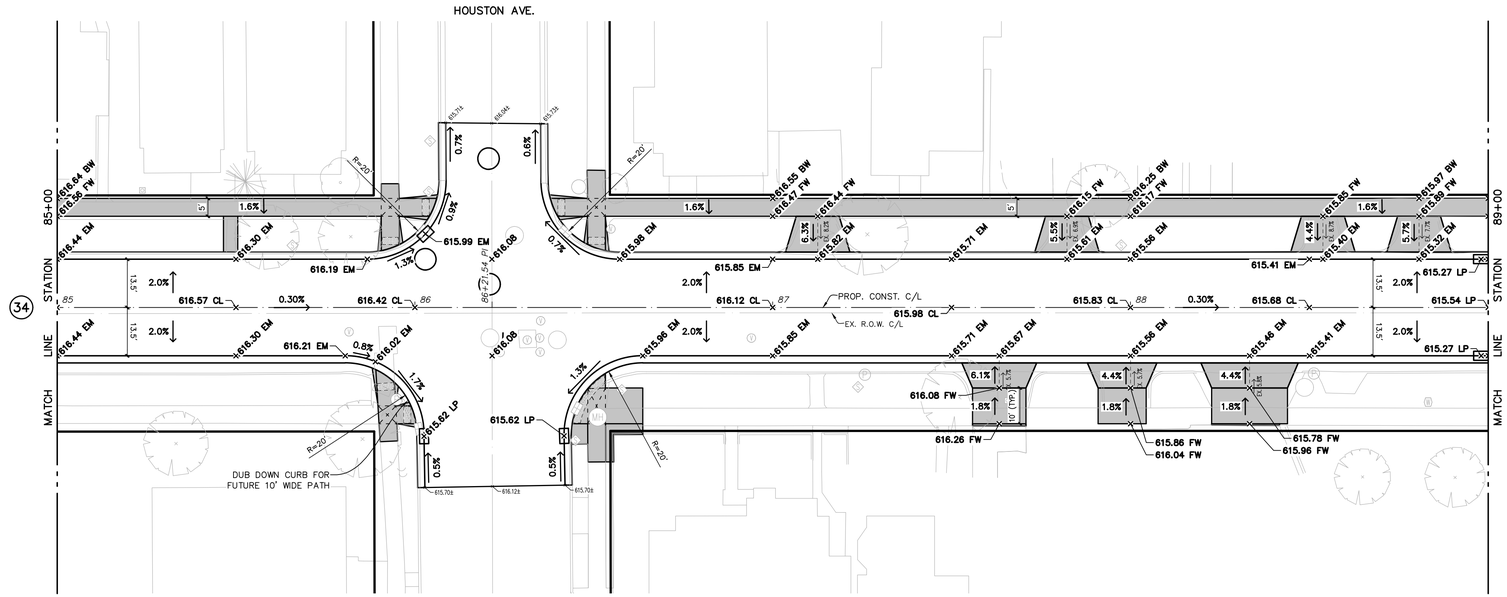
STREET IMPROVEMENTS
CONTRACT NO. 1

GRADING DETAILS

PROJECT NO. 2211000

SHEET NO. 34 OF 42

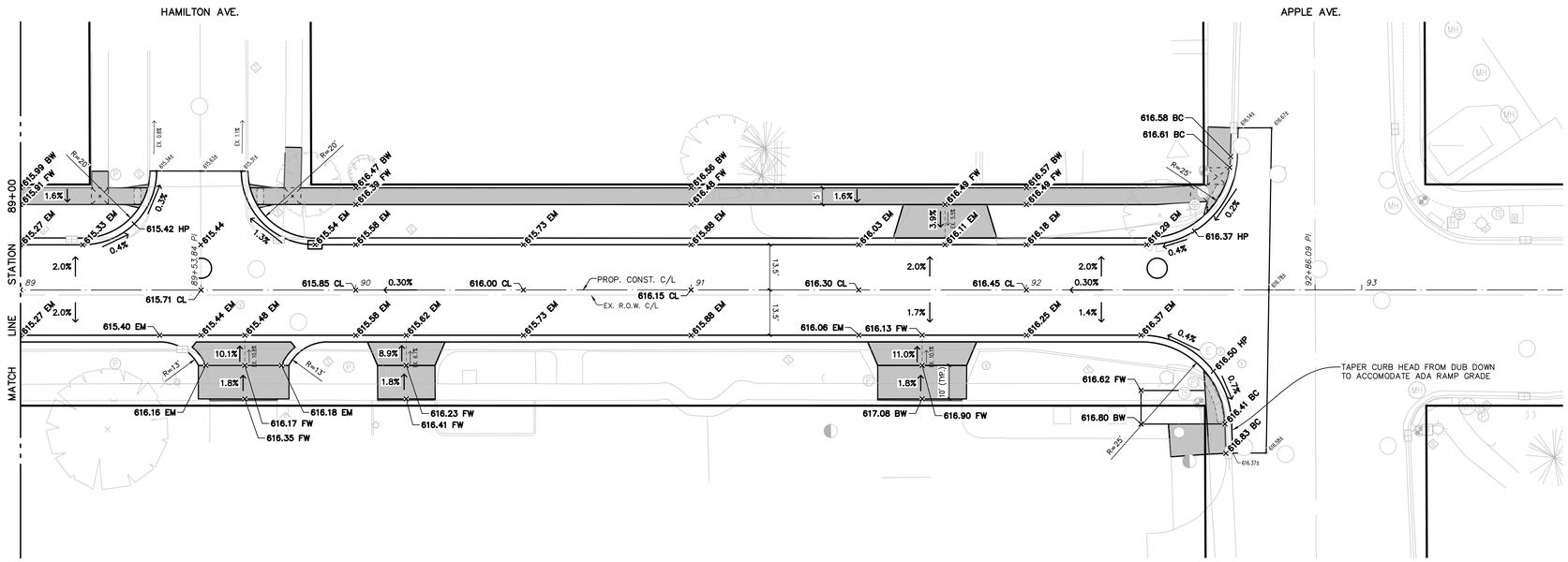
T:\CIVIL3D PROJECTS\2021\2211000_MUSKEGON_SANFORD STREET RECON\4_PRO3\2211000_GRAD SANFORD.DWG - JSMITH - JUL 05 2022 - 01:36pm - PreinNewhof



GRADING DETAILS – SANFORD STREET

SCALE : 1" = 20'

North



GRADING DETAILS – SANFORD STREET

SCALE : 1" = 20'

North

NO.	REVISIONS	BY	DATE

DRAWN: J.J.S.
DATE: FEB. '22
CHECKED: M.R.H.
DATE: APR. '22

Prein&Newhof
Engineers • Surveyors • Environmental • Laboratory

CITY OF MUSKEGON
MUSKEGON COUNTY, MICHIGAN

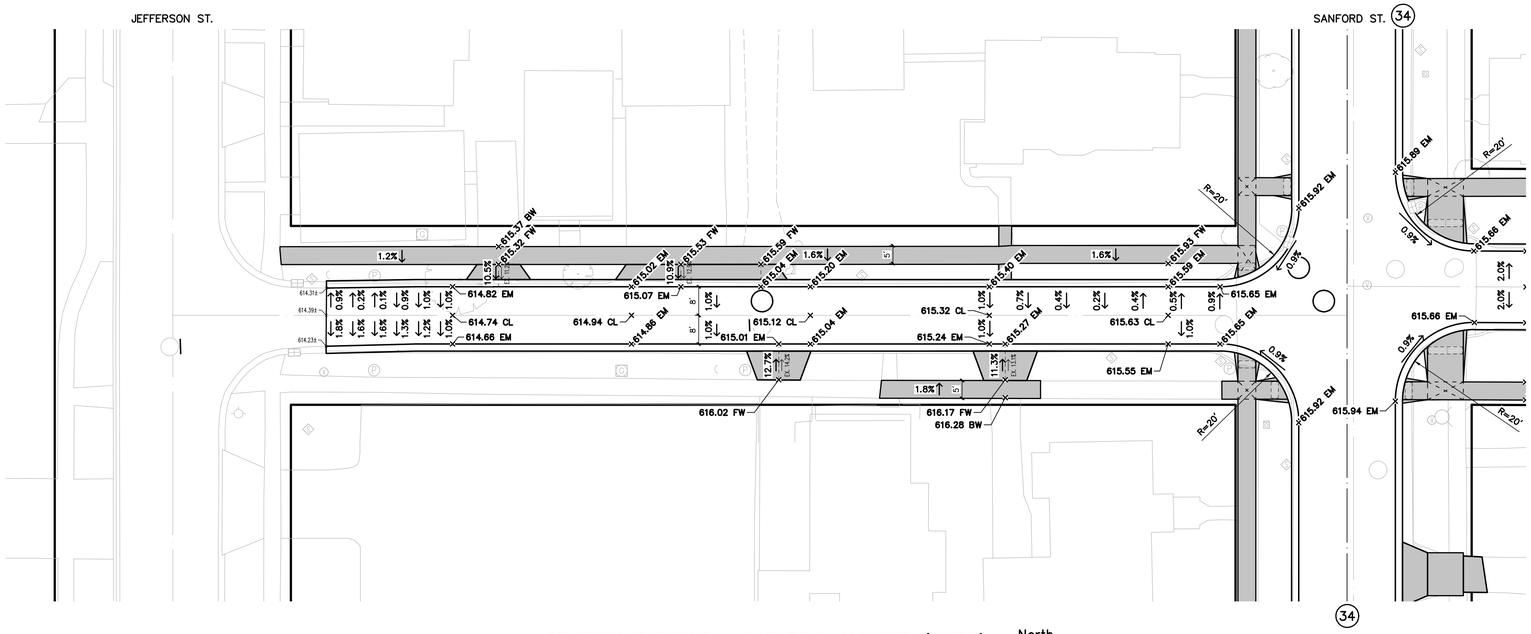
STREET IMPROVEMENTS
CONTRACT NO. 1

GRADING DETAILS

PROJECT NO. 2211000

SHEET NO. 35 OF 42

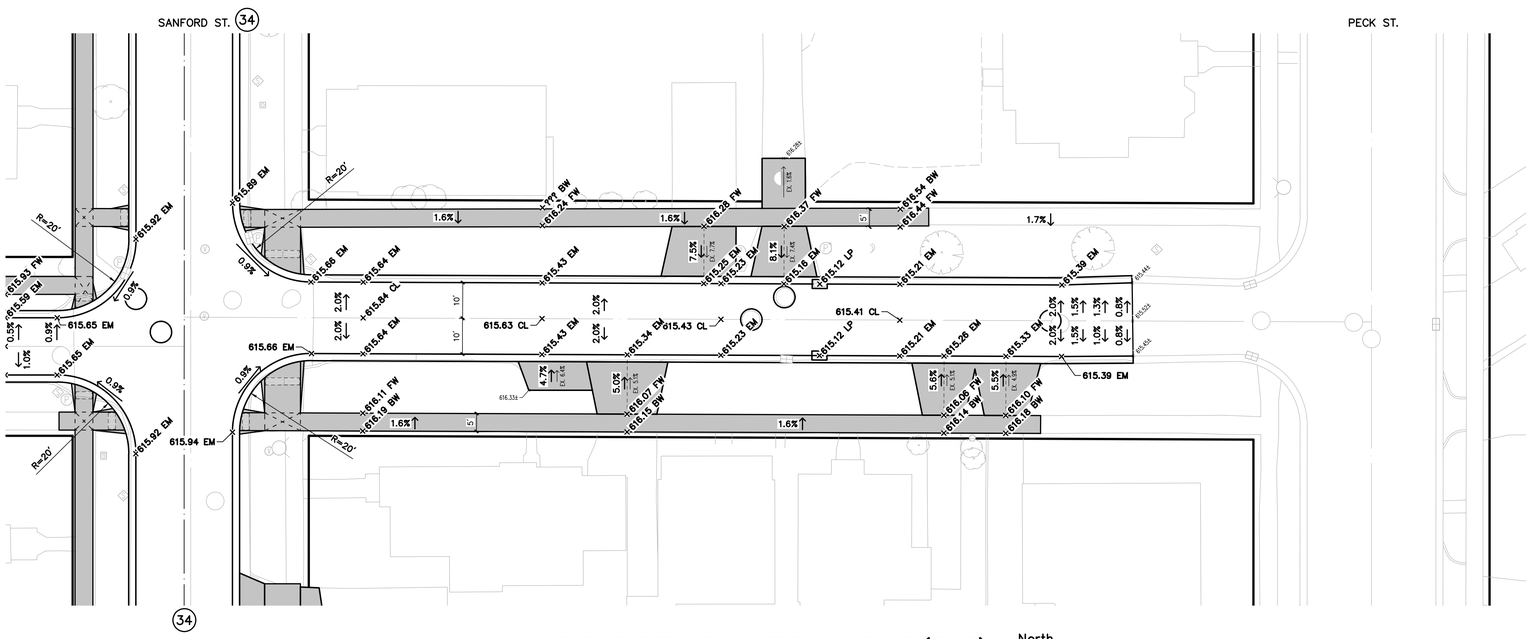
T:\CIVIL3D PROJECTS\2021\2211000_MUSKEGON_SANFORD STREET RECON\4_PRO3\2211000_GRAD SANFORD.DWG - JSMITH - JUL 05 2022 - 01:43pm - PreinNewhof



GRADING DETAILS – MERRILL AVENUE (WEST)

SCALE : 1" = 20'

North



GRADING DETAILS – MERRILL AVENUE (EAST)

SCALE : 1" = 20'

North

NO.	REVISIONS	BY	DATE

DRAWN: J.J.S.
DATE: FEB. '22
CHECKED: M.R.H.
DATE: APR. '22

Prein&Newhof
Engineers • Surveyors • Environmental • Laboratory

CITY OF MUSKEGON
MUSKEGON COUNTY, MICHIGAN

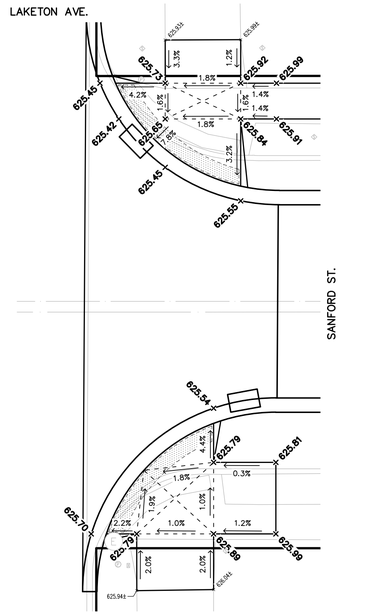
STREET IMPROVEMENTS
CONTRACT NO. 1

GRADING DETAILS

PROJECT NO. 2211000

SHEET NO. 36 OF 42

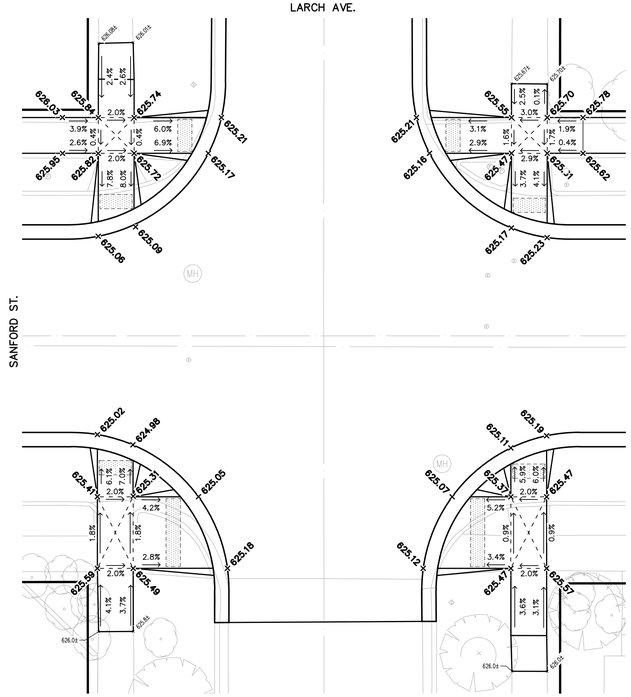
T:\CIVIL3D PROJECTS\2021\2211000_MUSKEGON_SANFORD STREET RECON\4_PRO3\2211000_GRAD MERRILL.DWG - JSMITH - JUL 05 2022 - 02:56pm - PreinANewhof



SIDEWALK GRADING DETAILS
SANFORD ST. & LAKETON AVE.

SCALE : 1" = 10'

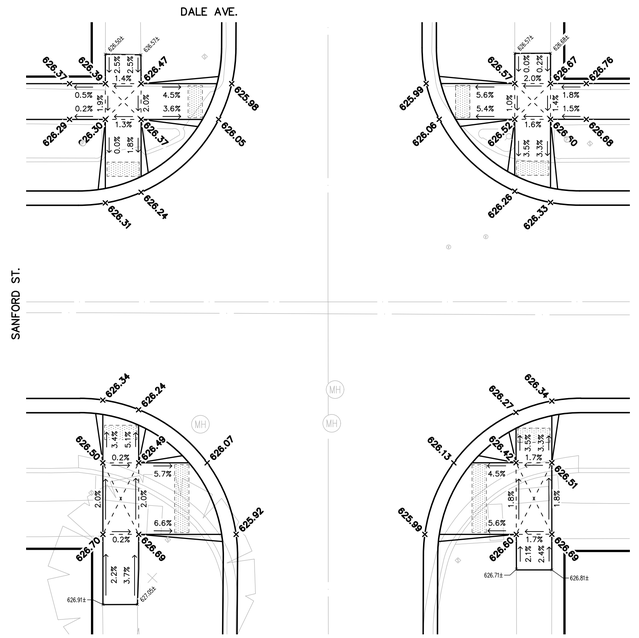
North



SIDEWALK GRADING DETAILS
SANFORD ST. & LARCH AVE.

SCALE : 1" = 10'

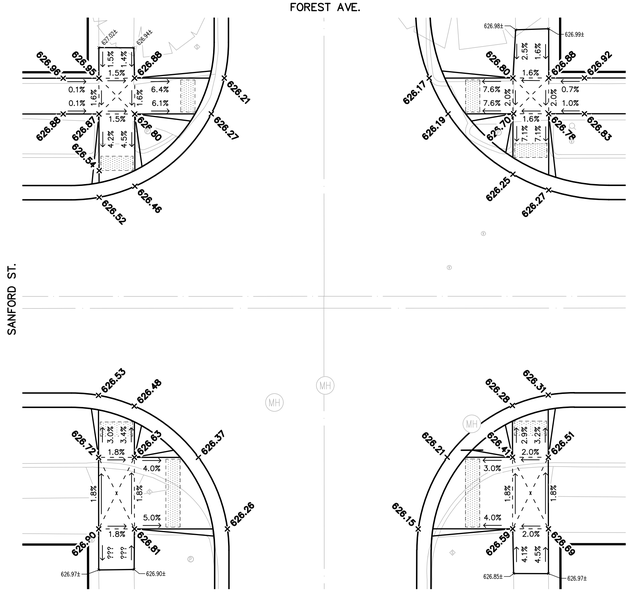
North



SIDEWALK GRADING DETAILS
SANFORD ST. & DALE AVE.

SCALE : 1" = 10'

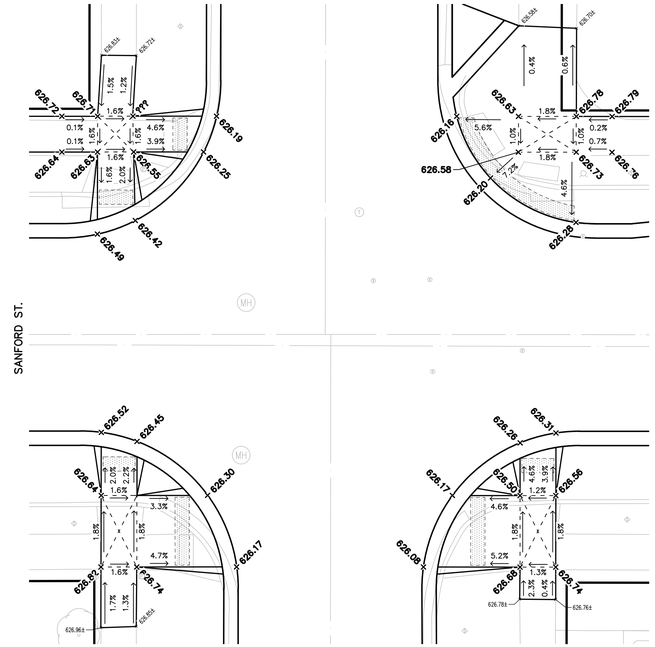
North



SIDEWALK GRADING DETAILS
SANFORD ST. & FOREST AVE.

SCALE : 1" = 10'

North



SIDEWALK GRADING DETAILS
SANFORD ST. & SOUTHERN AVE.

SCALE : 1" = 10'

North

NO.	REVISIONS	BY	DATE

DRAWN: J.J.S.
DATE: FEB. '22
CHECKED: M.R.H.
DATE: APR. '22

Prein&Newhof
Engineers • Surveyors • Environmental • Laboratory

CITY OF MUSKEGON
MUSKEGON COUNTY, MICHIGAN

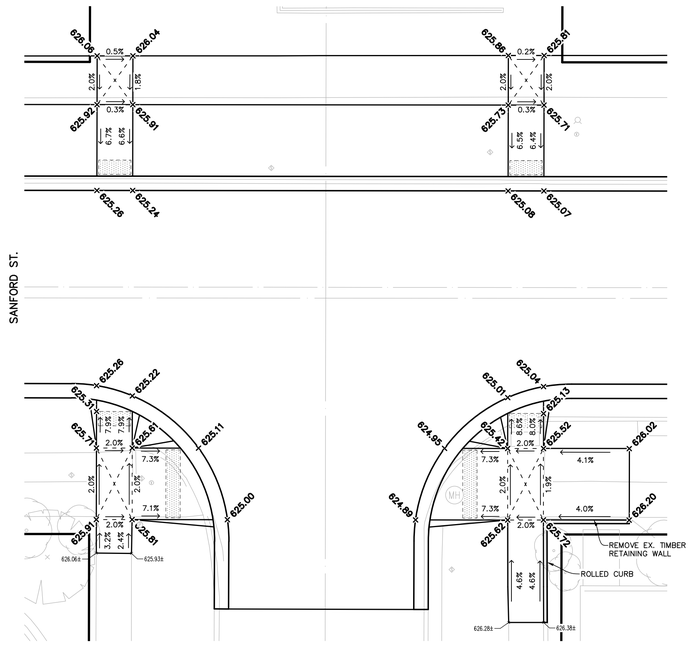
STREET IMPROVEMENTS
CONTRACT NO. 1

SIDEWALK GRADING DETAILS

PROJECT NO. 2211000

SHEET NO. 37 OF 42

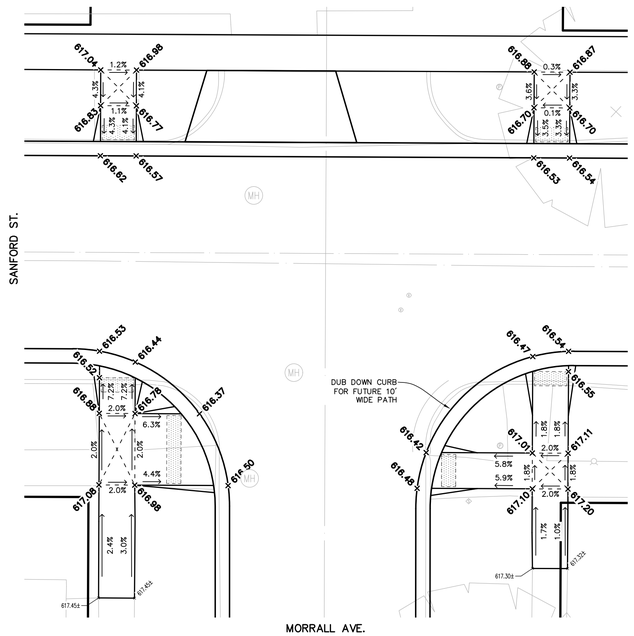
T:\CIVIL3D PROJECTS\2021\2211000_MUSKEGON_SANFORD STREET RECON\4_PROD\2211000_GRAD SIDEWALK.DWG - JSMITH - Jul. 05 2022 - 10:40am - PreinANewhof



SIDEWALK GRADING DETAILS
SANFORD ST. & GRAND AVE.

SCALE : 1" = 10'

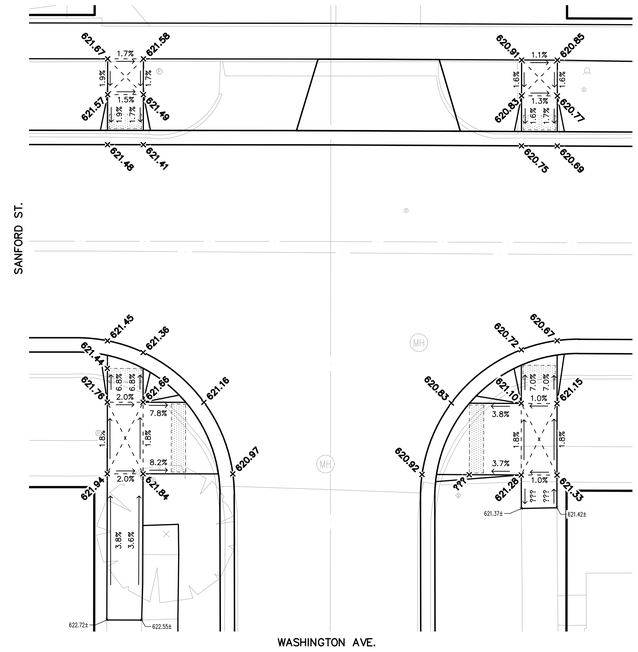
North



SIDEWALK GRADING DETAILS
SANFORD ST. & MORRALL AVE.

SCALE : 1" = 10'

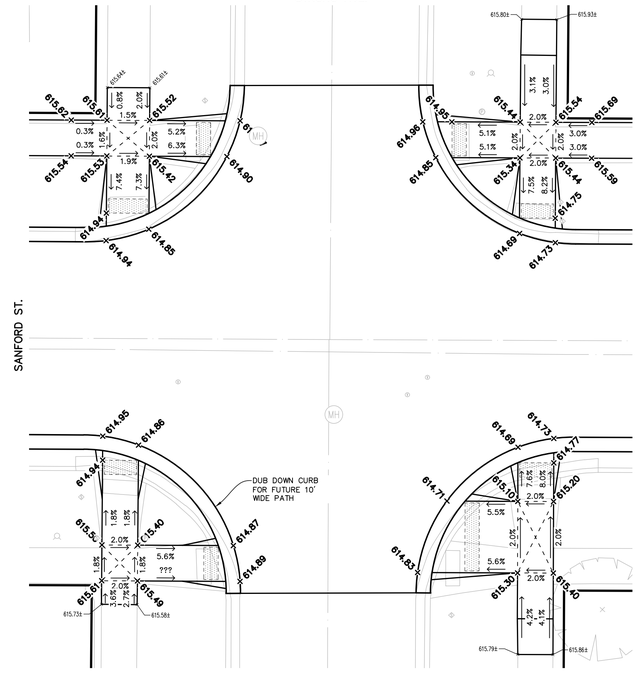
North



SIDEWALK GRADING DETAILS
SANFORD ST. & WASHINGTON AVE.

SCALE : 1" = 10'

North



SIDEWALK GRADING DETAILS
SANFORD ST. & STRONG AVE.

SCALE : 1" = 10'

North

NO.	REVISIONS	BY	DATE

DRAWN: J.J.S.
DATE: FEB. '22
CHECKED: M.R.H.
DATE: APR. '22

Prein&Newhof
Engineers • Surveyors • Environmental • Laboratory

CITY OF MUSKEGON
MUSKEGON COUNTY, MICHIGAN

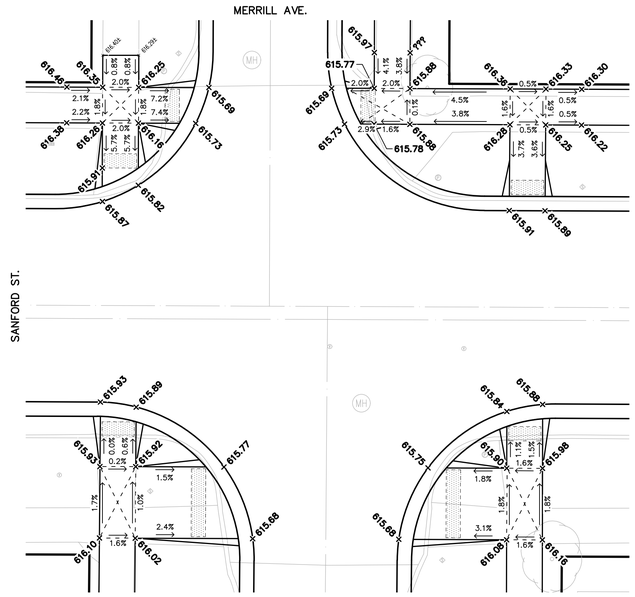
STREET IMPROVEMENTS
CONTRACT NO. 1

SIDEWALK GRADING DETAILS

PROJECT NO. 2211000

SHEET NO. 38 OF 42

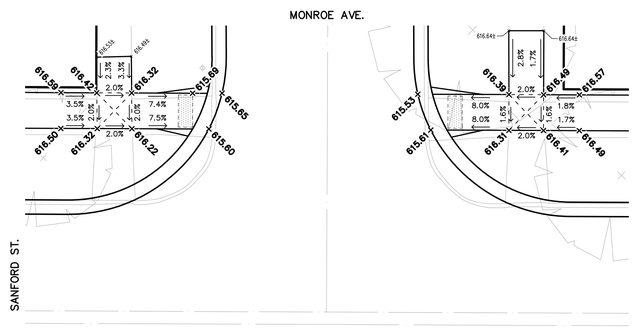
T:\CIVIL3D PROJECTS\2021\2211000_MUSKEGON_SANFORD STREET RECON\4_PROD\2211000_GRAD SIDEWALK.DWG - JSMITH - Jul. 05 2022 - 10:42am - PreinANewhof



SIDEWALK GRADING DETAILS
SANFORD ST. & MERRILL AVE.

SCALE : 1" = 10'

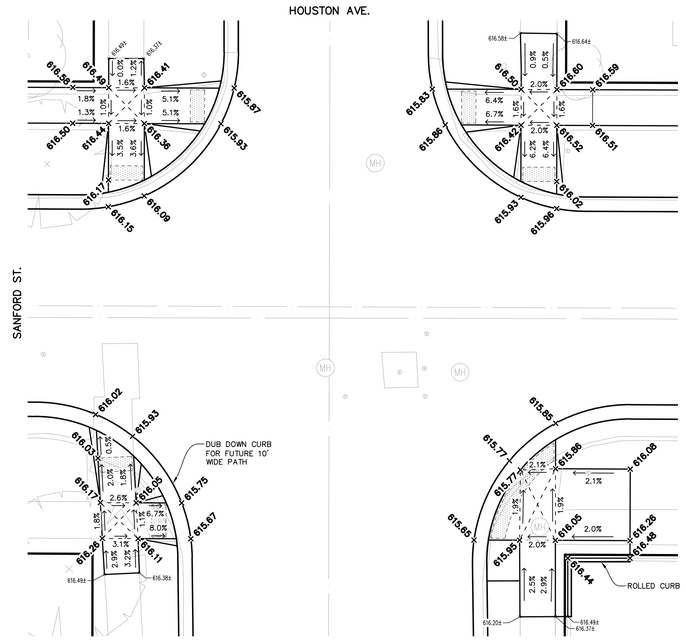
North



SIDEWALK GRADING DETAILS
SANFORD ST. & MONROE AVE.

SCALE : 1" = 10'

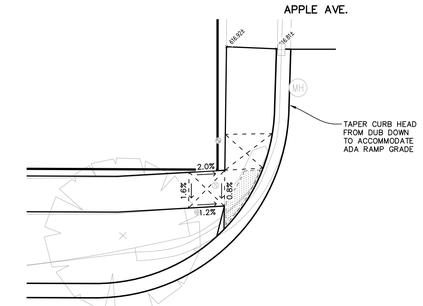
North

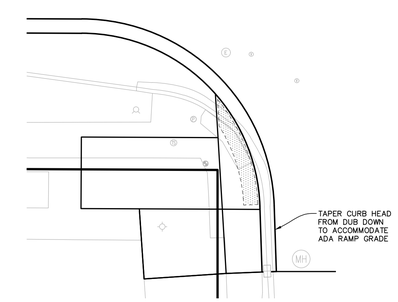


SIDEWALK GRADING DETAILS
SANFORD ST. & HOUSTON AVE.

SCALE : 1" = 10'

North

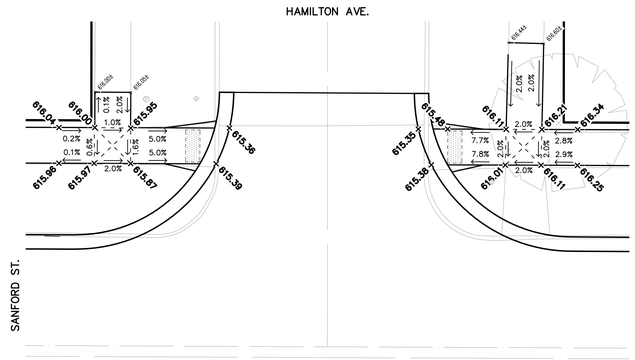




SIDEWALK GRADING DETAILS
SANFORD ST. & APPLE AVE.

SCALE : 1" = 10'

North



SIDEWALK GRADING DETAILS
SANFORD ST. & HAMILTON AVE.

SCALE : 1" = 10'

North

NO.	REVISIONS	BY	DATE

DRAWN J.J.S.
DATE FEB. '22
CHECKED M.R.H.
DATE APR. '22

Prein&Newhof
Engineers • Surveyors • Environmental • Laboratory

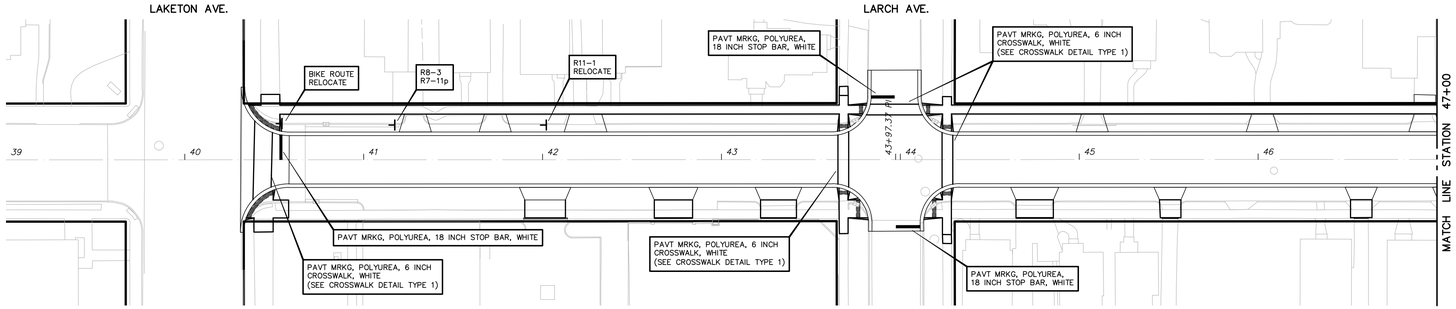
CITY OF MUSKEGON
MUSKEGON COUNTY, MICHIGAN

STREET IMPROVEMENTS
CONTRACT NO. 1

SIDEWALK GRADING DETAILS

PROJECT NO. 2211000
SHEET NO. 39 OF 42

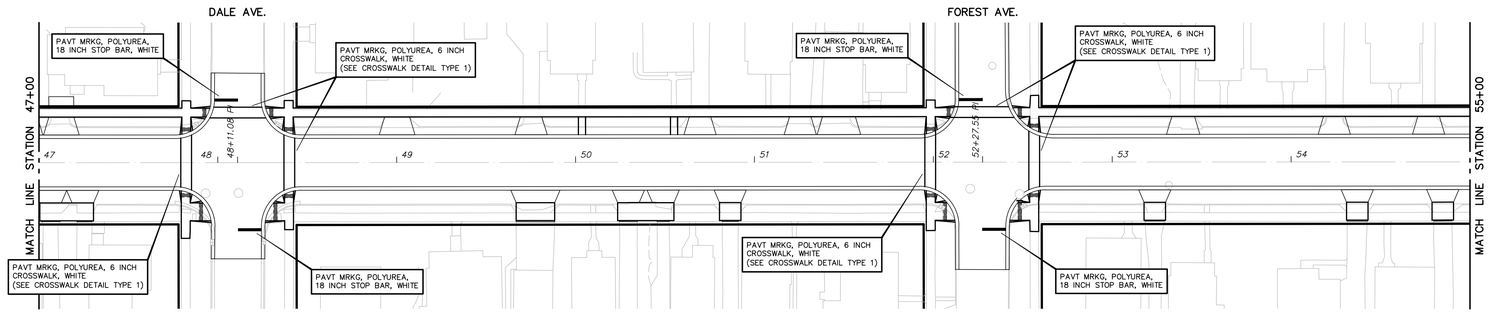
I:\CIVIL3D PROJECTS\2021\2211000_MUSKEGON_SANFORD STREET RECON\4-PROD\2211000_GRAD SIDEWALK.DWG - JSMITH - Jul, 05 2022 - 10:43am - PreinNiNewhof



PAVEMENT MARKING & SIGNING PLAN – SANFORD ST.

SCALE : 1" = 40'

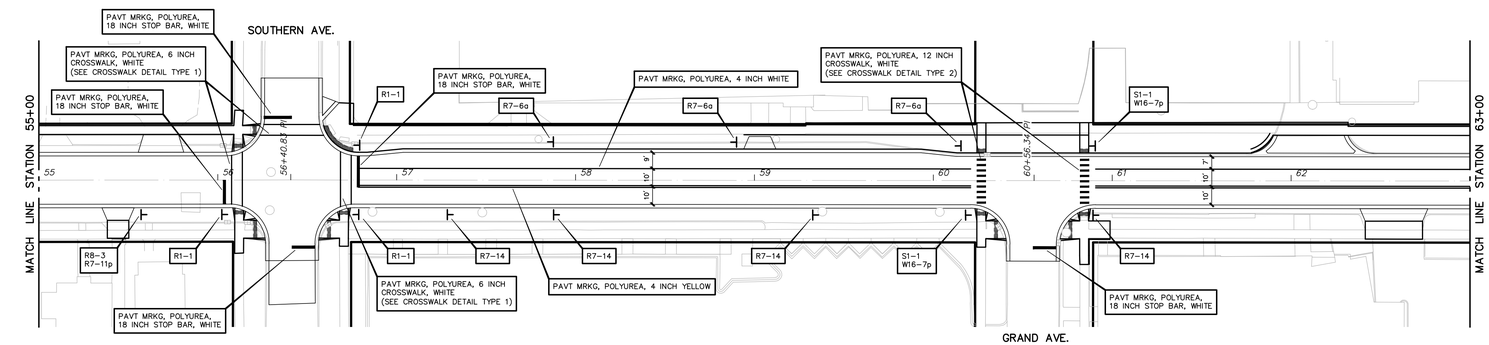
North



PAVEMENT MARKING & SIGNING PLAN – SANFORD ST.

SCALE : 1" = 40'

North

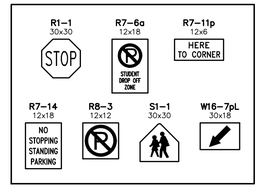


PAVEMENT MARKING & SIGNING PLAN – SANFORD ST.

SCALE : 1" = 40'

North

SIGN DETAILS



MARKING QUANTITIES

PAVT MRKG, POLYUREA, 4 INCH, YELLOW	1106 FT
PAVT MRKG, POLYUREA, 4 INCH, WHITE	553 FT
PAVT MRKG, POLYUREA, 18 INCH, STOP BAR	165 FT
PAVT MRKG, POLYUREA, 6 INCH CROSSWALK	800 FT
PAVT MRKG, POLYUREA, 12 INCH CROSSWALK	108 FT

LIST OF SIGNS

ITEM	DESCRIPTION	SIZE	QUANTITY	TOTAL
R1-1	STOP SIGN	30 INCH x 30 INCH	3	18.75 SFT
R7-6A	NO PARKING STUDENT DROP OFF	12 INCH x 18 INCH	3	4.5 SFT
R7-11p	HERE TO CORNER	12 INCH x 6 INCH	2	1 SFT
R7-14	NO STOPPING, STANDING, PARKING	12 INCH x 18 INCH	4	6 SFT
R8-3	NO PARKING	12 INCH x 12 INCH	2	2 SFT
S1-1	SCHOOL CROSSING	30 INCH x 30 INCH	2	12.5 SFT
W16-7pL	ARROW	30 INCH x 18 INCH	2	7.5 SFT
			TOTAL	52.25 SFT

SIGN QUANTITIES

SIGN TYPE IIIB	52.25 SFT
SIGN, TYPE III, ERECT, SALV	2 EA
POST, STEEL, 3 LB	190 FT
POST HOLE THROUGH CONC FOR STEEL POST	5 EA

NO.	REVISIONS	BY	DATE

DRAWN J.J.S.
DATE FEB. '22
CHECKED M.R.H.
DATE APR. '22

Prein&Newhof
Engineers • Surveyors • Environmental • Laboratory

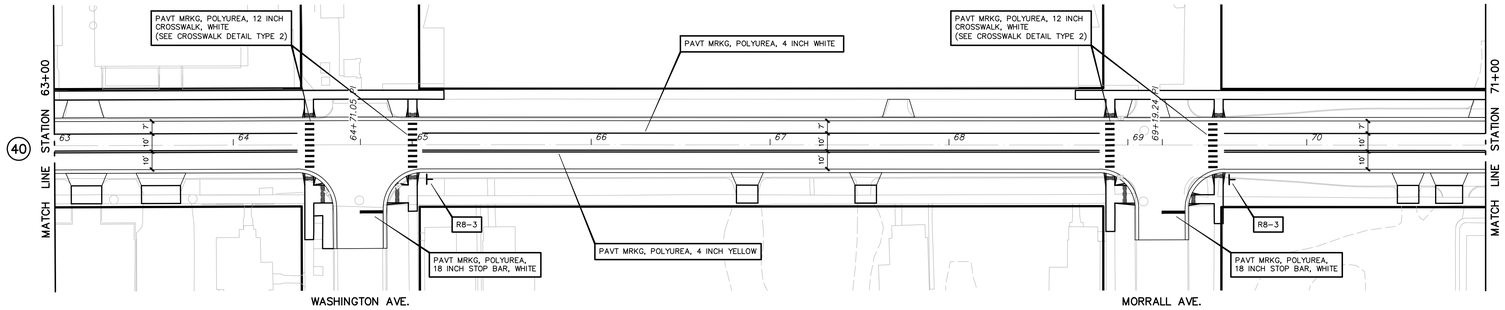
CITY OF MUSKEGON
MUSKEGON COUNTY, MICHIGAN

STREET IMPROVEMENTS
CONTRACT NO. 1

PAVEMENT MARKING & SIGNING PLAN

PROJECT NO. 2211000
SHEET NO. 40 OF 42

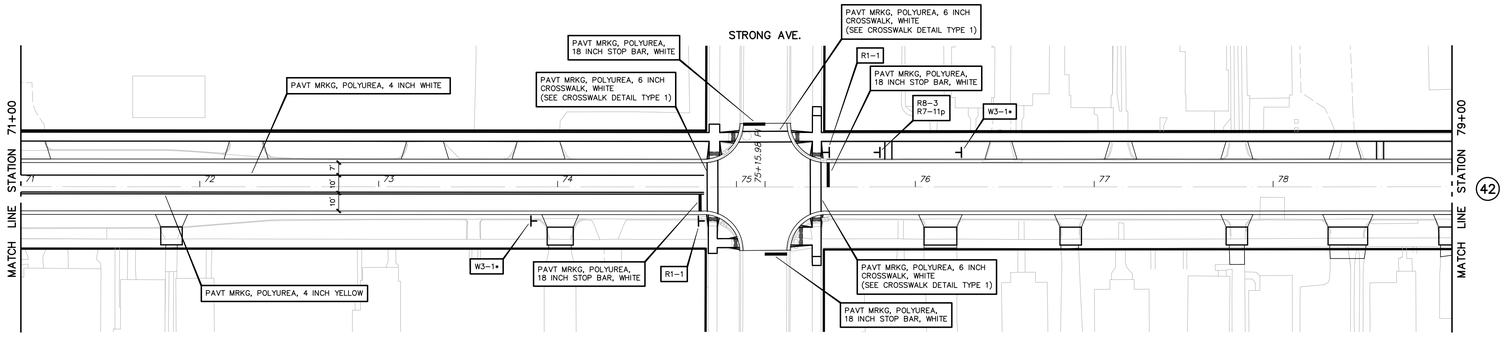
I:\CIVIL3D PROJECTS\2021\2211000_MUSKEGON_SANFORD STREET RECON\4_PROD\2211000_MRKG.DWG - JSMITH - JUL 05 2022 - 10:49am - PrintMe#newhof



PAVEMENT MARKING & SIGNING PLAN – SANFORD ST.

SCALE : 1" = 40'

North

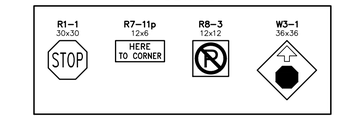


PAVEMENT MARKING & SIGNING PLAN – SANFORD ST.

SCALE : 1" = 40'

North

SIGN DETAILS



MARKING QUANTITIES

PAVT MRKG, POLYUREA, 4 INCH, YELLOW	2084 FT
PAVT MRKG, POLYUREA, 4 INCH, WHITE	1042 FT
PAVT MRKG, POLYUREA, 18 INCH, STOP BAR	78 FT
PAVT MRKG, POLYUREA, 6 INCH CROSSWALK	180 FT
PAVT MRKG, POLYUREA, 12 INCH CROSSWALK	216 FT

LIST OF SIGNS

ITEM	DESCRIPTION	SIZE	QUANTITY	TOTAL
R1-1	STOP SIGN	30 INCH x 30 INCH	2	12.5 SFT
R7-11p	HERE TO CORNER	12 INCH x 6 INCH	1	0.5 SFT
R8-3	NO PARKING	12 INCH x 12 INCH	3	3 SFT
W3-1	STOP AHEAD	36 INCH x 36 INCH	2	18 SFT
			TOTAL	34 SFT

SIGN QUANTITIES

SIGN TYPE IIIB	16 SFT
POST, STEEL, 3 LB	97 FT

NOTE

ALL SIGNS MARKED WITH AN ASTERISK, PROVIDE SIGNS WITH TWO ORANGE SQUARE SAFETY FLAGS MOUNTED ON TOP

NO.	REVISIONS	BY	DATE

DRAWN J.J.S.
DATE FEB. '22
CHECKED M.R.H.
DATE APR. '22

Prein&Newhof
Engineers • Surveyors • Environmental • Laboratory

CITY OF MUSKEGON
MUSKEGON COUNTY, MICHIGAN

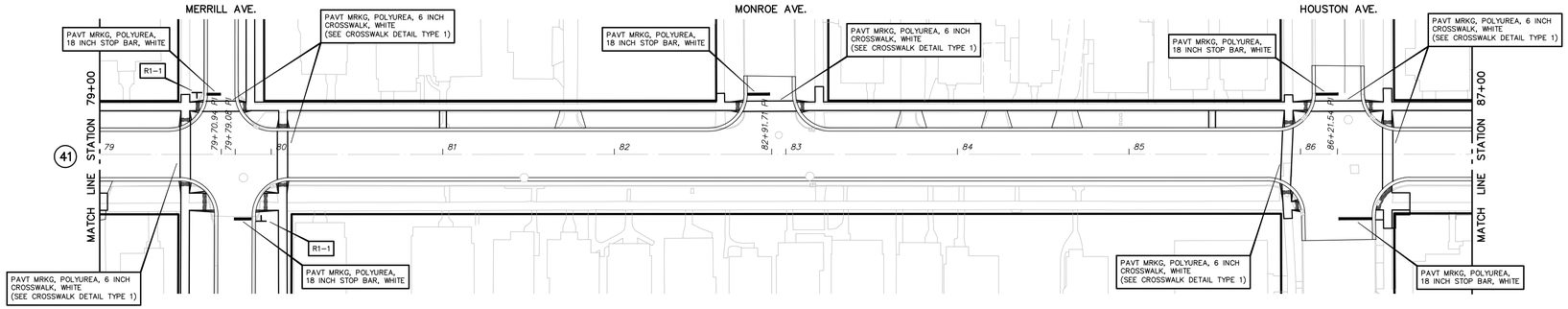
STREET IMPROVEMENTS
CONTRACT NO. 1

PAVEMENT MARKING & SIGNING PLAN

PROJECT NO. 2211000

SHEET NO. 41 OF 42

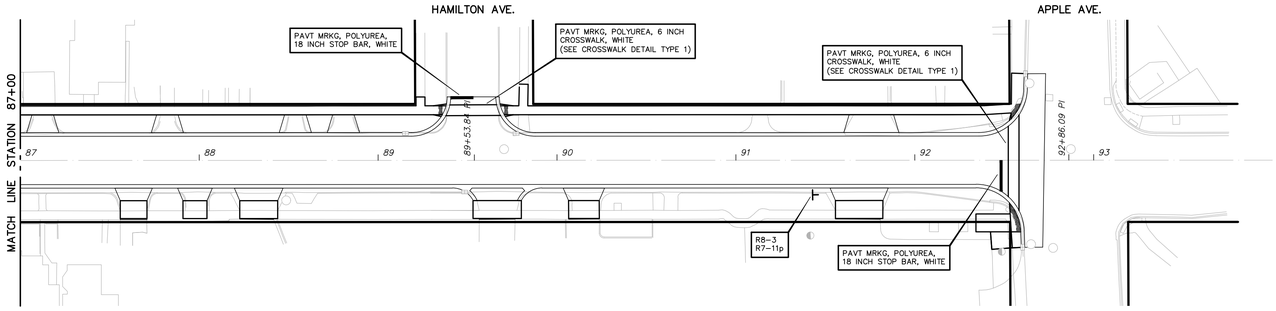
I:\CIVIL3D PROJECTS\2021\2211000_MUSKEGON_SANFORD STREET REGION\4_PROD\2211000_MRKG.DWG - JSMITH - JUL 05 2022 - 10:50am - PreinNewhof



PAVEMENT MARKING & SIGNING PLAN – SANFORD ST.

SCALE : 1" = 40'

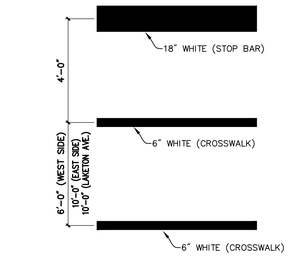
North



PAVEMENT MARKING & SIGNING PLAN – SANFORD ST.

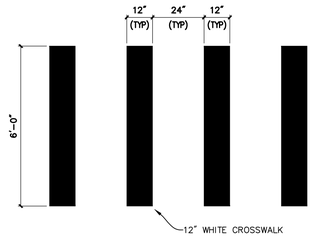
SCALE : 1" = 40'

North



CROSSWALK DETAIL TYPE 1

SCALE : NONE

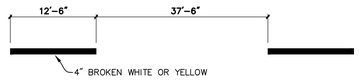


CROSSWALK DETAIL TYPE 2

SCALE : NONE

NOTE

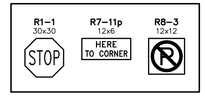
SEE MDOT DETAIL PAVE-950-A FOR ADDITIONAL INFORMATION



BROKEN LINES – TYP. DIMENSIONS

SCALE : NONE

SIGN DETAILS



MARKING QUANTITIES

PAVT MRKG, POLYUREA, 18 INCH, STOP BAR	94 FT
PAVT MRKG, POLYUREA, 6 INCH CROSSWALK	553 FT

LIST OF SIGNS

ITEM	DESCRIPTION	SIZE	QUANTITY	TOTAL
R1-1	STOP SIGN	30 INCH x 30 INCH	2	12.5 SFT
R7-11p	HERE TO CORNER	12 INCH x 6 INCH	1	0.5 SFT
R8-3	NO PARKING	12 INCH x 12 INCH	1	1 SFT
			TOTAL	14 SFT

SIGN QUANTITIES

SIGN TYPE IIIB	14 SFT
POST, STEEL, 3 LB	41 FT

NO.	REVISIONS	BY	DATE

DRAWN J.J.S.
DATE FEB. '22
CHECKED M.R.H.
DATE APR. '22

Prein&Newhof
Engineers•Surveyors•Environmental•Laboratory

CITY OF MUSKEGON
MUSKEGON COUNTY, MICHIGAN

STREET IMPROVEMENTS
CONTRACT NO. 1

PAVEMENT MARKING & SIGNING PLAN

PROJECT NO. 2211000

SHEET NO. 42 OF 42

T:\CIVIL3D PROJECTS\2021\2211000_MUSKEGON_SANFORD STREET RECON\4_PROD\2211000_MRKG.DWG - JSMITH - JUL 05 2022 - 10:50am - PreinNewhof