

CITY OF MUSKEGON

WALTON AVENUE & MARSH ST FROM EMERALD ST TO 105' NW OF WOOD ST.

INDEX TO SHEETS

| SHEET | DESCRIPTION |
|-------|--|
| 1 | TITLE SHEET |
| 2 | CROSS SECTION AND DETAIL SHEET |
| 3 | STA -0+04 (P.O.B.) TO STA 4+00 ROAD PLAN AND PROFILE |
| 4 | STA 4+00 (P.O.B.) TO STA 6+62 (P.O.E.) ROAD PLAN AND PROFILE |

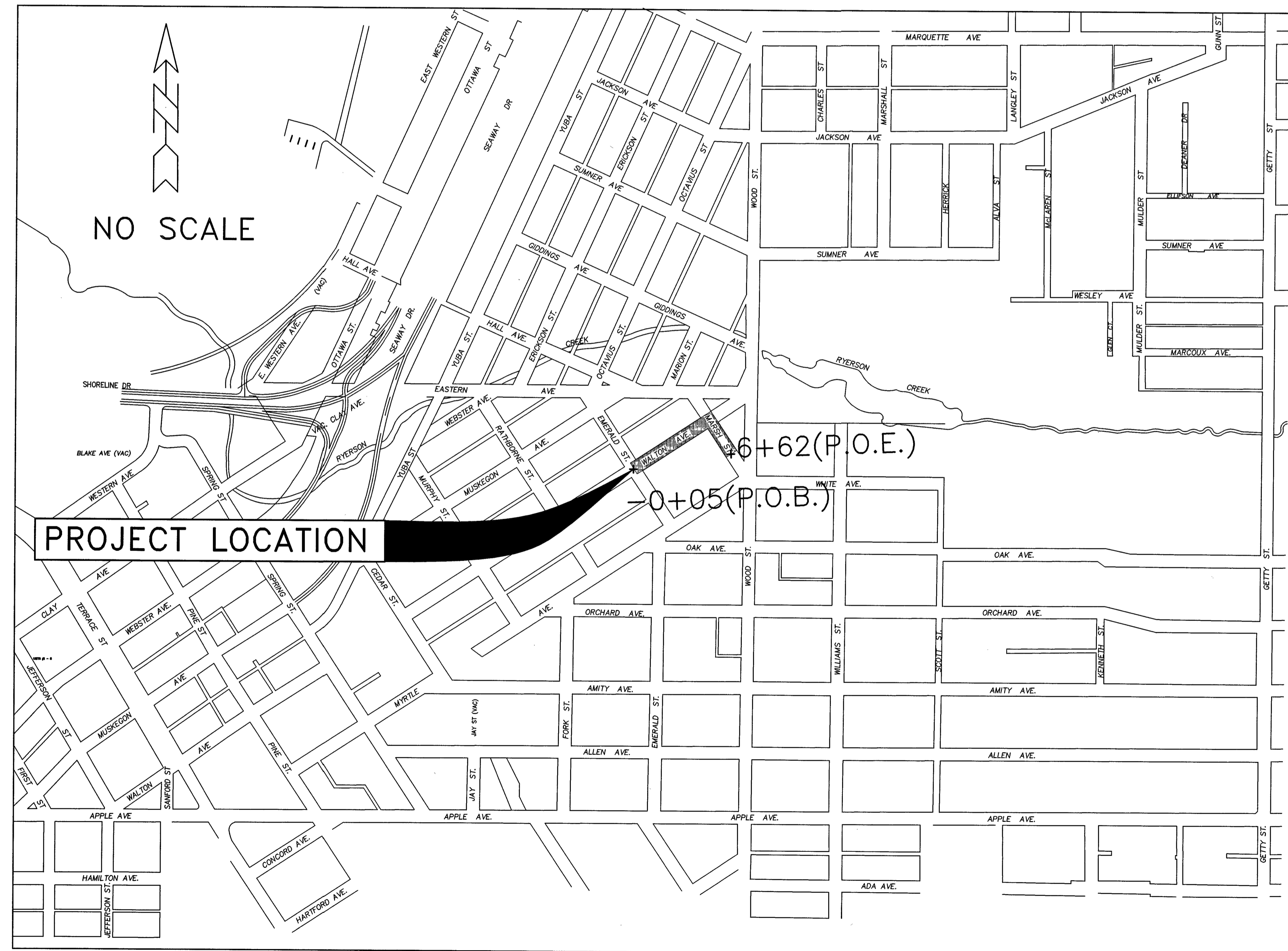
STANDARD PLANS

- R-1-G DRAINAGE STRUCTURES
- R-28-J SIDEWALK RAMP AND DETECTABLE WARNING DETAILS
- R-29-I DRIVEWAY OPENINGS & APPROACHES, AND CONCRETE SIDEWALKS
- R-30-G CONCRETE CURB AND CONCRETE CURB & GUTTER
- R-83-C UTILITY TRENCHES
- R-96-E SOIL EROSION & SEDIMENTATION CONTROL MEASURES
- R-7-F COVER B
- R-15-F COVER K

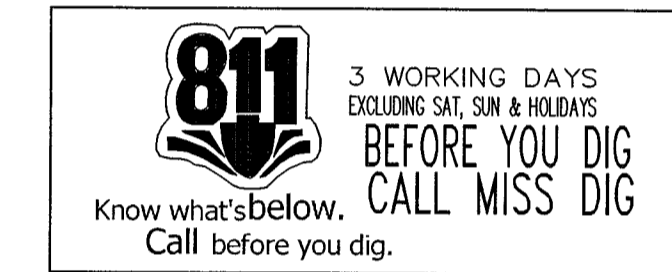
NOTE: STANDARD PLANS INCLUDED IN PROPOSAL

TRAFFIC/SAFETY STANDARD PLANS

- WZD-100-A GROUND DRIVEN SIGN SUPPORTS FOR TEMPORARY SIGNS
 - WZD-125-E TEMPORARY TRAFFIC CONTROL DEVICES
- STANDARD PLANS INCLUDED IN PROPOSAL



NOTE:
THE IMPROVEMENTS COVERED BY THESE PLANS SHALL BE DONE IN ACCORDANCE WITH THE MICHIGAN DEPARTMENT OF TRANSPORTATION 2012 STANDARD SPECIFICATIONS FOR CONSTRUCTION AND THE 2011 MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. THESE IMPROVEMENTS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE 2004 AASHTO GUIDELINES.



UTILITIES

ELECTRIC
CONSUMERS ENERGY - MICHELLE PETERSON
700 E. STERNBERG RD.
NORTON SHORES, MI 49441
(231) 332-2621

TELEPHONE
FRONTIER COMM. - DAVID B. FLERMOEN
860 TERRACE STREET
MUSKEGON, MI 49440
(231) 727-1319

GAS
DTE ENERGY- VINCE DUCA
2359 OLTHOFF DRIVE
MUSKEGON, MI 49444
(231) 777-4034

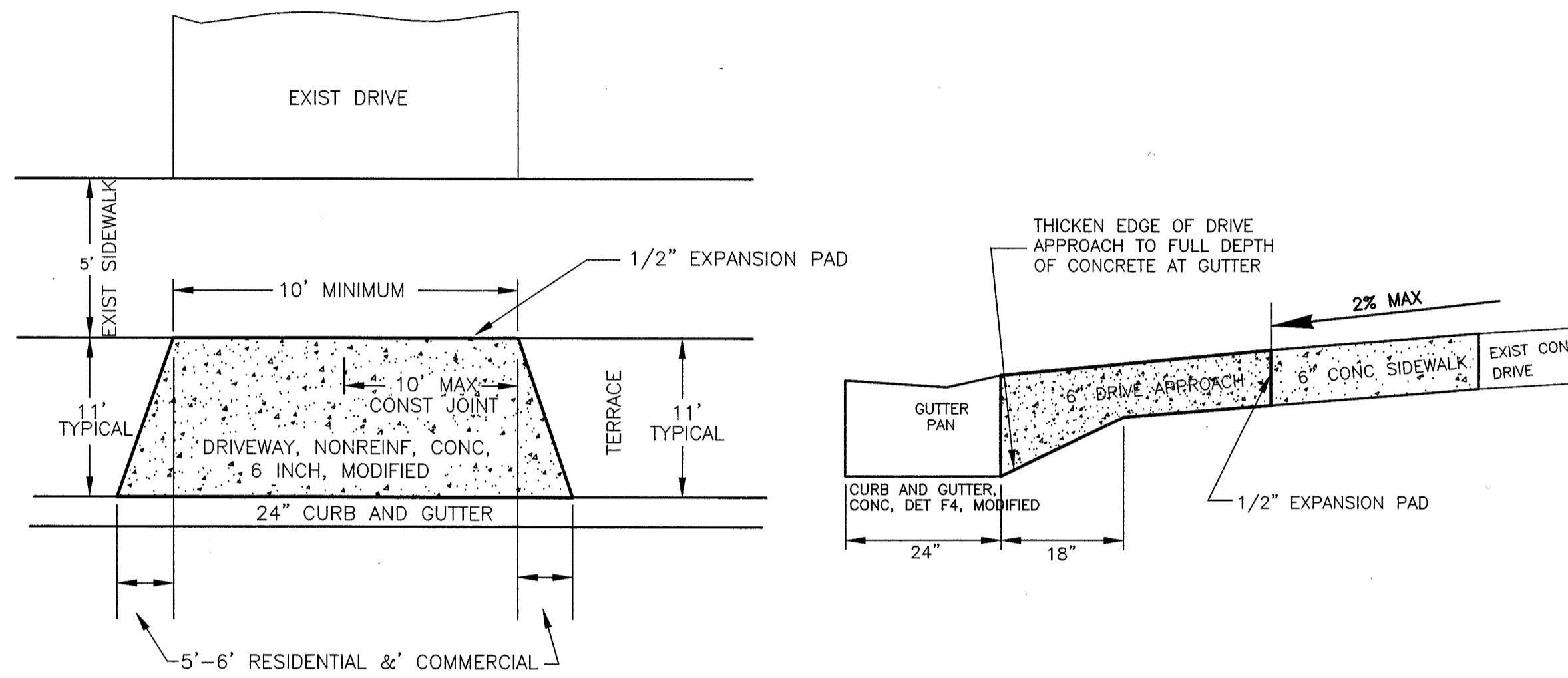
CABLE
COMCAST - JIM ZAWACKI
3500 PATTERSON AVE SE
GRAND RAPIDS, MI 49512
(616) 575-0501

WATER & SEWER
CITY OF MUSKEGON DPW -
DAVE BAKER, MIKE HANNAN
1350 E KEATING AVENUE
MUSKEGON, MI 49442
(231) 724-4100

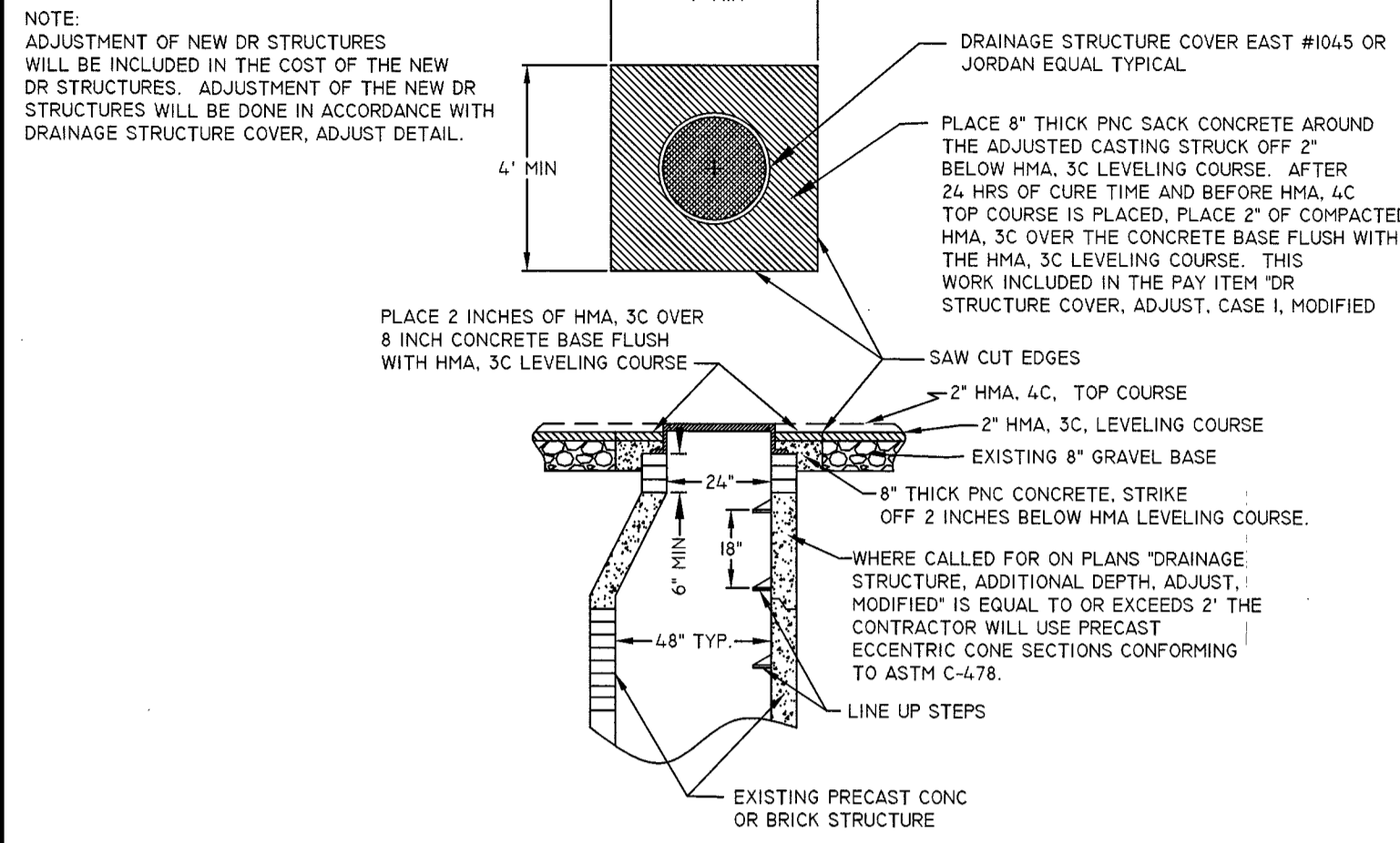
| | | | |
|---|----------|--|------------------|
| CITY OF MUSKEGON OFFICE OF THE CITY ENGINEER | | WALTON AVE, MARSH ST, EMERALD TO WOOD | |
| DRAWN F. PEASE FEB 19 | REVISION | SURVEY F. PEASE NOV 19 | H-91841 |
| CHECKED | REVISION | AS-BUILT | PROJECT NO |
| APPROVED | REVISION | SCALE NO SCALE | SHEET NO. 1 OF 4 |

WALTON AVENUE & MARSH ST CROSS SECTION AND DETAIL SHEET

TYPICAL DRIVE APPROACH DETAIL



DRAINAGE STRUCTURE COVER, ADJUST DETAIL

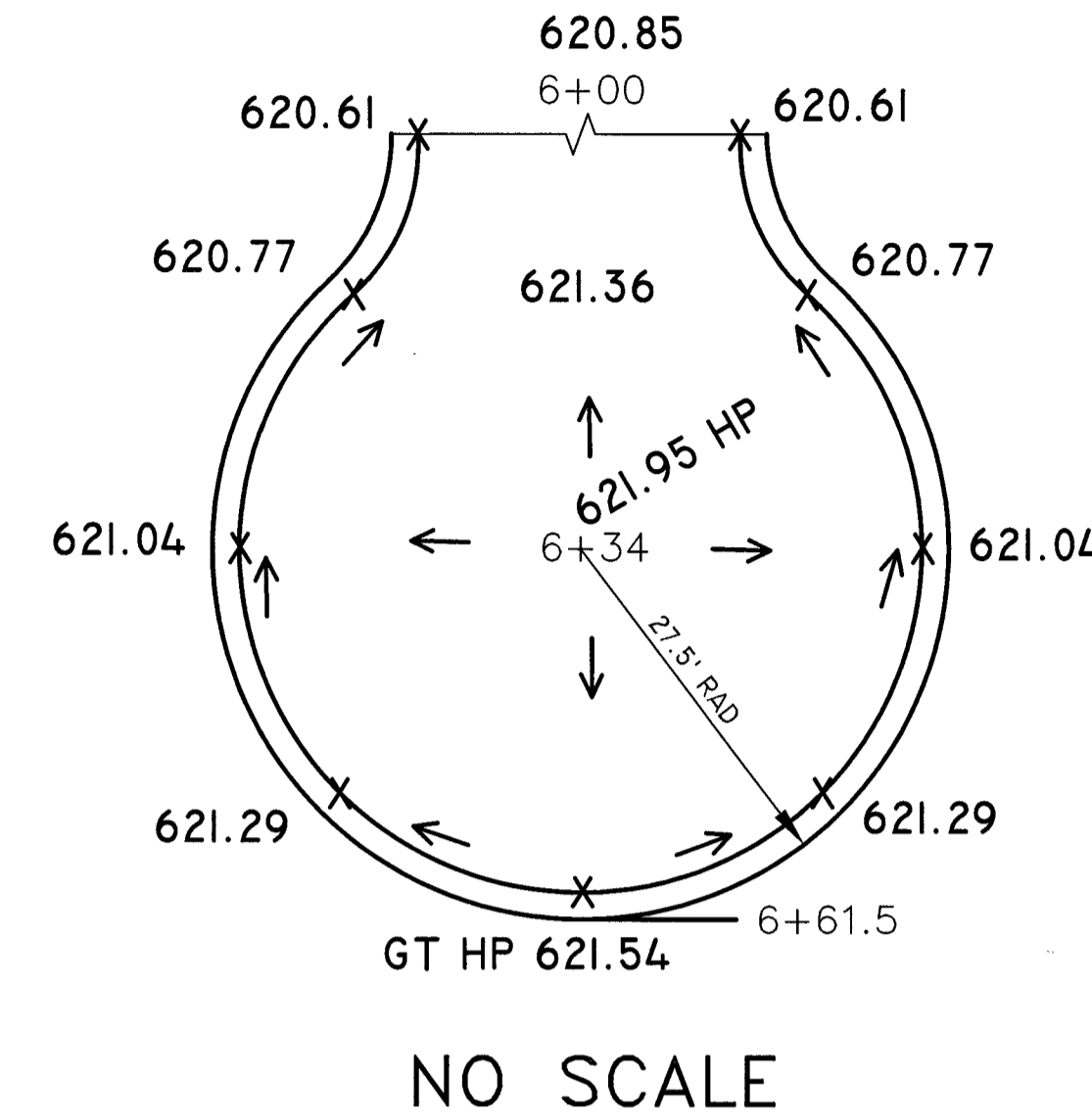


DRAINAGE STRUCTURE COVERS

| QUANTITY | DETAIL TYPE | CASTING DESCRIPTION | UNIT WEIGHT | TOTAL WEIGHT |
|----------|-------------|---|-------------|--------------|
| 4 EA | K | CATCH BASIN CASTING EAST JORDAN #7045 OR EQUAL | 490# | 1960# |
| 1 EA | B | MANHOLE CASTING EAST JORDAN #1045 OR EQUAL TYPE A - SOLID COVER | 330# | 330# |

NO SCALE

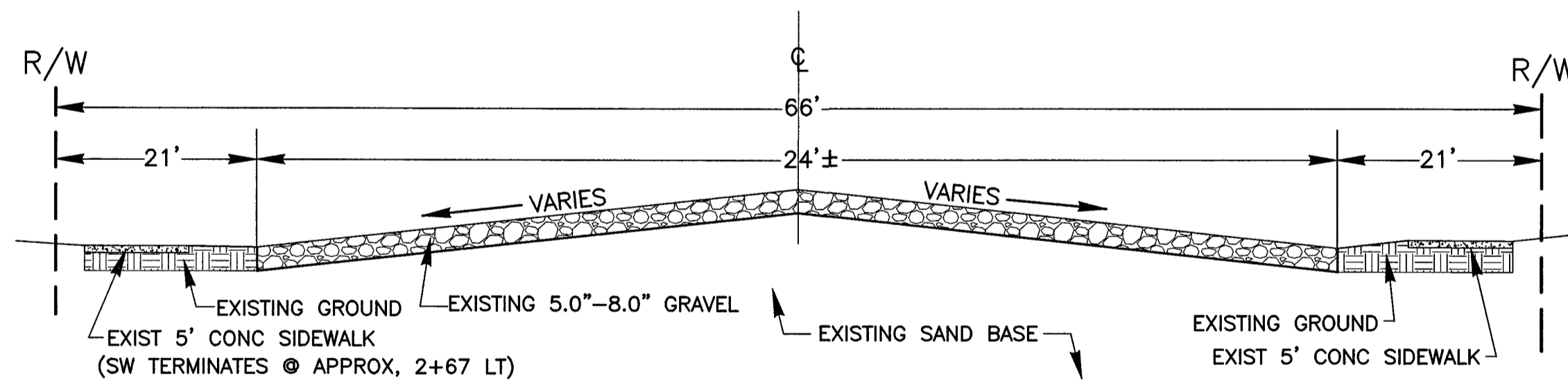
MARSH ST CUL-DE-SAC PRO INTERSECTION GRADES



GENERAL NOTES:

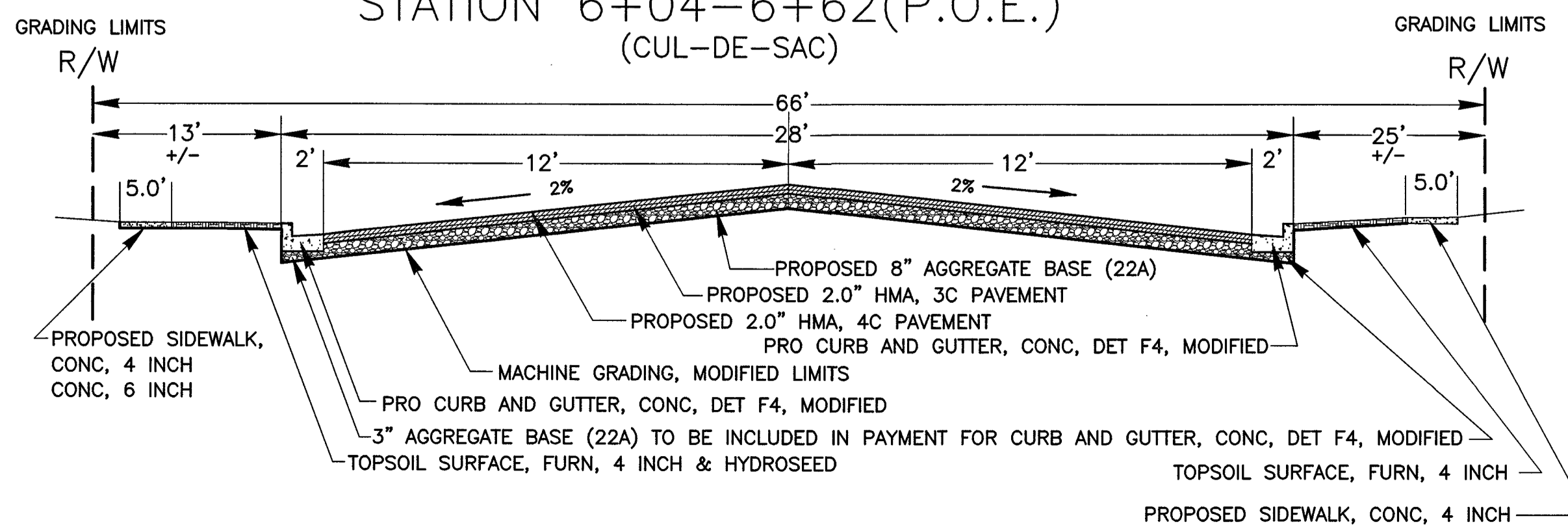
- UPON REQUEST AND APPROVAL, THE CONTRACTOR MAY OBTAIN A WATER SUPPLY FROM THE CITY OF MUSKEGON FIRE HYDRANTS AT NO COST, PROVIDED THAT THEY FOLLOW THE CONDITIONS OF THE CITY WATER DEPARTMENT.
- WHENEVER SMALL CASTINGS (STOP BOXES, METER PITS, MONITORING WELLS) ARE ENCOUNTERED WITHIN THE WORK AREA THEY SHALL BE ADJUSTED AT NO COST TO THE CITY. PAYMENT SHALL BE INCLUDED WITH THE LINE ITEM OF WORK BEING PERFORMED.
- FOR PROTECTION OF UNDERGROUND UTILITIES, THE CONTRACTOR SHALL CALL MISS DIG, (811) 1-800-482-7171, A MINIMUM OF 3 WORKING DAYS EXCLUDING SATURDAYS, SUNDAYS, AND HOLIDAYS PRIOR TO EXCAVATING IN THE VICINITY OF ALL UTILITY LINES. ALL MISS DIG PARTICIPATING MEMBERS WILL THUS BE NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR THE RESPONSIBILITY OF NOTIFYING OWNERS WHO MAY NOT BE PART OF THE MISS DIG ALERT SYSTEM.
- PUBLIC UTILITIES OF ALL TYPES HAVE BEEN SHOWN ON THE PLAN USING AVAILABLE INFORMATION, BUT ARE NOT GUARANTEED AS ACCURATE, OR THAT UTILITIES OTHER THAN THOSE SHOWN ARE NOT PRESENT. THE CONTRACTOR SHALL CALL MISS DIG 3 WORKING DAYS (EXCLUDING SAT., SUN., AND HOLIDAYS) BEFORE DIGGING (1-800-482-7171).
- EXISTING TRAFFIC CONTROL SIGNS THAT NEED TO BE REMOVED TO ALLOW THE CONTRACTOR TO WORK WILL BE REMOVED BY THE CONTRACTOR AND STORED IN A SAFE PLACE TO AVOID DAMAGE. THE CONTRACTOR SHALL THEN REINSTALL THE SIGNS IN THEIR ORIGINAL LOCATION OR AS DIRECTED BY THE ENGINEER. REMOVAL AND REPLACEMENT OF THE SIGNS WILL BE INCLUDED IN THE ITEM OF MINOR TRAF DEVICES. SIGNS THAT ARE DAMAGED BY THE CONTRACTOR WILL BE REPLACED BY CITY FORCES, AND THE CONTRACTOR WILL PAY THE CITY FOR THE COST OF REPLACEMENT.
- THE CONTRACTOR SHALL SAW CUT ALL MEETS RELATIVE TO SIDEWALK OR PAVEMENT CONSTRUCTION UNLESS WAIVED BY THE ENGINEER. PAYMENT FOR SAW CUTTING SHALL BE INCLUDED IN THE PAYMENT FOR THE PAY ITEMS SYD PAVT, REM, MODIFIED, CURB AND GUTTER, REM, HMA SURFACE, REM AND SIDEWALK, REM. NO ADDITIONAL PAYMENT WILL ALLOWED FOR SAW CUTTING.
- IRRIGATION SYSTEMS AS MARKED OR STAKED DAMAGED THROUGH CARELESS WORK BY THE CONTRACTOR WILL BE REPAIRED BY THE CONTRACTOR AT NO COST TO THE CITY OF MUSKEGON. THE CITY OF MUSKEGON WILL PAY FOR RELOCATION OF IRRIGATION SYSTEMS DUE TO WIDENING OF ROAD OR IN CONFLICT WITH THE CONSTRUCTION OF UNDERGROUND WORK. PAYMENT WILL BE MADE BY A NEGOTIATED UNIT PRICE THROUGH A CONTRACT MODIFICATION. IT SHALL BE AT THE ENGINEER'S DISCRETION AS TO WHAT IRRIGATION REPAIR AND/OR RELOCATION IS THE RESULT OF CARELESS WORK BY THE CONTRACTOR OR THAT WHICH IS NECESSARY FOR THE CONSTRUCTION OF ROAD OR UTILITY WORK.
- THE CONTRACTOR SHALL PREVENT EROSION AND CONTROL SEDIMENTATION ASSOCIATED WITH THE PROJECT. KEEP SEDIMENTATION WITHIN THE RIGHT OF WAY AND OUT OF SURFACE WATERS, CONSTRUCT AND MAINTAIN TEMPORARY EROSION AND SEDIMENTATION CONTROLS, CONTROLS TO INCLUDE EROSION CONTROL, INLET PROTECTION, FABRIC DROPS, ON ALL INLET STRUCTURES, NEW AND EXISTING, AND INSTALL TEMPORARY EROSION, SEDIMENTATION CONTROLS AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL REMOVE ON A DAILY BASIS SOIL TRACKED ONTO EXISTING PAVED ROADS, (VACUUM METHODS ARE PREFERRED BUT BROOM SWEEPING IS ACCEPTABLE IF THE MATERIAL IS REMOVED) THE CONTRACTOR SHALL INSPECT ALL SOIL EROSION/SEDIMENTATION CONTROL MEASURES ON A WEEKLY BASIS OR AFTER EACH RAIN FALL EVENT, CLEAN REPAIR, OR REPLACE, AS NECESSARY, TO ENSURE PROPER FUNCTION. ALL SOIL EROSION/SEDIMENTATION CONTROLS SHALL REMAIN UNTIL ALL DISTURBED AREAS ARE STABILIZED. ALL SOIL EROSION/SEDIMENTATION CONTROL, EXCEPT FOR THE EROSION CONTROL, INLET PROTECTION, FABRIC DROP, SHALL BE INCLUDED WITH THE PAY ITEM "PAVT, REM, MODIFIED" NO OTHER PAYMENT SHALL BE MADE.

TYPICAL EXISTING X-SECTION STATION 0+33-6+62(P.O.E.) -0+05(P.O.B.)-0+33 (SEE NOTE)



NOT TO SCALE

TYPICAL PROPOSED X-SECTION STATION -0+05(P.O.B.)-6+04 STATION 6+04-6+62(P.O.E.) (CUL-DE-SAC)



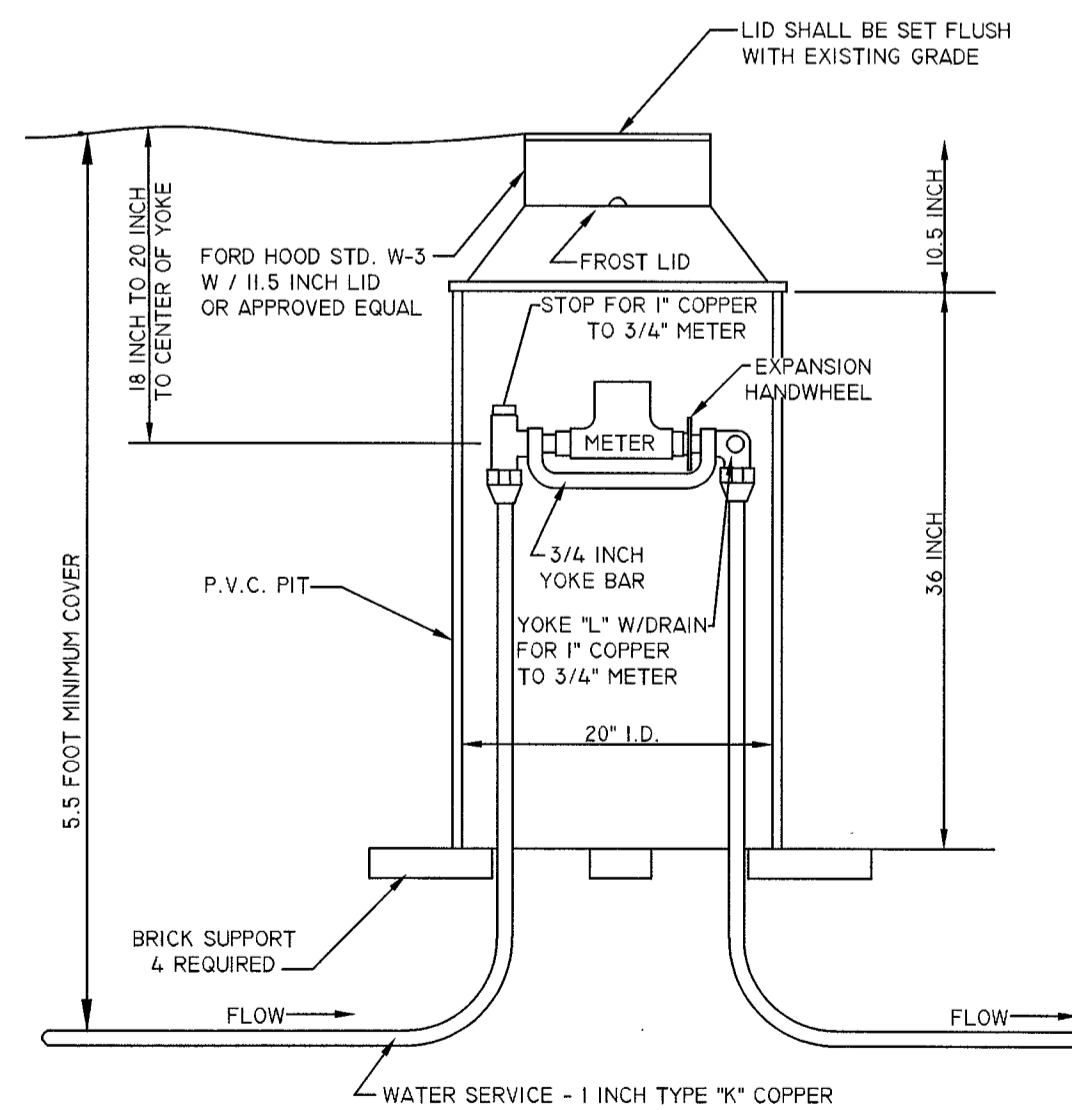
NOT TO SCALE

SUMMARY OF PAVEMENT CORING

| CORE # | STATION # | HMA THICKNESS | GRAVEL THICKNESS | SOIL TYPE TO 10' BELOW PAVT | |
|--------|-----------|---------------|------------------|-----------------------------|--------------------------|
| 1 | 6+45 | LT | NA | 8.5" | SAND: COMPACT BROWN FINE |
| 2 | 1+84 | RT | NA | 5" | SAND: COMPACT BROWN FINE |

NOTE: NO GROUND WATER ENCOUNTERED

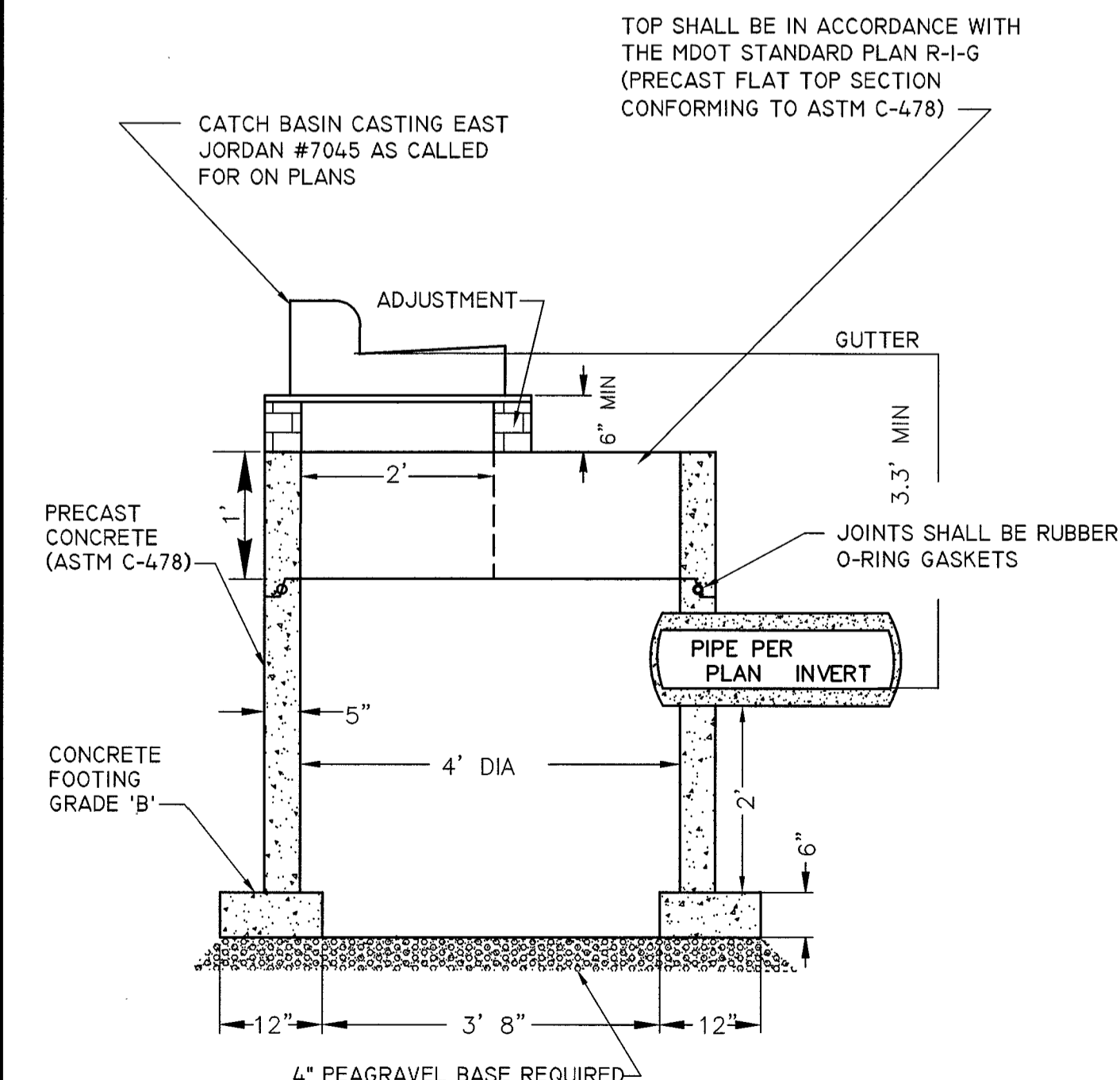
DETAIL FOR METER PIT COMPLETE



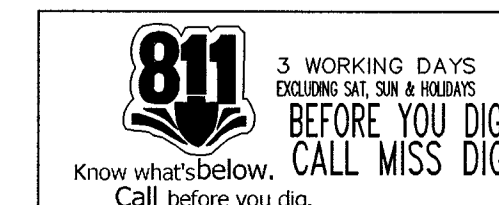
WHERE POSSIBLE, EXISTING OUT SIDE METERS SHALL BE RELOCATED, BY THE CITY, INSIDE THE RESIDENCE OR PLACE OF BUSINESS. IF METERS HAVE TO REMAIN OUTSIDE, NEW METER PITS SHALL BE INSTALLED ON THE PROPERTY LINE. ALL ABANDONED METER PITS SHALL BE REMOVED BY THE CONTRACTOR, THE REMOVAL TO BE INCLUDED IN THE NEW WATER SERVICE.

NO SCALE

CATCH BASIN SPECIAL DETAIL

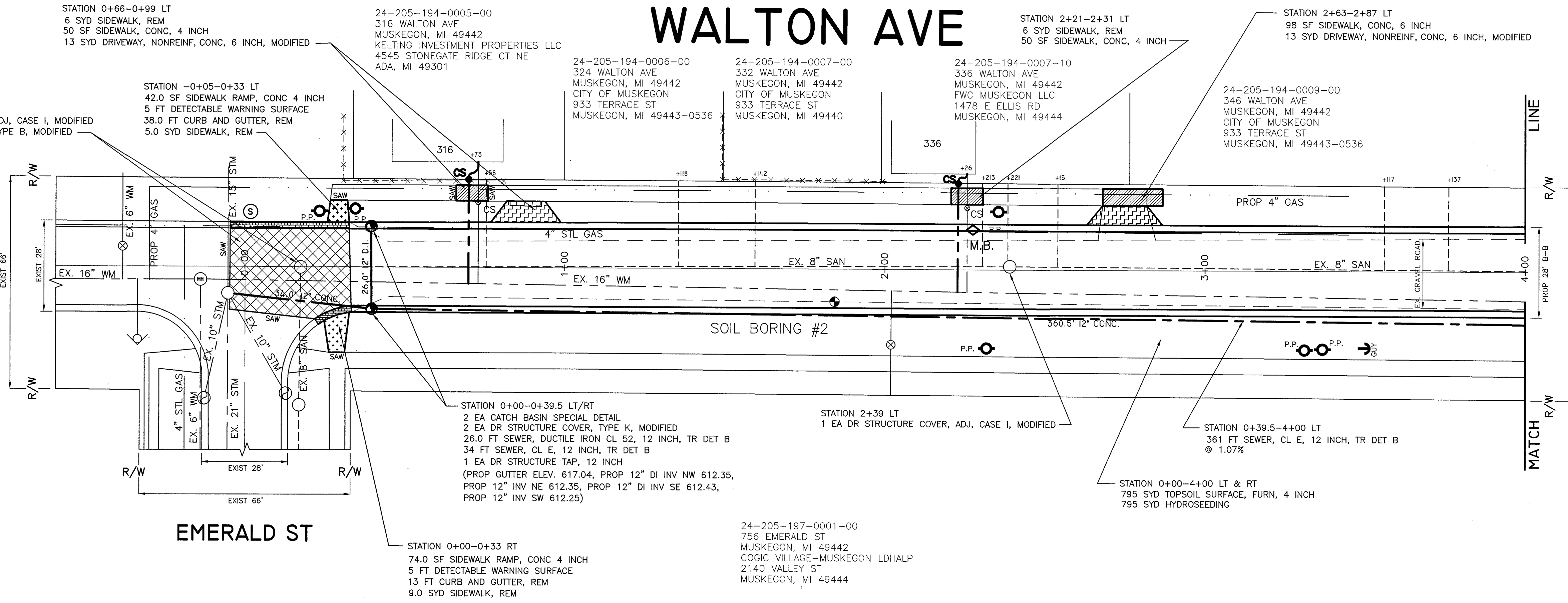


NO SCALE



BENCHMARK: ON EXISTING HYD BOLT, UNDER "E" @ SW COR WALTON & EMERALD ELEV.= 617.10

WALTON AVE

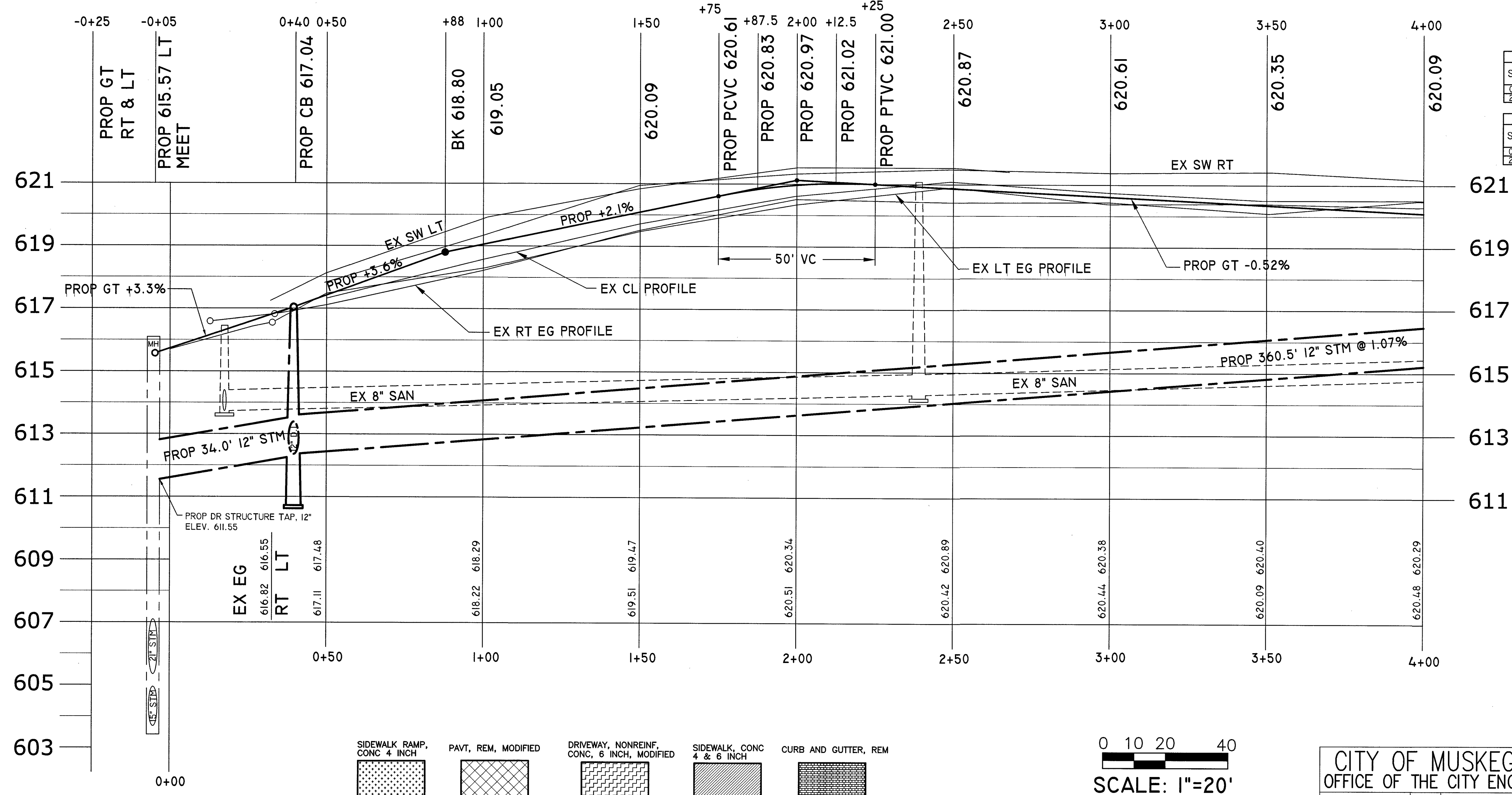


ADDITIONAL QUANTITIES THIS SHEET STA -0+05 TO 4+00

1088 SYD AGGREGATE BASE, 8 INCH
4.0 STA MACHINE GRADING, MODIFIED
128 TON HMA, 3C
128 TON HMA, 4C
4 EA EROSION CONTROL, INLET PROTECTION, FABRIC DROP
783 FT CURB AND GUTTER, CONC, DET F4, MODIFIED

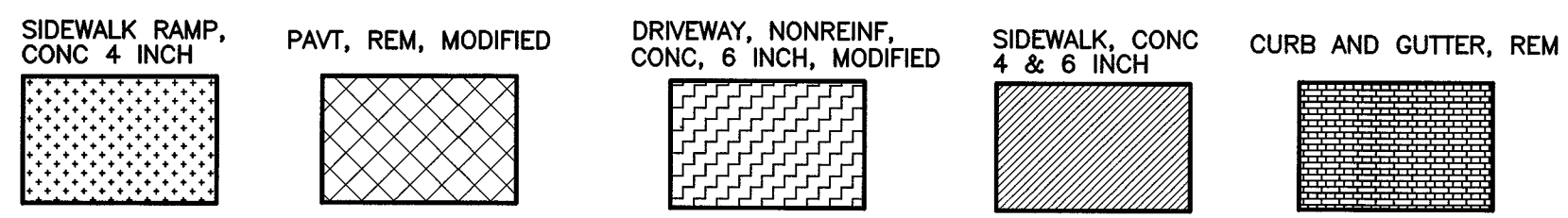
| QUANTITIES THIS SHEET | |
|--|----------|
| AGGREGATE BASE, 8 INCH | 1088 SYD |
| CATCH BASIN SPECIAL DETAIL | 2 EA |
| DETECTABLE WARNING SURFACE | 10 FT |
| DRIVEWAY, NONREIN, CONC, 6 INCH, MODIFIED | 26 SYD |
| DR STRUCTURE COVER, TYPE K, MODIFIED | 2 EA |
| DR STRUCTURE COVER, TYPE B, MODIFIED | 1 EA |
| DR STRUCTURE COVER, ADJ, CASE I, MODIFIED | 2 EA |
| CURB AND GUTTER, REM | 51 FT |
| CURB AND GUTTER, CONC, DET F4, MODIFIED | 783 FT |
| EROSION CONTROL, INLET PROTECTION, FABRIC DROP | 4 EA |
| HMA, 3C | 128 TON |
| HMA, 4C | 128 TON |
| HYDROSEEDING | 795 SYD |
| MACHINE GRADING, MODIFIED | 4.0 STA |
| PAVT, REM, MODIFIED | 110 SYD |
| SEWER, CL E, 12 INCH, TR DET B | 100 SYD |
| SEWER, DUCTILE IRON CL 52, 12 INCH, TR DET B | 361 SYD |
| SIDEWALK, CONC, 4 INCH | 26 SF |
| SIDEWALK, CONC, 6 INCH | 109 SF |
| SIDEWALK RAMP, CONC 4 INCH | 98 SF |
| SIDEWALK, REM | 116 SF |
| TOPSOIL SURFACE, FURN, 4 INCH | 26 SYD |
| WATER SERVICE, 1 INCH, COPPER TYPE K | 72 FT |
| KORPORATION STOP, 1 INCH | 2 EA |
| CURB STOP AND BOX, 1 INCH | 2 EA |
| WATER SERVICE, PRIVATE PROPERTY | 12 FT |
| WATER SERVICE, BUILDING CONNECTION | 2 EA |

NOTE: APPROXIMATELY 277 CYD EXCAVATION TO BE INCLUDED WITH: MACHINE GRADING, MODIFIED PAY ITEM



| WATER SERVICE SCHEDULE, ROW | | | | |
|-----------------------------|--------------------------|---------------------------|---|---------------------------------|
| STATION | CORPORATION STOP, 1 INCH | CURB STOP AND BOX, 1 INCH | WATER METER FIT COMPLETE, 1 INCH, COPPER TYPE K | WATER SERVICE, PRIVATE PROPERTY |
| 0+73 LT | 1 EA | 1 EA | | 33 FT |
| 2+26 LT | 1 EA | 1 EA | | 33 FT |

| WATER SERVICE SCHEDULE, PRIVATE PROP. | | |
|---------------------------------------|------------------------------------|---------------------------------|
| STATION | WATER SERVICE, BUILDING CONNECTION | WATER SERVICE, PRIVATE PROPERTY |
| 0+73 LT | 1 EA | 6 FT |
| 2+26 LT | 1 EA | 6 FT |



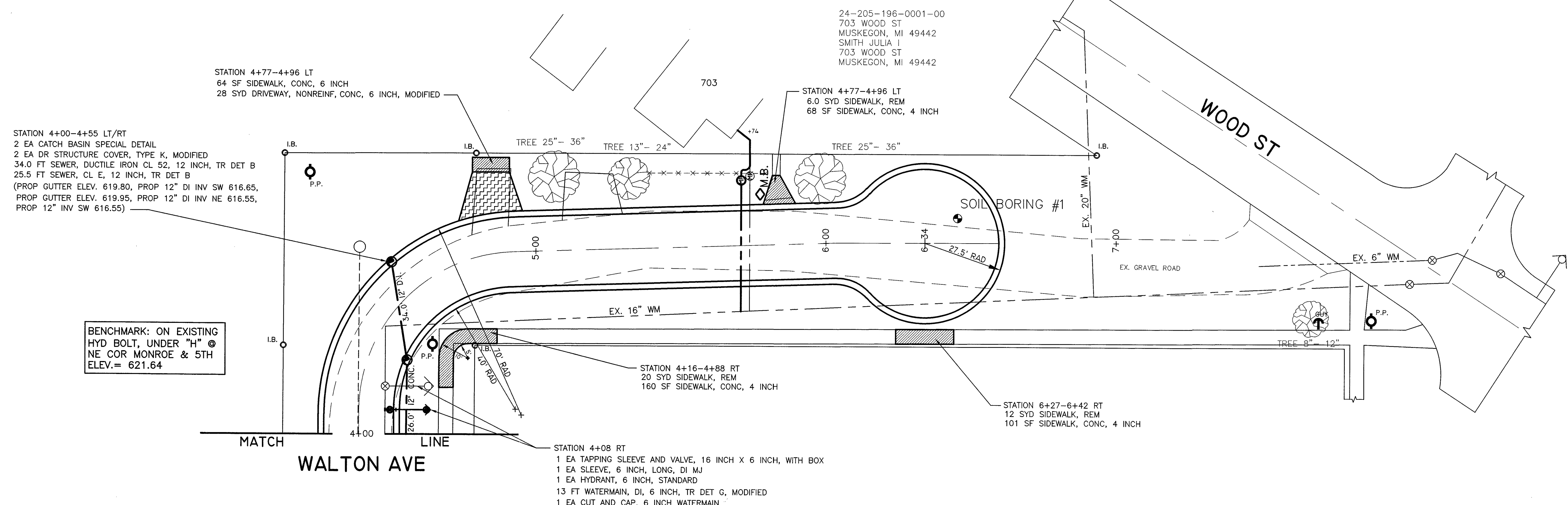
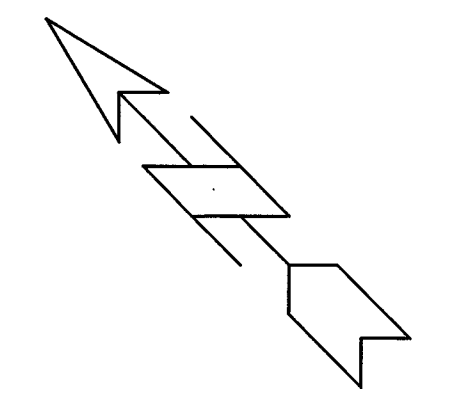
0 10 20 40
SCALE: 1"=20'
VERT. SCALE: 1"=2'

CITY OF MUSKEGON
OFFICE OF THE CITY ENGINEER

WALTON AVE, MARSH ST.,
EMERALD TO WOOD

| | | | |
|------------------------|----------|------------------|-----------------|
| DRAWN F. PEASE FEB. 19 | REVISION | SURVEY F.P./E.A. | H-91841 |
| CHECKED | REVISION | AS-BUILT | PROJECT NO |
| APPROVED | REVISION | SCALE 1"=20' | SHEET NO 3 OF 4 |

MARSH ST



BENCHMARK: ON EXISTING HYD BOLT, UNDER "E" @ SE COR WOOD & WHITE ELEV.= 623.01

ADDITIONAL QUANTITIES THIS SHEET STA 4+00 TO 6+62

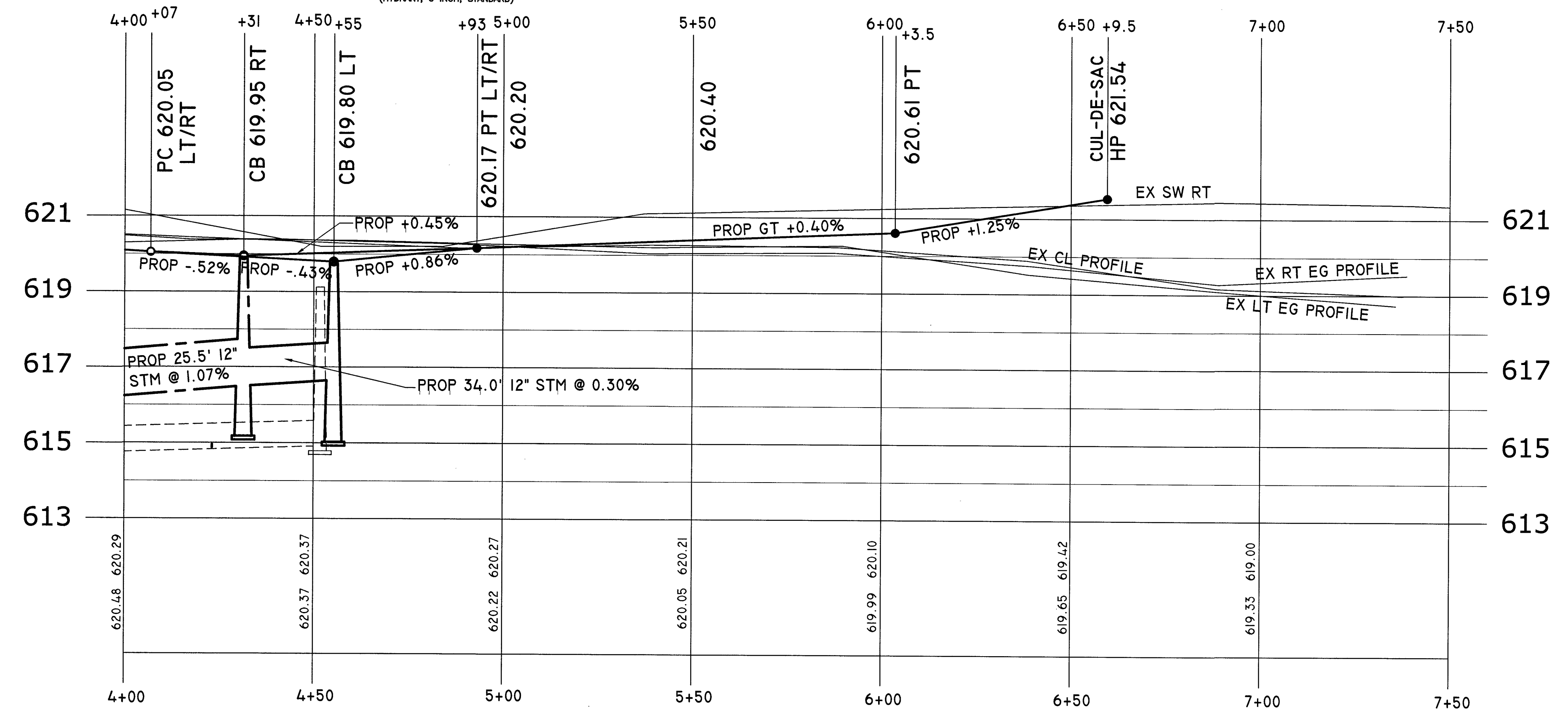
- 783 SYD AGGREGATE BASE, 8 INCH
- 2.6 STA MACHINE GRADING, MODIFIED
- 93 TON HMA, 3C
- 93 TON HMA, 4C
- 561 FT CURB AND GUTTER, CONC, DET F4, MODIFIED

| QUANTITIES THIS SHEET | |
|---|----------|
| AGGREGATE BASE, 8 INCH | 783 SYD |
| CATCH BASIN SPECIAL DETAIL | 2 EA |
| DRIVEWAY, NONREINF. CONC, 6 INCH, MODIFIED | 28 SYD |
| DR STRUCTURE COVER, TYPE K, MODIFIED | 2 EA |
| CURB AND GUTTER, CONC, DET F4, MODIFIED | 561 FT |
| EROSION CONTROL, INLET PROTECTION, FABRIC DROP | 2 EA |
| HMA, 3C | 93 TON |
| HMA, 4C | 93 TON |
| HYDRANT, 6 INCH STANDARD | 1 EA |
| ELI AND CAP, 6 INCH WATERMAIN | 1 EA |
| HYDROSEEDING | 1088 SYD |
| MACHINE GRADING, MODIFIED | 2.6 STA |
| SEWER, CL E, 12 INCH, TR DET B | 26 FT |
| SEWER, DUCTILE IRON CL 52, 12 INCH, TR DET B | 34 FT |
| SIDWALK, CONC, 4 INCH | 329 SF |
| SIDWALK, CONC, 6 INCH | 64 SF |
| SIDWALK, REM | 36 SYD |
| TOPSOIL SURFACE, FURN, 4 INCH | 1088 SYD |
| TAPPING SLEEVE AND VALVE, 16 INCH X 6 INCH WITH BOX | 1 EA |
| WATERMAIN, DI, 6 INCH, TR DET G, MODIFIED | 13 FT |
| SLEEVE, 6 INCH, LONG, DI MJ | 1 EA |
| WATER SERVICE, 1 INCH, COPPER TYPE K | 65 FT |
| CORPORATION STOP, 1 INCH | 1 EA |
| METER PIT COMPLETE | 1 EA |
| WATER SERVICE, PRIVATE PROPERTY | 20 FT |
| WATER SERVICE, BUILDING CONNECTION | 1 EA |

BENCHMARK: ON EXISTING HYD BOLT, UNDER "H" @ NE COR MONROE & 5TH ELEV.= 621.64

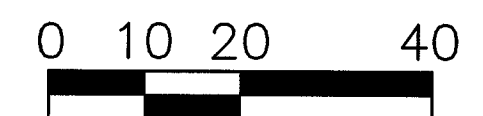
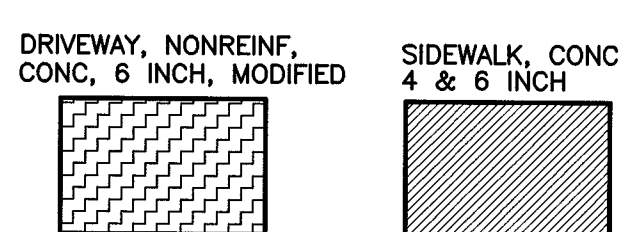
NOTE: RESTRAIN FULL LENGTH REM EXISTING HYD TO BE INCLUDED WITH (HYDRANT, 6 INCH, STANDARD)

NOTE: APPROXIMATELY 185 CYD EXCAVATION & 38.0 CUBIC YARDS OF EMBANKMENT TO BE INCLUDED WITH: MACHINE GRADING, MODIFIED PAY ITEM



| WATER SERVICE SCHEDULE, ROW | | | |
|-----------------------------|--------------------------|---------------------------|--|
| STATION | CORPORATION STOP, 1 INCH | CURB STOP AND BOX, 1 INCH | WATER METER PIT COMPLETE INCH, COPPER TYPE K |
| 5+74 LT | 1 EA | 1 EA | 45 FT |

| WATER SERVICE SCHEDULE, PRIVATE PROP. | | |
|---------------------------------------|------------------------------------|---------------------------------|
| STATION | WATER SERVICE, BUILDING CONNECTION | WATER SERVICE, PRIVATE PROPERTY |
| 5+74 LT | 1 EA | 20 FT |



SCALE: 1"=20'
VERT. SCALE: 1"=2'

| | | | |
|---|----------|--|-----------------|
| CITY OF MUSKEGON OFFICE OF THE CITY ENGINEER | | WALTON AVE, MARSH ST, EMERALD TO WOOD | |
| DRAWN F. PEASE FEB. 19 | REVISION | SURVEY F.P./E.A. | H-91841 |
| CHECKED | REVISION | AS-BUILT | PROJECT NO |
| APPROVED | REVISION | SCALE 1"=20' | SHEET NO 4 OF 4 |