PLAN INDEX

CITY OF TRAVERSE CITY

IN CO-OPERATION WITH

MICHIGAN DEPARTMENT OF TRANSPORTATION
AND
FEDERAL HIGHWAY ADMINISTRATION

CONSTRUCTION PLANS OF PROPOSED

VETERANS DRIVE RECONSTRUCTION

FOURTEENTH ST. TO CITY LIMITS

CONTROL SECTION: 28000 JOB NO. JN214685

THE IMPROVEMENT COVERED BY THESE PLANS SHALL BE DONE IN ACCORDANCE WITH THE MICHIGAN DEPARTMENT OF TRANSPORTATION CURRENT STANDARD SPECIFICATIONS AND SUPPLEMENTAL SPECIFICATIONS, 2020 EDITION.

ADT (2024) = 5,962

ADT (2044) = 7,440

% COMM (2023) = 8%

% COMM (2043) = 8%

POSTED SPEED = 25 MPH

DESIGN SPEED = 30 MPH

THIS PROJECT IS DESIGNED IN ACCORDANCE WITH AASHTO "A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS, 2018 AND MDOT LAP GUIDELINES FOR GEOMETRICS, 4R, 2017"

CALL MISS DIG

1-800-482-7171 OR 811

FOR PROTECTION OF THE UNDERGROUND UTILITIES, THE CONTRACTOR SHALL CALL 1-800-482-7171 A MINIMUM OF THREE FULL WORKING DAYS, EXCLUDING SATURDAYS, SUNDAYS, AND HOLIDAYS PRIOR TO BEGINNING CONSTRUCTION OPERATIONS. MEMBERS WILL THUS BE ROUTINELY NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO MAY NOT BE A PART OF THE "MISS DIG" ALERT SYSTEM.

THIS PROJECT IS DESIGNED IN ACCORDANCE WITH THE 2011 MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES "MMUTCD"

THE FOLLOWING ITEMS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MDOT STANDARD PLANS REFERENCED BELOW:

MDOT STANDARD PLANS - NOT PRINTED

R-1-G DRAINAGE STRUCTURES

R-7-F COVER B

R-15-G COVER K

R-18-F COVER Q

R-28-K SIDEWALK RAMP DETAILS*

R-29-J DRIVEWAY OPENINGS & APPROACHES, AND CONCRETE SIDEWALKS*

R-30-G CONCRETE CURB & CONCRETE CURB & GUTTER

R-83-C UTILITY TRENCHES

R-96-E SOIL EROSION & SEDIMENTATION CONTROL MEASURES

TRAFFIC & SAFETY STANDARD PLANS - NOT PRINTED

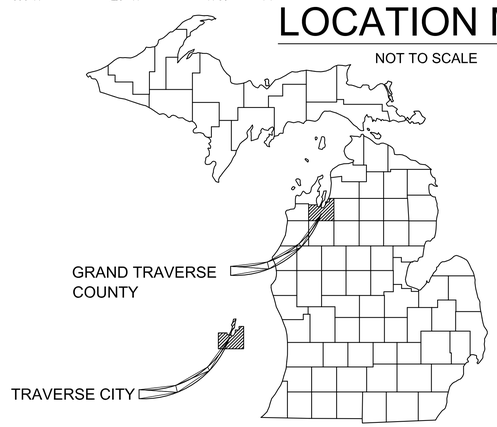
WZD-100-A TEMPORARY GROUND DRIVEN SIGNS*

WZD-125-E TEMPORARY TRAFFIC CONTROL DEVICES*

* SPECIAL DETAIL INCLUDED IN PROPOSAL

LOCATION MAP

NOT TO SCALE



LOCAL UTILITIES

CITY OF TRAVERSE CITY ENGINEERING DEPARTMENT
ADDRESS: 400 BOARDMAN AVENUE, TRAVERSE CITY
CONTACT: ZACH R. COLE
TELEPHONE: (231) 922-4492

TRAVERSE CITY LIGHT AND POWER
ADDRESS: 1131 HASTINGS STREET, TRAVERSE CITY
ENGINEER: TONY CHARTRAND
TELEPHONE: (231) 934-4544

TRAVERSE CITY SOIL EROSION & SEDIMENTATION CONTROL
ADDRESS: 400 BOARDMAN AVENUE, TRAVERSE CITY
CONTACT: JOHN MCWETHY
TELEPHONE: (231) 922-4467

CONSUMERS ENERGY COMPANY (C.P.)
ADDRESS: 821 HASTINGS ST., TRAVERSE CITY
AREA ENGINEER: CURTIS HANSEN
TELEPHONE: 1-800-477-5050

AT&T
ADDRESS: 142 E. STATE STREET, TRAVERSE CITY
AREA ENGINEER: JEFFREY SCHUSTER
TELEPHONE: (231) 779-8451

DTE ENERGY
ADDRESS: 609 BJORNSON RD, BIG RAPIDS
AREA ENGINEER: LARRY BOURKE
TELEPHONE: (231) 592-3244
EMERGENCY LEAK RESPONSE: 1-800-947-5000

TRAVERSE CITY D.P.W.
ADDRESS: 507 HANNAH AVE., TRAVERSE CITY
CONTACT: JUSTIN ROY
TELEPHONE: (231) 922-4923

MICHIGAN DEPARTMENT OF TRANSPORTATION (M.D.O.T.)
TRAVERSE CITY TSC
ADDRESS: 2084 US-31 SOUTH, TRAVERSE CITY
ENGINEER: DAN WAGNER
TELEPHONE: (231) 941-1986

CHARTER COMMUNICATION
ADDRESS: 1392 TRADE CENTRE DR., TRAVERSE CITY
ENGINEER: ANDREW MARSH
TELEPHONE: (231) 941-3829

POLICE AGENCIES
EMERGENCY CALLS: 911
CITY OF TRAVERSE CITY: (231) 995-5150
MICHIGAN STATE POLICE: (231) 946-4646
GRAND TRAVERSE COUNTY SHERIFF: (231) 922-4500

FIRE DEPARTMENTS
EMERGENCY CALLS: 911
CITY OF TRAVERSE CITY: (231) 922-4930

AMBULANCE
EMERGENCY CALLS: 911

MISS DIG 811
3 WORKING DAYS
BEFORE YOU DIG
CALL MISS DIG
1-800-482-7171 OR 811
(TOLL FREE)
TOLL FREE FOR THE LOCATION OF UNDERGROUND FACILITIES

PROJECT LENGTH: 0.55 MILES

CONTRACT FOR: HMA STREET RECONSTRUCTION, CONCRETE CURB AND GUTTER, STORM SEWERS, DRAINAGE STRUCTURES, HMA PAVING, SIDEWALK, WATERMAIN

PREPARED UNDER SUPERVISION OF

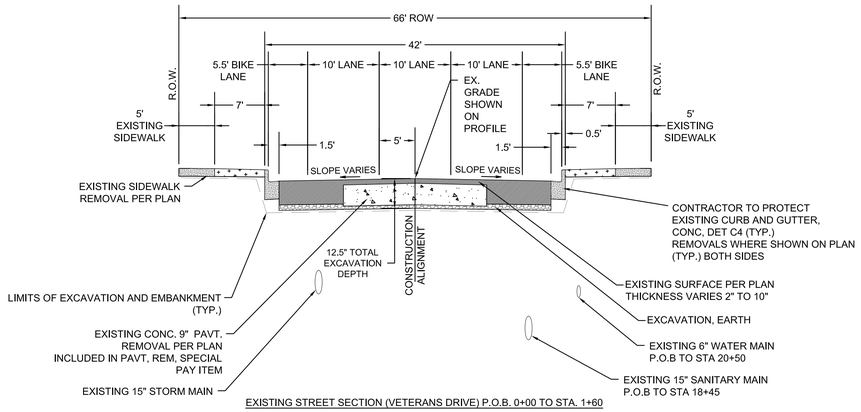
ZACHARIAH R. COLE, P.E. — 6201061530 — 02-20-2024

REGISTERED PROFESSIONAL ENGINEER — REGISTRATION NO. / DATE

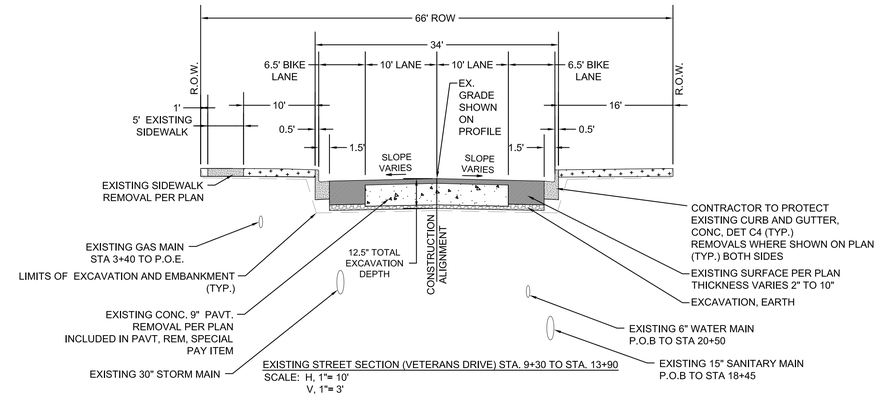
CITY APPROVAL

CITY ENGINEER
ANNE PAGANO, P.E.

DATE



EXISTING STREET SECTION (VETERANS DRIVE) P.O.B. 0+00 TO STA. 1+60
SCALE: H, 1"= 10'
V, 1"= 3'



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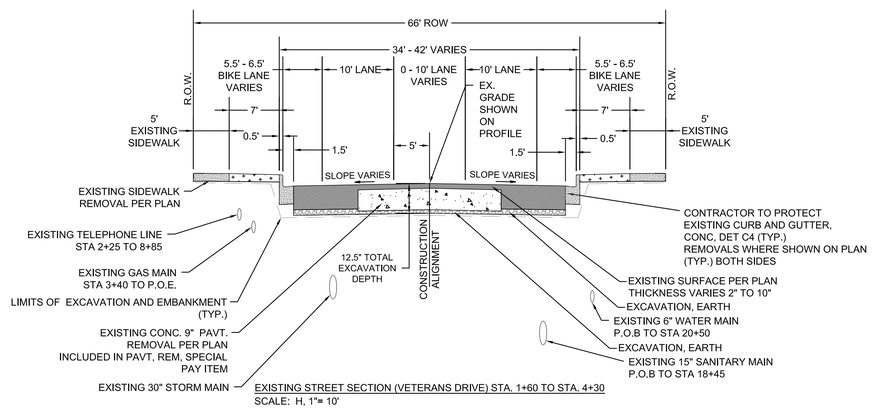
V, 1"= 3'



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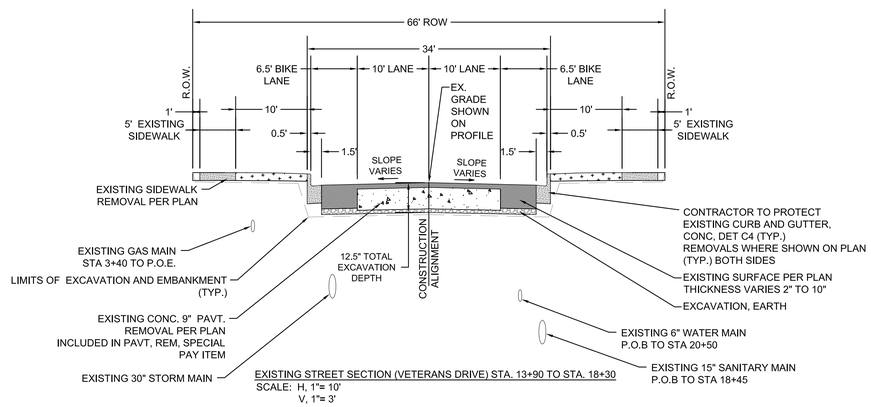
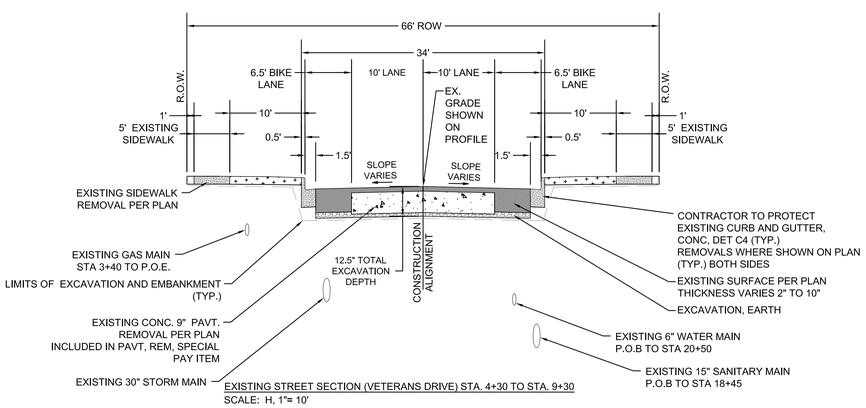


EXISTING STREET SECTION (VETERANS DRIVE) STA. 13+90 TO STA. 18+30
SCALE: H, 1"= 10'
V, 1"= 3'



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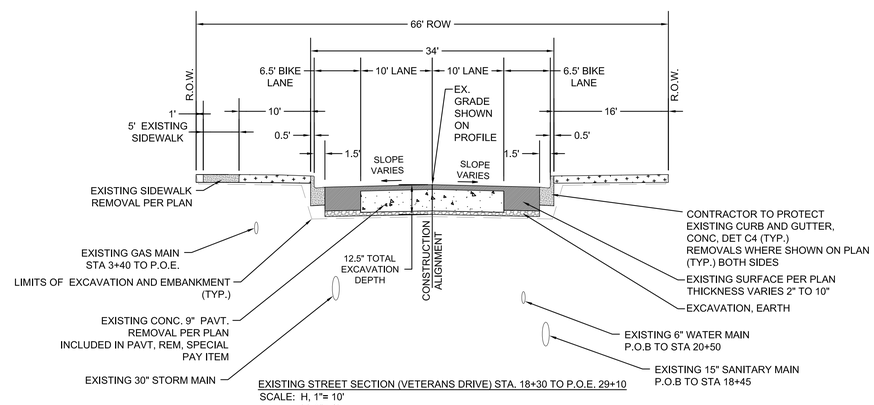
V, 1"= 3'



EXISTING STREET SECTION (VETERANS DRIVE) STA. 18+30 TO P.O.E. 29+10
SCALE: H, 1"= 10'
V, 1"= 3'

NOTE:
1. LOCATION AND SIZE OF EXISTING TELEPHONE CONDUIT BANK IS APPROXIMATE. CONTRACTOR SHALL HAND DIG TO LOCATE AS NEEDED.

2. CROSS SECTION WIDTH VARIES BETWEEN STATIONS.

3. ALL UTILITIES AS SHOWN ARE APPROXIMATE LOCATIONS DERIVED FROM GROUND MEASUREMENTS AND AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATION NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THE AREA.

4. REMOVALS FOR SIDEWALK AND CURB AS DIRECTED BY ENGINEER.

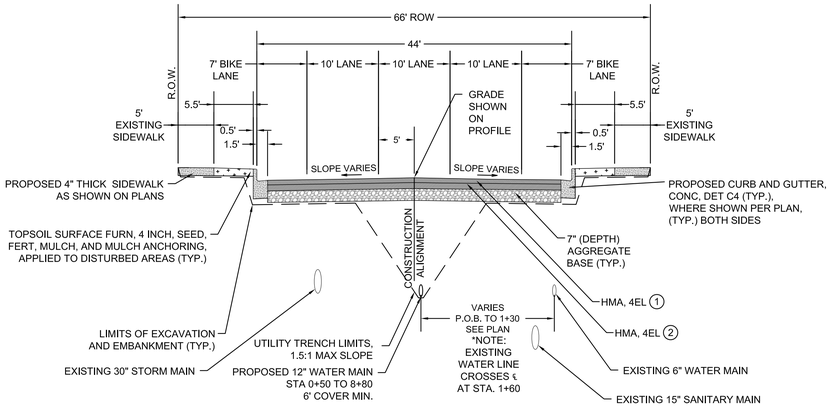
NO.	REVISION DESCRIPTION:	BY:	DATE:
1	G.I. SUBMITTAL	ARY	11-6-23

CITY OF TRAVERSE CITY
ENGINEERING DEPARTMENT
400 BOARDMAN AVE.
TRAVERSE CITY, MI. 49684

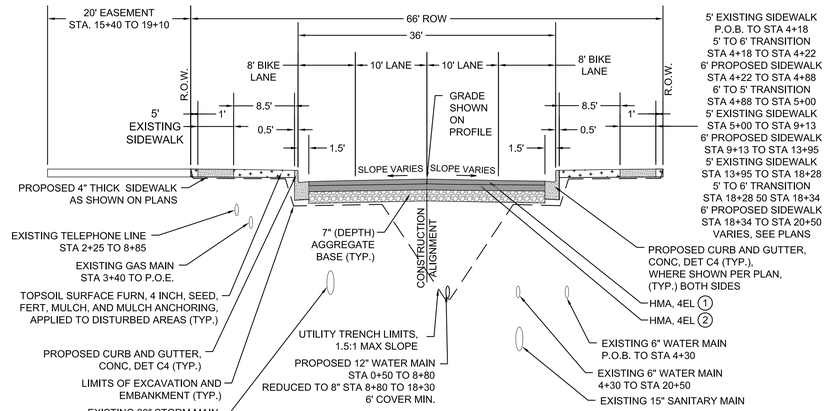
DRAWING TITLE:
VETERANS DRIVE RECONSTRUCTION
STANDARD DETAILS / NOTES
EXISTING / PROPOSED CROSS SECTIONS

SCALES:
VERTICAL: N/A
HORIZONTAL: AS NOTED
DATE: FEBRUARY 2024
DESIGNED: ZRC
DRAWN: JAS
APPROVED: ARY
JOB NO. 214685

SHEET 2 OF 30 SHEETS



PROPOSED STREET SECTION (VETERANS DRIVE) P.O.B. 0+00 TO STA. 1+80
SCALE: H, 1"= 10'
V, 1"= 3'



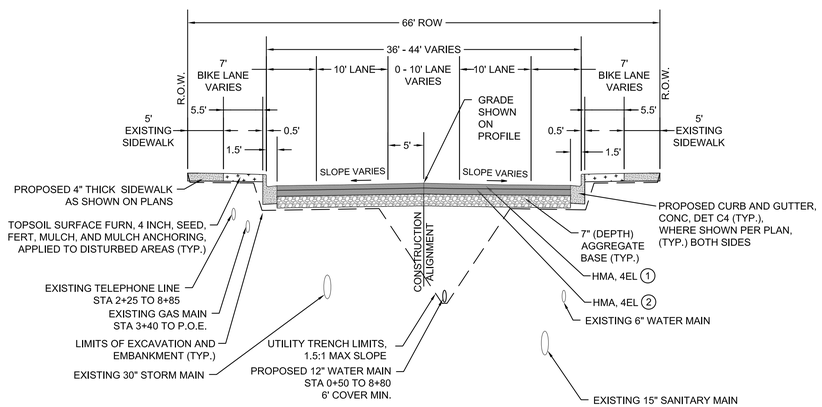
PROPOSED STREET SECTION (VETERANS DRIVE) STA. 3+30 TO STA. 20+50
SCALE: H, 1"= 10'
V, 1"= 3'

	HMA APPLICATION TABLE					
NOTE #	MIXTURE **	PAY ITEM	APPROXIMATE RATE (lbs/syd)	PERFORMANCE GRADE	TYPE	DEPTH (IN)
1	4EL	HMA, 4EL	220	64 - 28	TOP COURSE (AWI = 260)	2"
2	4EL	HMA, 4EL	275	64 - 28	LEVELING COURSE	2.5"
3	4EL	HAND PATCHING	220	64 - 28	TOP COURSE (AWI = 260)	-
* HMA BOND COAT 0.05 - 0.15 GAL/SYD (FOR INFORMATION ONLY)						

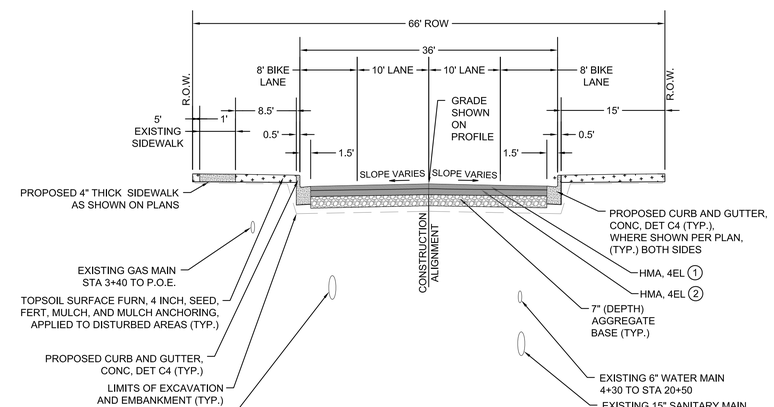
** SHALL BE AS PER MDOT 2020 STANDARD SPECIFICATIONS FOR CONSTRUCTION. EXCEPT AS SUPERSEDED IN THE CONTRACT SPECIFICATIONS.

THE ITEM FOR MACHINE GRADING, MODIFIED SHALL INCLUDE ALL REQUIRED EXCAVATION AND/OR EMBANKMENT TO DEVELOP THE PROPOSED CROSS SECTION AND ADDITIONAL ITEMS REFERENCED IN THE SPECIAL PROVISION, SEE PROPOSAL. THE ESTIMATED EARTHWORK QUANTITIES PROVIDED HEREIN ARE FOR INFORMATION ONLY. NO UNIT PRICE ADJUSTMENTS OR CLAIMS FOR ADDITIONAL COMPENSATION WILL BE ALLOWED UNLESS THERE ARE CHANGED CONDITIONS OR WORK LIMITS AS DETERMINED BY THE ENGINEER. ALL REQUIRED EMBANKMENT SHALL BE CLASS II. GRADING FOR SIDEWALKS AND RAMPS TO MEET REQUIRED ADA SLOPES IS INCLUDED IN MACHINE GRADING, MODIFIED. PROTECTION OF EXISTING TREES NOT DESIGNATED FOR REMOVAL SHALL BE INCLUDED IN THE ITEM FOR MACHINE GRADING, MODIFIED.

EXCAVATION, EARTH, 1055 CYD
EMBANKMENT, (CIP), 120 CYD



PROPOSED STREET SECTION (VETERANS DRIVE) STA. 1+80 TO STA. 3+30
SCALE: H, 1"= 10'
V, 1"= 3'



PROPOSED STREET SECTION (VETERANS DRIVE) STA. 20+52 TO STA. P.O.E. 29+10
SCALE: H, 1"= 10'
V, 1"= 3'

NOTE:
1. LOCATION AND SIZE OF EXISTING TELEPHONE CONDUIT BANK IS APPROXIMATE. CONTRACTOR SHALL HAND DIG TO LOCATE AS NEEDED.

2. UTILITY TRENCH SIDE SLOPES SHOWN ARE APPROXIMATE. CONTRACTOR SHALL ADJUST SLOPES BASED ON ACTUAL SOIL TYPES/CONDITIONS IN ACCORDANCE WITH MIOSHA RULES.

3. CROSS SECTION WIDTH VARIES BETWEEN STATIONS.

4. RESTORATION METHOD AND LOCATION PER PLANS.

5. ALL UTILITIES AS SHOWN ARE APPROXIMATE LOCATIONS DERIVED FROM GROUND MEASUREMENTS AND AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATION NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THE AREA.

6. REMOVALS FOR SIDEWALK AND CURB AS DIRECTED BY ENGINEER.

NO.	REVISION DESCRIPTION:	BY:	DATE:
2	SECTIONS UPDATED AS AMENDMENT	JAS	6-6-24
1	G.I. SUBMITTAL	ARY	11-6-23

CITY OF TRAVERSE CITY
ENGINEERING DEPARTMENT
400 BOARDMAN AVE.
TRAVERSE CITY, MI. 49684

DRAWING TITLE:
VETERANS DRIVE RECONSTRUCTION
STANDARD DETAILS / NOTES
EXISTING / PROPOSED CROSS SECTIONS

SCALES:
VERTICAL: N/A
HORIZONTAL: AS NOTED
DATE: FEBRUARY 2024
DESIGNED: ZRC
DRAWN: JAS
APPROVED: ARY
JOB NO. 214685

SHEET 3 OF 30 SHEETS

STORM SEWER NOTES

1. ALL STORM SEWER SHALL BE CL IV REINFORCED CONCRETE PIPE, TRENCH DETAIL B1, UNLESS SPECIFICALLY STATED OTHERWISE.

2. DRAINAGE STRUCTURE AND SANITARY MANHOLE COVERS SHALL BE PAID AS SHOWN ON PLANS. MANHOLE CASTINGS SHALL HAVE STORM SEWER, SANITARY SEWER OR WATER CAST ON STRUCTURE COVER AS APPLICABLE.

3. PROPOSED STORM AND SANITARY MANHOLES SHALL BE 4 FEET IN DIAMETER UNLESS NOTED OTHERWISE.

4. ANY AND ALL SHORING, SHEETING, TRENCH BOX USE NECESSARY TO INSTALL ANY PAY ITEMS SHALL BE INCLUDED IN THAT RESPECTIVE PAY ITEM. THE USE OF TRENCH WIDTH CONTROL EQUIPMENT SHALL BE USED TO MAINTAIN THE PROJECT WITHIN THE LIMITS OR RIGHT OF WAY.

GENERAL NOTES

1. ALL ELEVATIONS ARE BASED ON U.S.G.S. DATUM.

2. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE LAWS AND REGULATIONS GOVERNING THE FURNISHING AND USE OF SAFEGUARDS, SAFETY DEVICES AND PROTECTION EQUIPMENT. THE CONTRACTOR SHALL TAKE ANY NECESSARY PRECAUTIONS TO PROTECT THE LIFE AND HEALTH OF EMPLOYEES AND THE PUBLIC IN THE PERFORMANCE OF THE WORK.

3. FOR PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 174, 2013, THE CONTRACTOR SHALL DIAL, 1-800-482-7171 OR 811, A MINIMUM OF THREE WORKING DAYS AND WITHIN A MAXIMUM OF 14 DAYS OF EXCAVATION DATE, EXCLUDING SATURDAYS, SUNDAYS, AND HOLIDAYS PRIOR TO BEGINNING EACH EXCAVATION IN AREAS WHERE PUBLIC UTILITIES HAVE NOT BEEN PREVIOUSLY LOCATED. MEMBERS WILL THUS BE ROUTINELY NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO MAY NOT BE PART OF THE "MISS DIG" ALERT SYSTEM.

4. SPECIAL CARE SHALL BE TAKEN IN EXCAVATING IN THE PROXIMITY OF ALL UNDERGROUND UTILITIES. THE CONTRACTOR SHALL SECURE ASSISTANCE FROM THE APPROPRIATE UTILITY COMPANY IN LOCATING ITS LINES. THE CONTRACTOR SHALL ALSO PROVIDE SUPPORT FOR ANY UTILITY WITHIN THE EXCAVATION, PROVIDE PROPER COMPACTION UNDER ANY UNDERMINED UTILITY STRUCTURE, AND, IF NECESSARY, INSTALL TEMPORARY SHEETING OR USE A TRENCH BOX TO MINIMIZE THE EXCAVATION.

5. LOCATION OF EXISTING UTILITIES: ALL KNOWN EXISTING PUBLIC UTILITIES AND UNDERGROUND STRUCTURES, SUCH AS PIPE LINES, ELECTRIC CONDUITS, SEWERS AND WATER LINES, ARE SHOWN ON THE PLANS. THE INFORMATION SHOWN IS BELIEVED TO BE REASONABLY CORRECT AND COMPLETE. HOWEVER, NEITHER THE CORRECTNESS NOR THE COMPLETENESS OF SUCH INFORMATION IS GUARANTEED. PRIOR TO THE START OF ANY OPERATIONS IN THE VICINITY OF UTILITIES, THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES AND REQUEST THAT THEY STAKE OUT THE LOCATIONS OF THE UTILITIES IN QUESTION.

6. EXISTING PROPERTY CORNERS ARE IDENTIFIED ON THE PLANS. IF A PROPERTY CORNER IS DISTURBED DURING CONSTRUCTION IT SHALL BE REPLACED AT THE CONTRACTORS EXPENSE BY A PROFESSIONAL LAND SURVEYOR.

7. CONTRACTOR SHALL PROVIDE TEMPORARY SUPPORT TO ANY MAILBOXES DISTURBED DURING CONSTRUCTION AND SHALL NOT INTERFERE WITH MAIL SERVICE. ALL DISTURBED MAILBOXES SHALL BE PLACED IN ORIGINAL LOCATION AT AN ELEVATION DETERMINED BY THE POSTAL SERVICE.

8. LOCAL TRAFFIC SHALL BE MAINTAINED AT ALL TIMES.

9. CONTRACTOR SHALL PROVIDE ADEQUATE SUPPORT FOR UTILITY POLES AS NECESSARY.

10. ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY.

11. DEWATERING AND BYPASS PUMPING OF EXISTING STORM SEWERS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE INCLUDED IN THE RESPECTIVE CONTRACT ITEMS AND WILL NOT BE MEASURED FOR ANY PAYMENT SEPARATELY

12. ANY OTHER WORK REQUIRED TO COMPLETE THE CONSTRUCTION SHOWN ON THE PLANS AND DESCRIBED IN THE SPECIFICATIONS THAT DOES NOT HAVE A SPECIFIC PAY ITEM SHALL BE INCIDENTAL TO ONE OF THE OTHER PAY ITEMS AND THE CONTRACTOR SHALL ARRANGE THEIR BID PROPOSAL ACCORDINGLY.

13. CONTRACTOR SHALL PROVIDE DESIGN FABRICATION AND INSTALLATION REQUIRED FOR ALL PRECAST CONCRETE COMPONENTS. ALL STRUCTURES SHALL BE CAPABLE OF SUPPORTING H-20 LOADING.

14. FINISH GRADE AROUND EXISTING TREES TO REMAIN SHALL MATCH PRE-CONSTRUCTION GRADE. AT NO TIME DURING OR AFTER CONSTRUCTION SHOULD SOIL BE IN CONTACT WITH THE TRUNK OF THE TREE ABOVE THE BASAL FLAIR.

15. IN AREAS WHERE THE GRADE AROUND THE PROTECTED TREE WILL BE LOWERED, SOME ROOT CUTTING MAY BE UNAVOIDABLE. CUTS SHOULD BE CLEAN AND MADE AT RIGHT ANGLES TO THE ROOTS. WHEN PRACTICAL, CUT ROOTS BACK TO A BRANCHING LATERAL ROOT. ROOTS SHALL BE HAND CUT, USE OF AN EXCAVATOR OR MECHANICAL EQUIPMENT IS NOT ACCEPTABLE.

16. THE ITEM FOR MACHINE GRADING, MODIFIED SHALL INCLUDE ALL REQUIRED EXCAVATION AND/OR EMBANKMENT TO DEVELOP THE PROPOSED CROSS SECTION AND ADDITIONAL ITEMS REFERENCED IN THE SPECIAL PROVISION, SEE PROPOSAL. THE ESTIMATED EARTHWORK QUANTITIES PROVIDED HEREIN ARE FOR INFORMATION ONLY. NO UNIT PRICE ADJUSTMENTS OR CLAIMS FOR ADDITIONAL COMPENSATION WILL BE ALLOWED UNLESS THERE ARE CHANGED CONDITIONS OR WORK LIMITS AS DETERMINED BY THE ENGINEER. ALL REQUIRED EMBANKMENT SHALL BE CLASS II. GRADING FOR SIDEWALKS AND RAMPS TO MEET REQUIRED ADA SLOPES IS INCLUDED IN MACHINE GRADING, MODIFIED. PROTECTION OF EXISTING TREES NOT DESIGNATED FOR REMOVAL SHALL BE INCLUDED IN THE ITEM FOR MACHINE GRADING, MODIFIED.

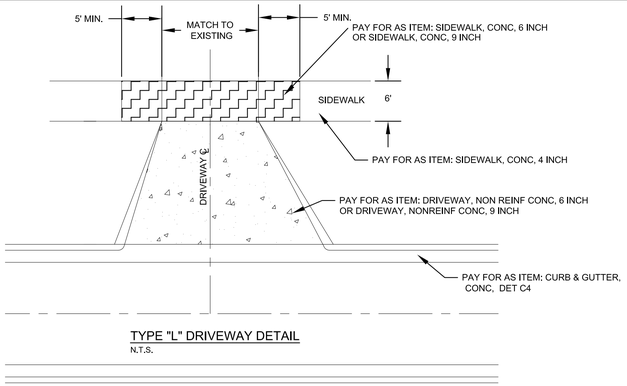
17. LOCATION AND SIZE OF EXISTING TELEPHONE CONDUIT BANK IF SHOWN IS APPROXIMATE. CONTRACTOR SHALL HAND DIG TO LOCATE AS NEEDED..

18. UTILITY TRENCH SIDE SLOPES SHOWN ARE APPROXIMATE. CONTRACTOR SHALL ADJUST SLOPES BASED ON ACTUAL SOIL TYPES/CONDITIONS IN ACCORDANCE WITH MIOSHA RULES.

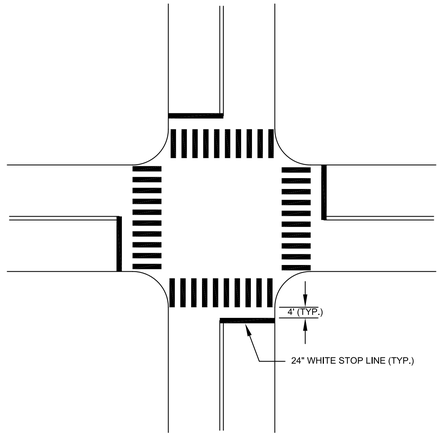
SOIL EROSION NOTES

1. THE CONTRACTOR SHALL INSTALL TEMPORARY AND PERMANENT SOIL EROSION CONTROL MEASURES AS DIRECTED BY THE ENGINEER OR THE SOIL EROSION CONTROL OFFICER, AT NO ADDITIONAL COST TO THE PROJECT. CONTRACTOR SHALL PROTECT ADJACENT PROPERTIES FROM ACCELERATED EROSION AND SEDIMENTATION RESULTING FROM PROJECT CONSTRUCTION.

2. ALL DISTURBED AREAS SHALL BE TOPSOILED, SEEDED, FERTILIZED AND MULCHED. MULCH BLANKET SHALL BE INSTALLED IN AREAS AS DESIGNATED AND SHALL BE INCIDENTAL TO OTHER ITEMS.



TYPE "L" DRIVEWAY DETAIL
N.T.S.



SIGNALIZED OR STOP SIGN CONTROLLED INTERSECTION

TWO-WAY APPROACH ROAD DETAIL
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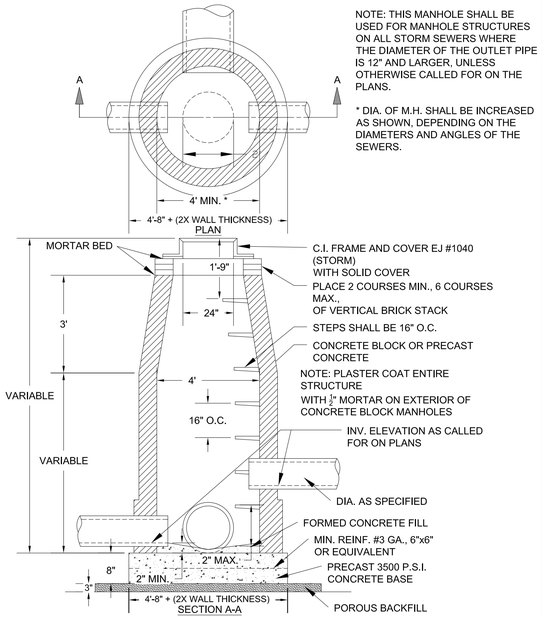

STANDARD STORM MANHOLE DETAIL
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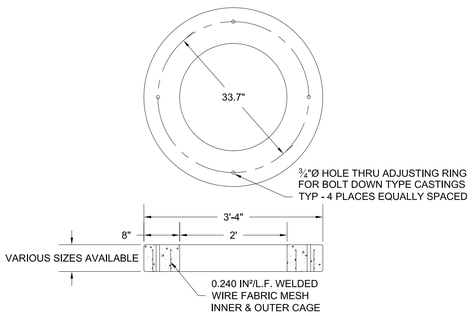

ADJUSTING RING DETAIL
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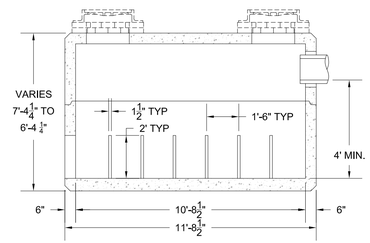
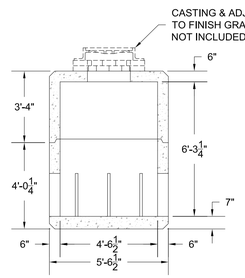
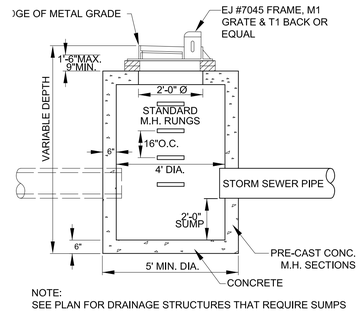
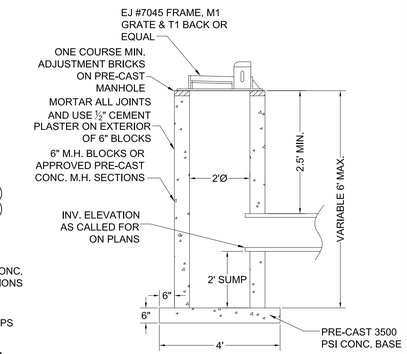




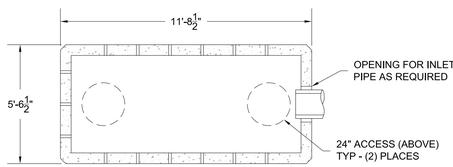


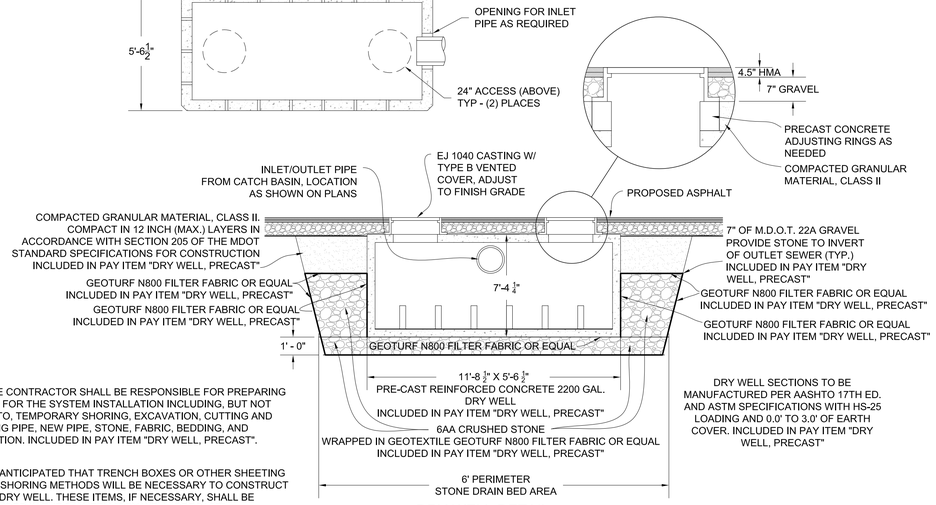
NOTE:
SEE PLAN FOR DRAINAGE STRUCTURES THAT REQUIRE SUMPS

4 FT. DIA. CATCH BASIN W/ SUMP DETAIL
N.T.S.



2' DIA. CATCH BASIN W/ SUMP DETAIL
N.T.S.

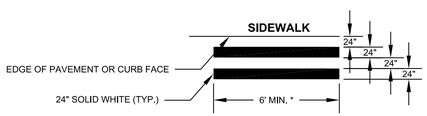




NOTES:
1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARING THE SITE FOR THE SYSTEM INSTALLATION INCLUDING, BUT NOT LIMITED TO, TEMPORARY SHORING, EXCAVATION, CUTTING AND REMOVING PIPE, NEW PIPE, STONE, FABRIC, BEDDING, AND COMPACTION. INCLUDED IN PAY ITEM "DRY WELL, PRECAST".

2. IT IS ANTICIPATED THAT TRENCH BOXES OR OTHER SHEETING AND SHORING METHODS WILL BE NECESSARY TO CONSTRUCT THE DRY WELL. THESE ITEMS, IF NECESSARY, SHALL BE INCLUDED IN THE PAY ITEM "DRY WELL, PRECAST".

DRY WELL DETAIL
N.T.S.



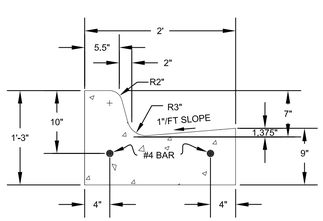
DETAIL OF MARKINGS

*** WIDTH OF CROSSWALK TO EQUAL WIDTH OF THE ADJACENT CROSSWALK, BUT NOT LESS THAN 6 FEET.**

NOTE:

WHEN PRACTICAL, CROSSWALK LOCATION SHOULD AVOID CONFLICT WITH DRAINAGE INLET.

SPECIAL EMPHASIS CROSSWALK PAVEMENT MARKINGS
N.T.S.



C4 CURB & GUTTER DETAIL
N.T.S.

NO.	REVISION DESCRIPTION:	BY:	DATE:
2	WATER PERMIT SUBMITTAL	ZRC	11-30-23
1	G.I. SUBMITTAL	ARY	11-6-23

CITY OF TRAVERSE CITY
ENGINEERING DEPARTMENT
400 BOARDMAN AVE.
TRAVERSE CITY, MI. 49684

DRAWING TITLE:

VETERANS DRIVE DETAIL SHEET

SCALES:
VERTICAL: N / A
HORIZONTAL: 1"=20'
DATE: FEBRUARY 2024
DESIGNED: ZRC
DRAWN: JAS
APPROVED: ARY
JOB NO. 214685

SHEET 4 OF 30 SHEETS

WATERMAIN NOTES

1. ALL CONSTRUCTION MATERIALS AND PROCEDURES SHALL CONFORM WITH THE TRAVERSE CITY ENGINEERING DEPARTMENT CURRENT STANDARDS, SPECIFICATIONS AND DETAILS, SHOWN IN THE PROPOSAL.

2. THE CONTRACTOR SHALL NOTIFY THE ENGINEER 48 HOURS PRIOR TO THE START OF CONSTRUCTION OF THE WATERMAIN. CONTRACTOR SHALL ISSUE A WORK SCHEDULE TO THE ENGINEER PRIOR TO THE START OF WATERMAIN CONSTRUCTION.

3. ALL WATERMAIN SHALL BE DUCTILE IRON PIPE THICKNESS CLASS 52, MEETING CURRENT AWWA STANDARDS. ALL FITTINGS SUCH AS TEES, ELBOWS, BENDS ETC., SHALL BE INCLUDED IN THE WATERMAIN PAY ITEM.

4. WATERMAIN SHALL HAVE A MINIMUM OF SIX (6) FEET OF COVER BELOW EXISTING OR PROPOSED GRADE, UNLESS OTHERWISE NOTED ON THE PLANS. MAINTAIN A 10 FOOT MINIMUM HORIZONTAL SEPARATION AND 18" VERTICAL SEPARATION FROM ALL SEWERS.

5. BURLAP, PLASTIC OR POLY (20 MILLS) OR APPROVED EQUAL SHALL BE PLACED BETWEEN THE CONCRETE THRUST BLOCK AND DEAD-END MAINS OR DEAD-END PLUGS, TEES, HYDRANTS AND CROSSES TO FACILITATE THE REMOVAL OF THE THRUST BLOCK FOR FUTURE EXTENSION AND MAINTENANCE.

6. A PHYSICAL GAP SHALL BE MAINTAINED BETWEEN THE WATERMAIN AND THE EXISTING WATER SYSTEM UNTIL ALL WATERMAIN TESTING HAS BEEN COMPLETED AND APPROVED BY THE ENGINEER, AND THE CITY OF TRAVERSE CITY.

7. THE CONTRACTOR SHALL COORDINATE THE CONNECTION TO THE EXISTING WATER SYSTEM WITH THE CITY OF TRAVERSE CITY SEWER AND WATER MAINTENANCE DIVISION. THE OPERATION OF THE EXISTING GATE VALVES ON THE SYSTEM SHALL BE PERFORMED BY THE SEWER AND WATER MAINTENANCE DIVISION ONLY. THE ENGINEER AND D.P.W. SHALL BE GIVEN A MINIMUM OF 48 HOURS NOTICE PRIOR TO THE CONNECTION.

8. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN WATER FOR FLUSHING AND TESTING PURPOSES. CONTRACTOR SHALL COORDINATE WITH THE DEPARTMENT OF PUBLIC WORKS, IF WATER IS OBTAINED FROM THE EXISTING WATER SYSTEM. THE SEWER AND WATER MAINTENANCE DIVISION SHALL BE GIVEN 24 HOURS NOTICE PRIOR TO USING ANY WATER FROM THE EXISTING WATER SYSTEM.

9. PROPOSED WATER SERVICES SHALL BE PROVIDED FOR ALL EXISTING WATER SERVICES. THE COST OF LOCATING EXISTING WATER SERVICES SHALL BE INCLUDED IN 1" COPPER WATER SERVICE CONNECTION (SHORT SIDE) AND 1" COPPER WATER SERVICE CONNECTION (LONG SIDE). THE CONTRACTOR SHALL COORDINATE LOCATING EXISTING WATER SERVICES WITH THE CITY OF TRAVERSE CITY DEPARTMENT OF PUBLIC WORKS.

10. FITTINGS REQUIRED TO CONNECT PROPOSED WATERMAIN TO EXISTING WATERMAIN SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION AND SHALL BE INCLUDED IN THE COST OF THE CONNECT TO EXISTING WATERMAIN PAY ITEM. THE CONTRACTOR SHALL FIELD VERIFY THE TYPES OF EXISTING WATERMAINS PRIOR TO ORDERING CONNECTION FITTINGS.

11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE DONE TO THE EXISTING WATERMAIN WHILE MAKING CONNECTIONS. ANY ADDITIONAL WATERMAIN REQUIRED TO REPAIR DAMAGE INCURRED WHILE MAKING CONNECTIONS TO EXISTING WATERMAIN SHALL BE AT THE CONTRACTORS EXPENSE.

12. ALL PIPE NOT CHLORINATED AS PART OF THE NORMAL DISINFECTING PROCEDURES SHALL BE HAND CHLORINATED. THIS SHALL INCLUDE ALL PIPE USED FOR CLOSURES AND CONNECTIONS. THIS OPERATION WILL BE INCLUDED AS PART OF THE PROPOSED WATERMAIN CONSTRUCTION.

13. THRUST BLOCKS SHALL BE POURED AGAINST UNDISTURBED EARTH. ALL THRUST BLOCKS SHALL TERMINATE AT THE FACE OF THE PIPE BELLS.

14. IT IS ANTICIPATED THAT TRENCH BOXES OR OTHER SHEETING AND SHORING METHODS WILL BE NECESSARY TO CONSTRUCT THE WATERMAIN. THESE ITEMS, IF NECESSARY, SHALL BE INCLUDED IN THE PAYMENT PER LINEAR FOOT OF WATERMAIN.

15. LOCATIONS AND ELEVATIONS OF POTENTIAL STORM AND SANITARY SEWER CONFLICTS SHALL BE FIELD VERIFIED PRIOR TO WATERMAIN CONSTRUCTION. FITTINGS REQUIRED TO AVOID CONFLICT ARE INCLUDED IN THE COST OF WATERMAIN AND WILL NOT BE PAID FOR SEPARATELY.

16. WHEN PROPOSED WATERMAIN PASSES BENEATH EXISTING SEWERS/UTILITIES, TEMPORARY SUPPORT OF EXISTING SEWERS/UTILITIES IS INCLUDED IN THE COST OF WATERMAIN PAY ITEMS.

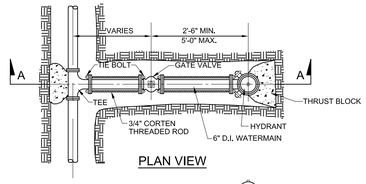
17. REMOVAL OF ABANDONED WATERMAINS AS REQUIRED FOR CLEARANCE TO CONSTRUCT THE PROPOSED WATERMAINS SHALL BE INCLUDED AS PART OF THE PROPOSED WATERMAIN CONSTRUCTION.

18. ON ALL WATERMAINS THAT ARE ABANDONED, VALVES NO LONGER NEEDED SHALL BE REMOVED, AND SHALL REMAIN THE PROPERTY OF THE CITY OF TRAVERSE CITY.

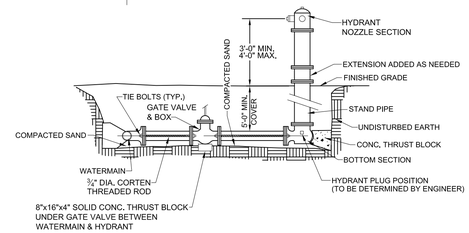
19. ALL MAINS ABANDONED SHALL BE CUT TWO FEET FROM MAIN OR VALVE AND CAPPED WITH RETAINING GLANDS AND THRUST BLOCK.

20. HYDRANTS SHALL BE CITY OF TRAVERSE CITY STANDARD EAST JORDAN MODEL 5-BR 250.

21. CONTRACTOR SHALL COMPLY WITH THE LATEST UPDATES TO AWWA STANDARD C605 FOR PRESSURE TESTING AND THE LATEST UPDATES TO AWWA STANDARD C651 FOR FLUSHING AND BACTERIOLOGICAL TESTING.

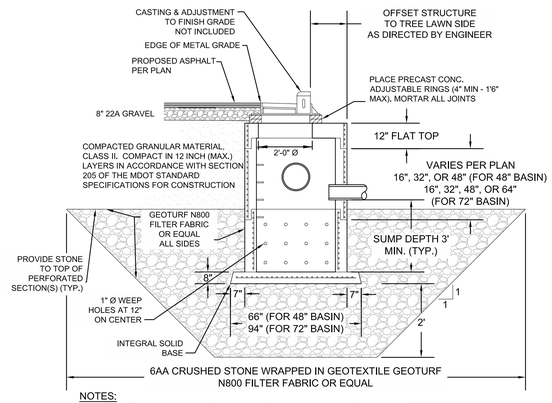


PLAN VIEW



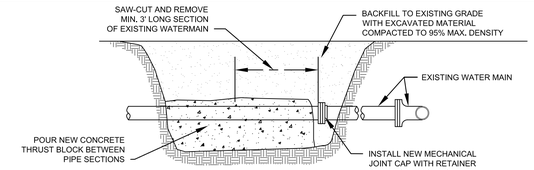
PROFILE VIEW

HYDRANT ASSEMBLY DETAIL
N.T.S.

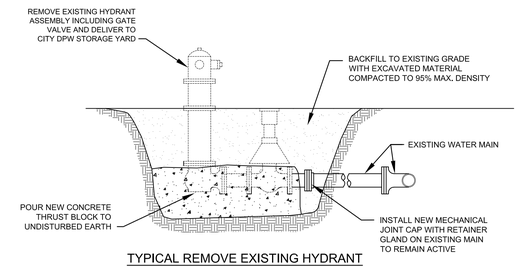


NOTES:
1. PRECAST REINFORCED CONCRETE MANHOLE SECTIONS SHALL CONFORM TO ASTM C-478.
2. PERFORATIONS SHALL BE PROVIDED BELOW THE OUTLET, IN THE BOTTOM SECTION. ALL OTHER SECTIONS SHALL BE SOLID.
3. STONE AND FABRIC SHALL BE INCLUDED IN THE RESPECTIVE LEACHING BASIN PAY ITEM.
4. SHAPE OF STONE BACKFILL MAY BE ADJUSTED DURING CONSTRUCTION DUE TO UTILITY CONFLICTS AS DIRECTED BY THE ENGINEER.

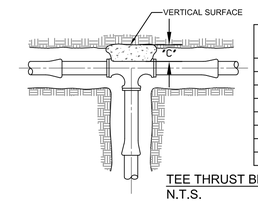
48", 72" LEACHING BASIN DETAIL
N.T.S.



TYPICAL CUT & CAP EXISTING MAIN DETAIL
N.T.S.

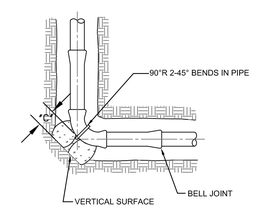


TYPICAL REMOVE EXISTING HYDRANT ASSEMBLY DETAIL
N.T.S.



PIPE SIZE	MIN. BEARING SURFACE ON UNDISTURBED SOIL FOR THRUST BLOCKS	"C"
4"	1'-0"x 1'-0" = 1 SQ. FT.	1'-0"
6"	1'-4"x 1'-3" = 1-2/3 SQ. FT.	1'-0"
8"	1'-9"x 1'-8" = 3 SQ. FT.	1'-3"
10"	2'-0"x 2'-0" = 4 SQ. FT.	1'-3"
12"	2'-3"x 2'-3" = 5-1/2 SQ. FT.	1'-6"
16"	3'-4"x 3'-4" = 11 SQ. FT.	1'-9"
20"	4'-4"x 4'-4" = 18-1/2 SQ. FT.	1'-9"
24"	5'-2"x 5'-2" = 26-1/2 SQ. FT.	2'-0"

TEE THRUST BLOCK DETAIL
N.T.S.



90° BEND IN PIPE
(45° BEND SIMILAR)

PIPE SIZE	MIN. BEARING SURFACE ON UNDISTURBED SOIL FOR THRUST BLOCKS	"C"
4"	1'-4"x 1'-0" = 1-1/3 SQ.FT.	1'-0"
6"	1'-8"x 1'-6" = 2-1/2 SQ.FT.	1'-0"
8"	2'-0"x 2'-0" = 4 SQ.FT.	1'-3"
10"	2'-3"x 2'-3" = 5-1/2 SQ.FT.	1'-3"
12"	2'-9"x 2'-9" = 7-1/2 SQ.FT.	1'-6"
16"	3'-9"x 3'-9" = 14 SQ.FT.	1'-9"
20"	4'-4"x 6'-0" = 26 SQ.FT.	1'-9"
24"	4'-11"x 7'-9" = 37 SQ.FT.	2'-0"

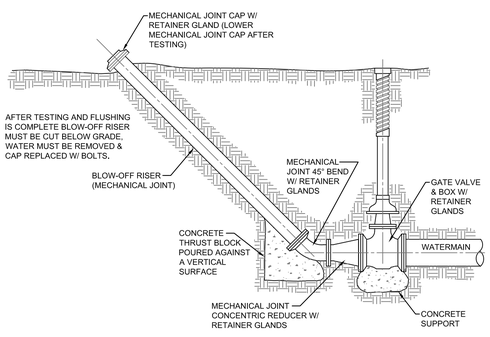
45° BEND

16"	3'-1"x 3'-1" = 9.5 SQ.FT.	1'-9"
20"	3'-9"x 3'-9" = 14 SQ.FT.	1'-9"
24"	4'-0"x 5'-0" = 20 SQ.FT.	2'-0"

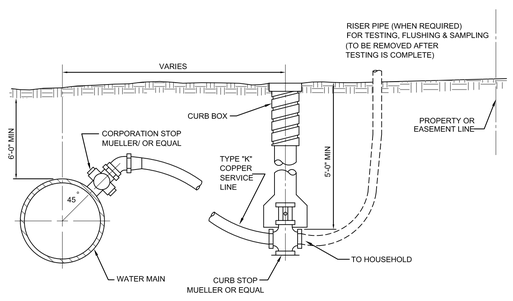
BEND THRUST BLOCK DETAIL
N.T.S.

THRUST BLOCK NOTES:

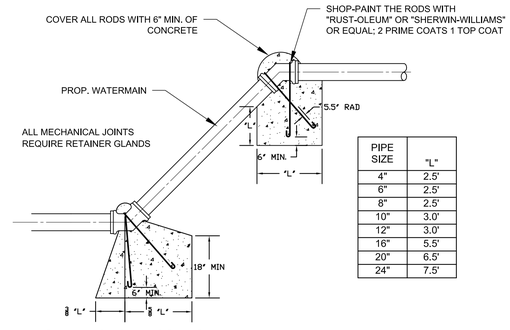
1. 3500 P.S.I. CONCRETE POURED AGAINST UNDISTURBED EARTH.
2. WHEN "A" DIMENSION IS 6 FEET OR GREATER, USE #4 BAR AT 12-INCH O.C. EACH WAY.
3. THE TABLE IS BASED ON 1500 P.S.F. THEREFORE, WHEN PLACED IN MUCK, PEAT OR OTHER UNSUITABLE SOILS HAVING A SOIL BEARING LESS THAN 1500 P.S.F., THE CONTRACTOR SHALL PROVIDE SUITABLE ADDITIONAL BLOCKING, ENCASEMENT, OR RESTRAINTS.
4. BLOCK HEIGHT SHOULD BE EQUAL TO OR LESS THAN ONE-HALF OF THE TOTAL DEPTH TO THE BOTTOM OF THE BLOCK BUT NOT LESS THAN THE PIPE DIAMETER
5. BLOCK HEIGHT SHOULD BE CHOSEN SUCH THAT THE CALCULATED BLOCK WIDTH VARIES BETWEEN ONE AND TWO TIMES THE HEIGHT.
6. RESTRAINED JOINTS MAY BE USED AS AN ALTERNATIVE METHOD OF PROVIDING THRUST RESTRAINT.



BLOW-OFF DETAIL
N.T.S.



TYPICAL SERVICE CONNECTION
N.T.S.



PIPE SIZE	"L"
4"	2.5'
6"	2.5'
8"	2.5'
10"	3.0'
12"	3.0'
16"	5.5'
20"	6.5'
24"	7.5'

VERTICAL REACTION BLOCKING
N.T.S.

NO.	REVISION DESCRIPTION:	BY:	DATE:
2	WATER PERMIT SUBMITTAL	ZRC	11-30-23
1	G.I. SUBMITTAL	ARY	11-6-23

CITY OF TRAVERSE CITY
ENGINEERING DEPARTMENT
400 BOARDMAN AVE.
TRAVERSE CITY, MI. 49684

DRAWING TITLE:

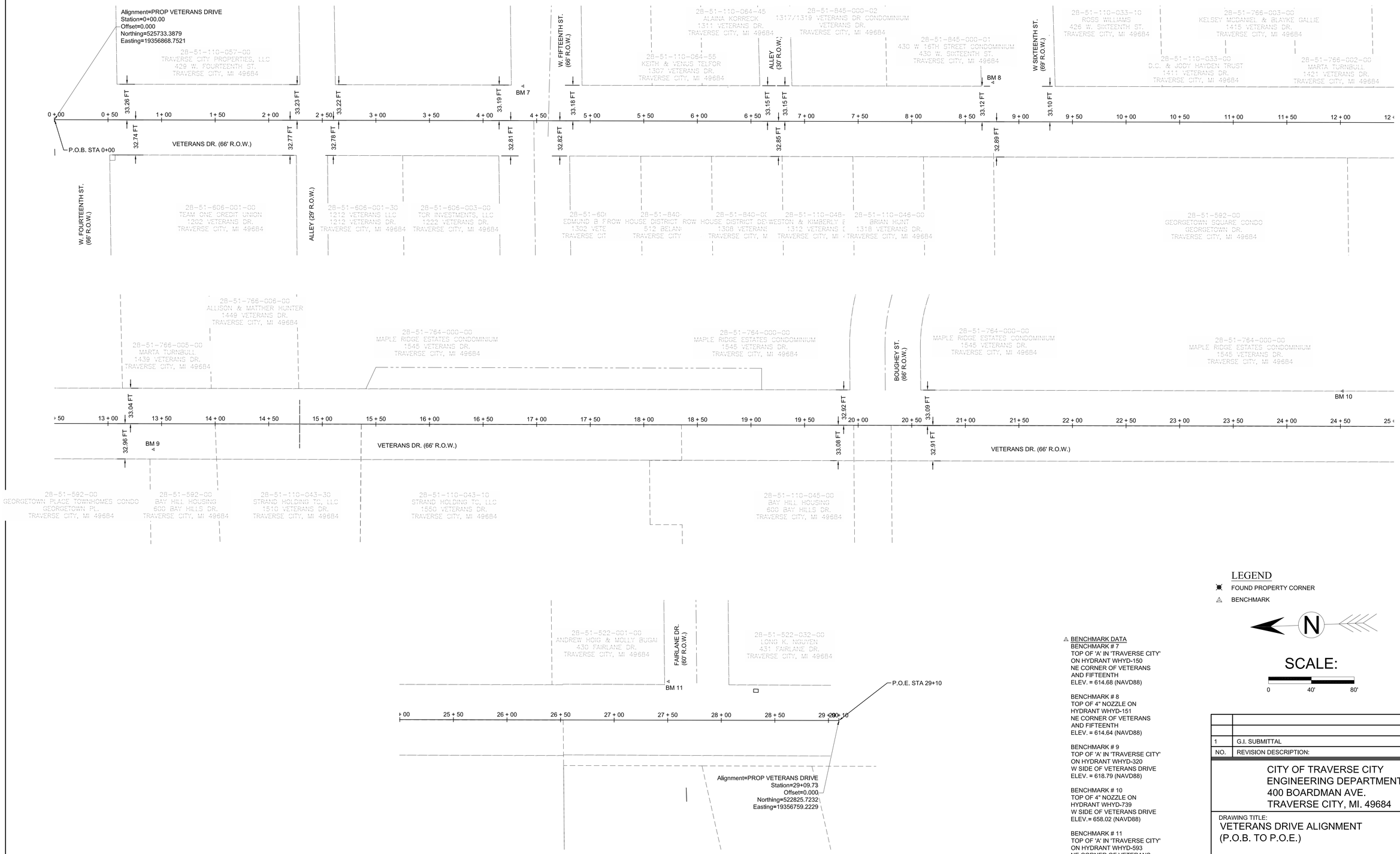
VETERANS DRIVE DETAIL SHEET

SCALES:
VERTICAL: NTS
HORIZONTAL: NTS

DATE: FEBRUARY 2024
DESIGNED: ZRC
DRAWN: JAS
APPROVED: ARY
JOB NO. 214685

SHEET 5 OF 30 SHEETS

VETERANS AVE. (66' R.O.W.)



LEGEND

- FOUND PROPERTY CORNER
- BENCHMARK

N

SCALE:

0 40' 80'

BENCHMARK DATA

BENCHMARK # 7
TOP OF 'A' IN 'TRAVERSE CITY'
ON HYDRANT WHYD-150
NE CORNER OF VETERANS
AND FIFTEENTH
ELEV. = 614.68 (NAVD88)

BENCHMARK # 8
TOP OF 4" NOZZLE ON
HYDRANT WHYD-151
NE CORNER OF VETERANS
AND FIFTEENTH
ELEV. = 614.64 (NAVD88)

BENCHMARK # 9
TOP OF 'A' IN 'TRAVERSE CITY'
ON HYDRANT WHYD-320
W SIDE OF VETERANS DRIVE
ELEV. = 618.79 (NAVD88)

BENCHMARK # 10
TOP OF 4" NOZZLE ON
HYDRANT WHYD-739
W SIDE OF VETERANS DRIVE
ELEV.= 658.02 (NAVD88)

BENCHMARK # 11
TOP OF 'A' IN 'TRAVERSE CITY'
ON HYDRANT WHYD-593
NE CORNER OF VETERANS
AND FAIRLANE
ELEV.= 664.32 (NAVD88)

NO.	REVISION DESCRIPTION:	BY:	DATE:
1	G.I. SUBMITTAL	ARY	11-6-23

CITY OF TRAVERSE CITY
ENGINEERING DEPARTMENT
400 BOARDMAN AVE.
TRAVERSE CITY, MI. 49684

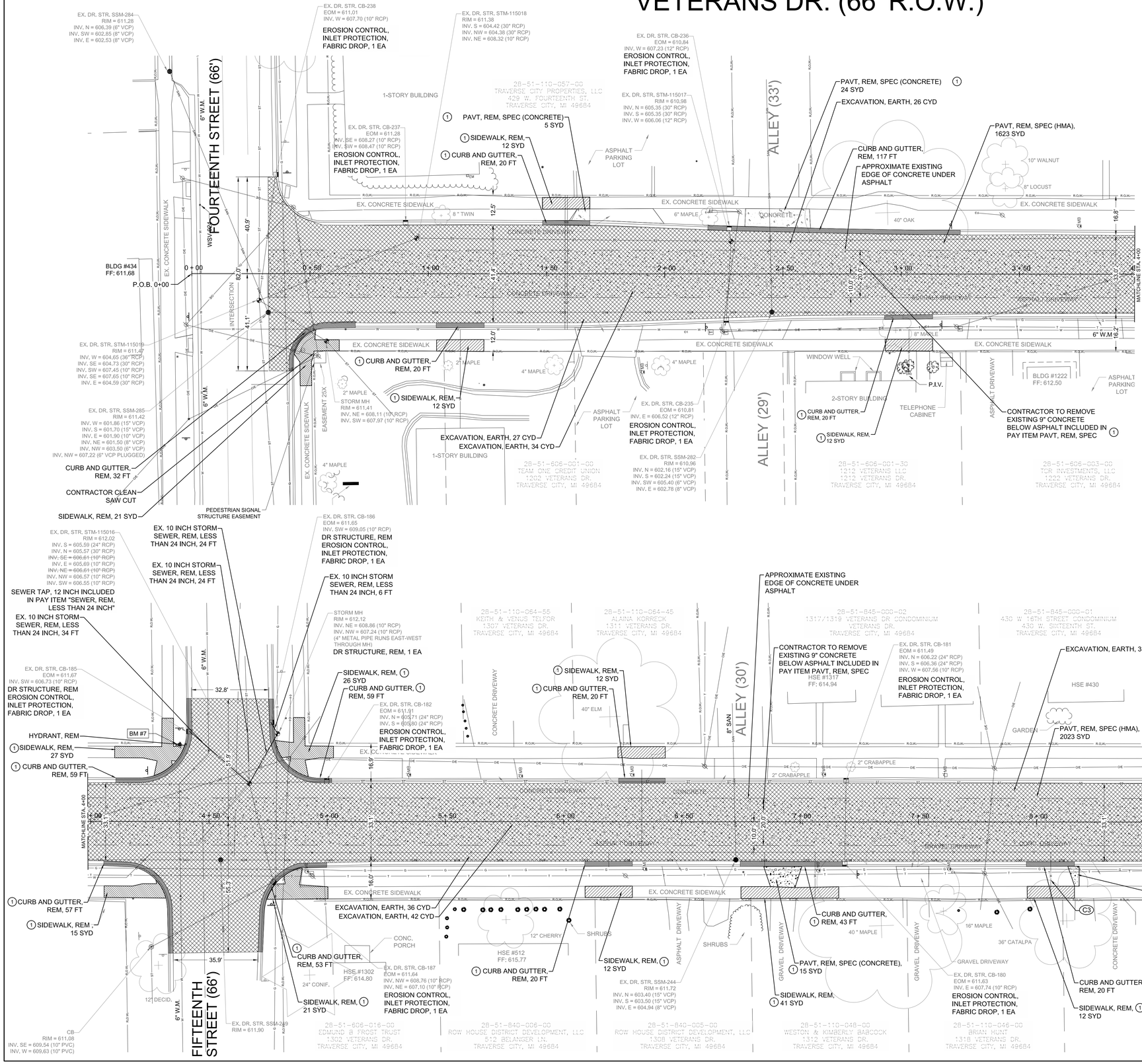
DRAWING TITLE:
VETERANS DRIVE ALIGNMENT
(P.O.B. TO P.O.E.)

SCALES:
VERTICAL: N / A
HORIZONTAL: 1"=40'

DATE: FEBRUARY 2024
DESIGNED: ZRC
DRAWN: JAS
APPROVED: ARY
JOB NO. 214685

SHEET 6 OF 30 SHEETS

VETERANS DR. (66' R.O.W.)



ESTIMATED QUANTITIES THIS SHEET		
ITEM DESCRIPTION	UNIT	QUANTITY
SIDEWALK, REM	SYD	223
PAVT, REM, SPEC	SYD	3694
CURB AND GUTTER, REM	FT	540
DR STRUCTURE, REM	EA	3
HYDRANT, REM	EA	1
SEWER, REM, LESS THAN 24 INCH	FT	88
EROSION CONTROL, INLET PROTECTION, FABRIC DROP	EA	10
EXCAVATION, EARTH	CYD	239

ESTIMATED DRIVEWAY REMOVALS			
STATION & OFFSET	TYPE	QUANTITY (SFT.)	QUANTITY (SYD.)
1+81, 22 L	CONC.	43	5
6+93, 19.8R	CONC.	115	15
8+26, 18.3R	CONC.	36	4

HATCH LEGEND

- PAVT, REM, SPEC (HMA)
- PAVT, REM, SPEC (CONCRETE)
- SIDEWALK, REM
- CURB AND GUTTER, REMOVE

NOTES:

1. LOCATION AS DIRECTED BY ENGINEER

LEGEND

- FOUND EXERTY CORNER
- BENCHMARK
- SIGN
- GAS BOX
- UTILITY POLE
- GUY WIRE
- WATER VALVE
- PED LIGHT POLE
- ELECTRIC RISER
- TELEPHONE RISER/BOX
- FIRE HYDRANT
- CATCHBASIN
- BEEHIVE GRATE CATCHBASIN
- STORM MANHOLE
- SANITARY MANHOLE
- DECIDUOUS TREE
- CONIFEROUS TREE
- TREE LINE
- SHRUB LINE
- OHE — OVERHEAD ELECTRIC
- UE — UNDERGROUND ELECTRIC
- T — OVERHEAD TELEPHONE
- UT — UNDERGROUND TELEPHONE
- OC — OVERHEAD CABLE TV
- UC — UNDERGROUND CABLE TV
- SAN — SANITARY SEWER
- ST — STORM SEWER
- W — WATERMAIN
- GUARDRAIL
- FENCE
- TOP/BOTTOM OF SLOPE
- R.O.W. — RIGHT-OF-WAY

BENCHMARK DATA
BENCHMARK # 7
TOP OF 'A' IN 'TRAVERSE CITY'
ON HYDRANT WHYD-150
NE CORNER OF VETERANS
AND FIFTEENTH
ELEV. = 614.68 (NAVD88)

NO.	REVISION DESCRIPTION:	BY:	DATE:
2	WATER PERMIT SUBMITTAL	ZRC	11-30-23
1	G.I. SUBMITTAL	ARY	11-6-23

CITY OF TRAVERSE CITY
ENGINEERING DEPARTMENT
400 BOARDMAN AVE.
TRAVERSE CITY, MI. 49684

DRAWING TITLE:

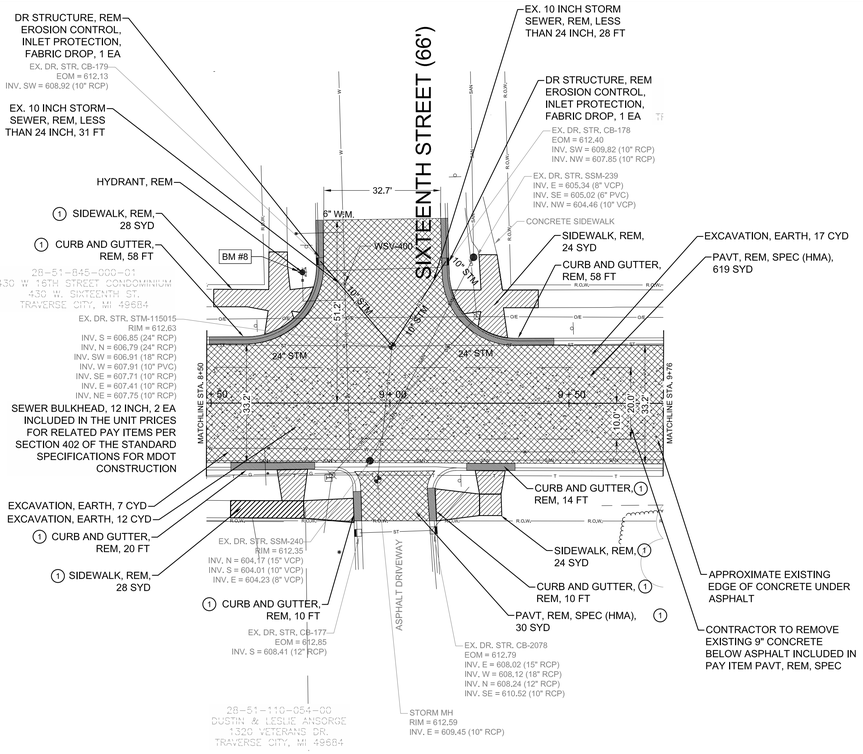
VETERANS REMOVAL PLAN
(P.O.B. TO STA. 8+50)

SCALES:
VERTICAL: N / A
HORIZONTAL: 1"=20'

DATE: FEBRUARY 2024
DESIGNED: ZRC
DRAWN: JAS
APPROVED: ARY
JOB NO. 214685

SHEET
7
OF 30 SHEETS

VETERANS DR. (66' R.O.W.)



ESTIMATED QUANTITIES THIS SHEET		
ITEM DESCRIPTION	UNIT	QUANTITY
SIDEWALK, REM	SYD	190
PAVT, REM, SPEC	SYD	2560
CURB AND GUTTER, REM	FT	504
DR STRUCTURE, REM	EA	2
HYDRANT, REM	EA	1
SEWER, REM, LESS THAN 24 INCH	FT	59
EROSION CONTROL, INLET PROTECTION, FABRIC DROP	EA	7
EXCAVATION, EARTH	CYD	354

ESTIMATED DRIVEWAY REMOVALS			
STATION & OFFSET	TYPE	QUANTITY (SFT.)	QUANTITY (SYD.)
9+02, 19.0 R	HMA	266	30
10+50, 18.5 L	CONC.	93	11
11+86, 18.7 R	HMA	284	30
12+61, 18.7 R	HMA	348	39
13+72, 18.7 R	HMA	635	70
14+35, 18.5 L	CONC.	105	12

HATCH LEGEND

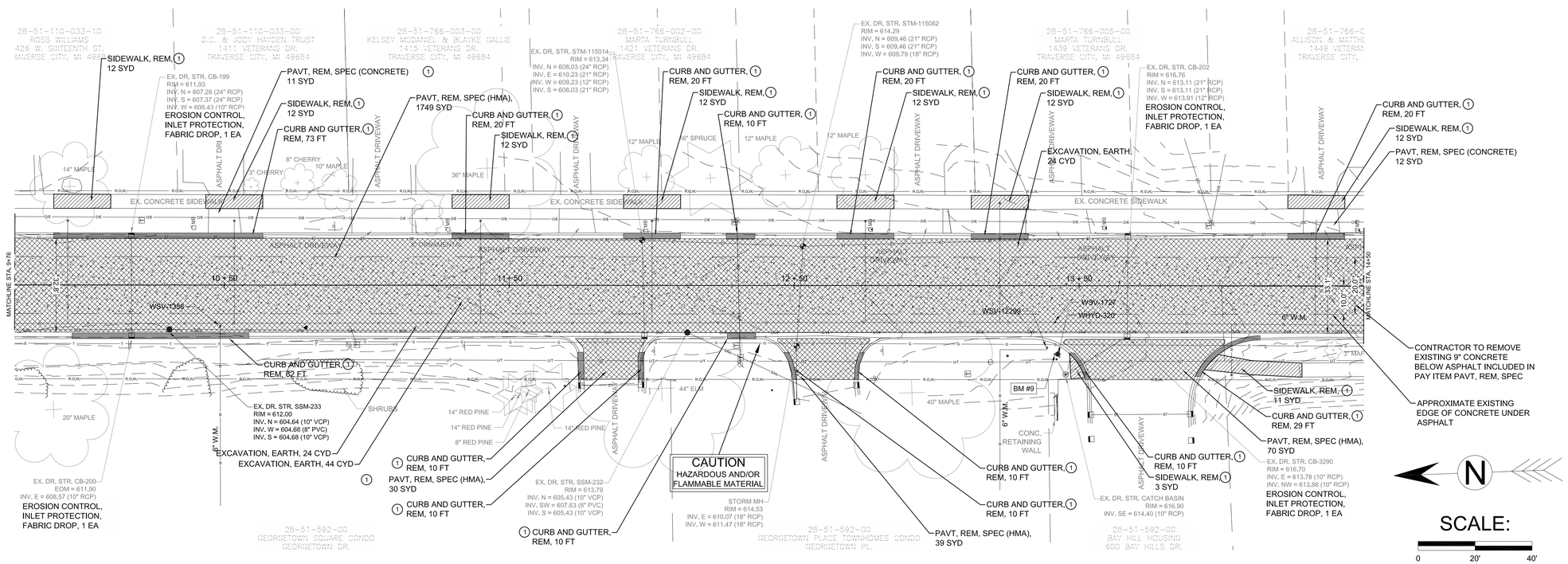
- PAVT, REM, SPEC (HMA)
- PAVT, REM, SPEC (CONCRETE)
- SIDEWALK, REM
- CURB AND GUTTER, REMOVE

NOTES:

1 LOCATION AS DIRECTED BY ENGINEER

LEGEND

- FOUND EXERTY CORNER
- BENCHMARK
- SIGN
- GAS BOX
- UTILITY POLE
- GUY WIRE
- WATER VALVE
- PED LIGHT POLE
- ELECTRIC RISER
- TELEPHONE RISER/BOX
- FIRE HYDRANT
- CATCHBASIN
- BEEHIVE GRATE CATCHBASIN
- STORM MANHOLE
- SANITARY MANHOLE
- DECIDUOUS TREE
- CONIFEROUS TREE
- TREE LINE
- SHRUB LINE
- OVERHEAD ELECTRIC
- UNDERGROUND ELECTRIC
- OVERHEAD TELEPHONE
- UNDERGROUND TELEPHONE
- OVERHEAD CABLE TV
- UNDERGROUND CABLE TV
- SANITARY SEWER
- STORM SEWER
- WATERMAIN
- GUARDRAIL
- FENCE
- TOP/BOTTOM OF SLOPE
- RIGHT-OF-WAY



⚠ BENCHMARK DATA

BENCHMARK # 8
TOP OF 4" NOZZLE ON HYDRANT WHYD-151 NE CORNER OF VETERANS AND FIFTEENTH
ELEV. = 614.64 (NAVD88)

NO.	REVISION DESCRIPTION:	BY:	DATE:
2	WATER PERMIT SUBMITTAL	ZRC	11-30-23
1	G.I. SUBMITTAL	ARY	11-6-23

CITY OF TRAVERSE CITY
ENGINEERING DEPARTMENT
400 BOARDMAN AVE.
TRAVERSE CITY, MI. 49684

DRAWING TITLE:

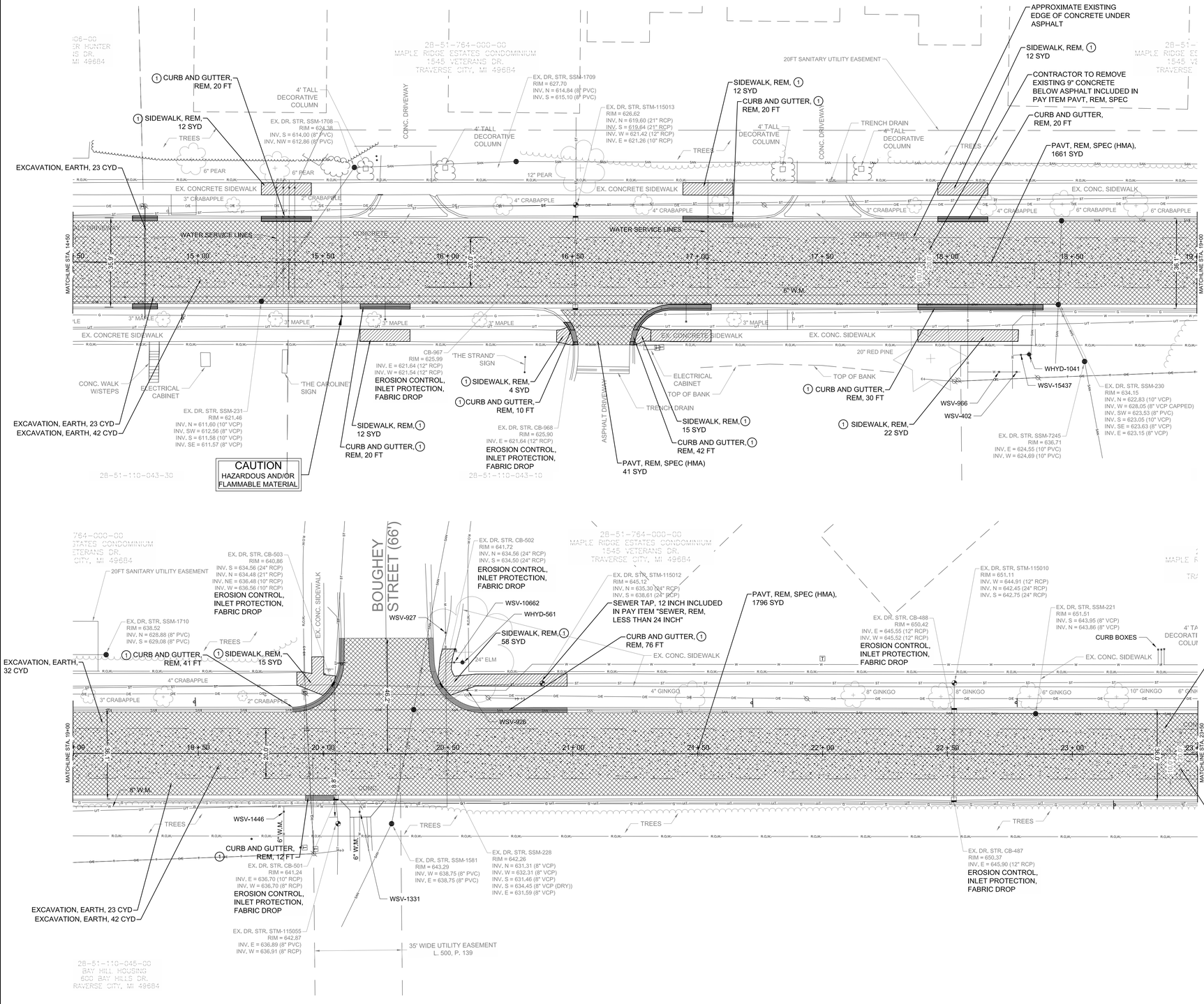
VETERANS REMOVAL PLAN
(8+50 TO STA. 14+50)

SCALES:
VERTICAL: N / A
HORIZONTAL: 1"=20'

DATE: FEBRUARY 2024
DESIGNED: ZRC
DRAWN: JAS
APPROVED: ARY
JOB NO. 214685

SHEET 8 OF 30 SHEETS

VETERANS DR. (66' R.O.W.)



ESTIMATED QUANTITIES THIS SHEET		
ITEM DESCRIPTION	UNIT	QUANTITY
SIDEWALK, REM	SYD	162
PAVT, REM, SPEC	SYD	3498
CURB AND GUTTER, REM	FT	293
EROSION CONTROL, INLET PROTECTION, FABRIC DROP	EA	7
EXCAVATION, EARTH	CYD	320

ESTIMATED DRIVEWAY REMOVALS			
STATION & OFFSET	TYPE	QUANTITY (SFT.)	QUANTITY (SYD.)
16+63, 19.0 R	HMA	364	41
20+15, 19.9 L	CONC.	79	9

HATCH LEGEND

- PAVT, REM, SPEC (HMA)
- PAVT, REM, SPEC (CONCRETE)
- SIDEWALK, REM
- CURB AND GUTTER, REMOVE

NOTES:
(1) LOCATION AS DIRECTED BY ENGINEER

LEGEND

- FOUND EXERTY CORNER
- BENCHMARK
- SIGN
- GAS BOX
- UTILITY POLE
- GUY WIRE
- WATER VALVE
- PED LIGHT POLE
- ELECTRIC RISER
- TELEPHONE RISER/BOX
- FIRE HYDRANT
- CATCHBASIN
- BEEHIVE GRATE CATCHBASIN
- STORM MANHOLE
- SANITARY MANHOLE
- DECIDUOUS TREE
- CONIFEROUS TREE
- TREE LINE
- SHRUB LINE
- OVERHEAD ELECTRIC
- UNDERGROUND ELECTRIC
- OVERHEAD TELEPHONE
- UNDERGROUND TELEPHONE
- OVERHEAD CABLE TV
- UNDERGROUND CABLE TV
- SANITARY SEWER
- STORM SEWER
- WATERMAIN
- GUARDRAIL
- FENCE
- TOP/BOTTOM OF SLOPE
- RIGHT-OF-WAY

BENCHMARK DATA
BENCHMARK # 7
TOP OF 'A' IN 'TRAVERSE CITY'
ON HYDRANT WHYD-150
NE CORNER OF VETERANS
AND FIFTEENTH
ELEV. = 614.68 (NAVD88)

N

SCALE:
0 20' 40'

NO.	REVISION DESCRIPTION:	BY:	DATE:
2	WATER PERMIT SUBMITTAL	ZRC	11-30-23
1	G.I. SUBMITTAL	ARY	11-6-23

CITY OF TRAVERSE CITY
ENGINEERING DEPARTMENT
400 BOARDMAN AVE.
TRAVERSE CITY, MI. 49684

DRAWING TITLE:

VETERANS REMOVAL PLAN
(14+50 TO STA. 23+50)

SCALES:
VERTICAL: N / A
HORIZONTAL: 1"=20'
DATE: FEBRUARY 2024
DESIGNED: ZRC
DRAWN: JAS
APPROVED: ARY
JOB NO. 214685

SHEET 9 OF 30 SHEETS

VETERANS DR. (66' R.O.W.)

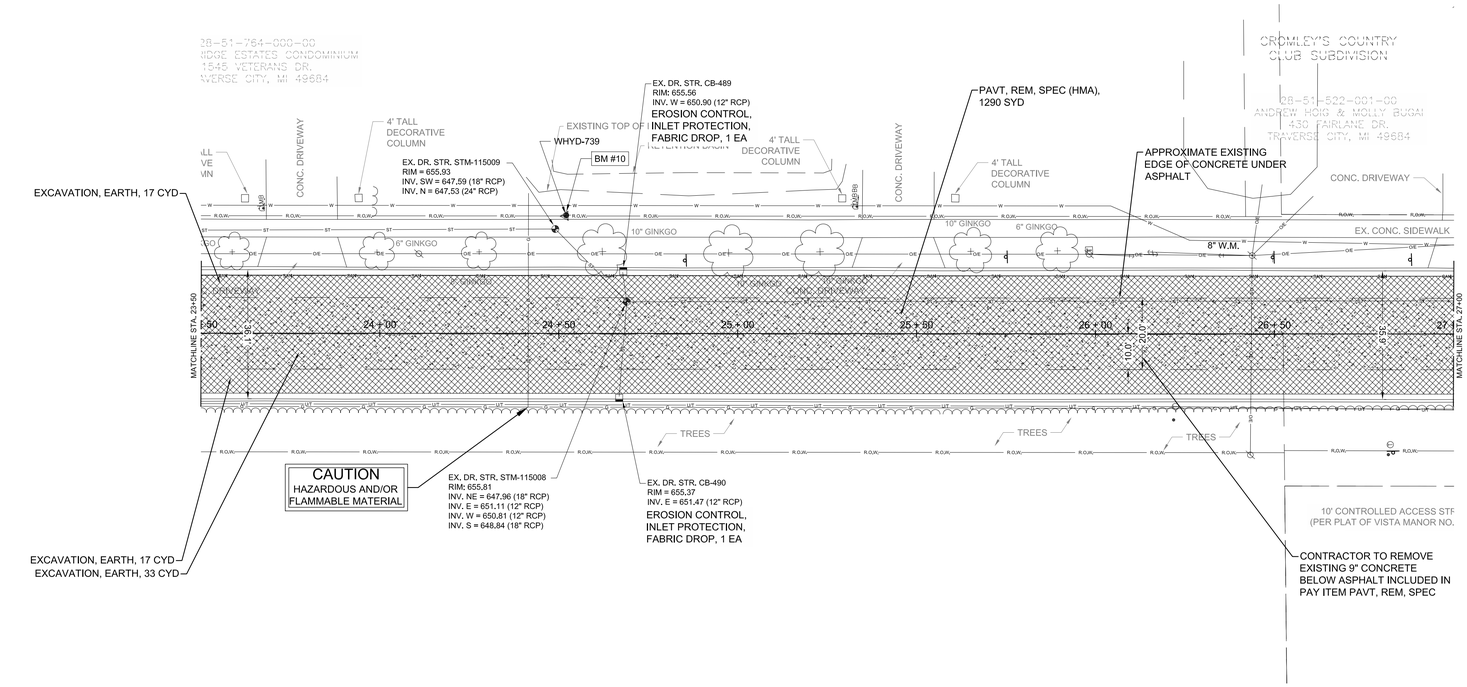
ESTIMATED QUANTITIES THIS SHEET		
ITEM DESCRIPTION	UNIT	QUANTITY
SIDEWALK, REM	SYD	9
PAVT, REM, SPEC	SYD	1950
CURB AND GUTTER, REM	FT	101
EROSION CONTROL, INLET PROTECTION, FABRIC DROP	EA	5
EXCAVATION, EARTH	CYD	142

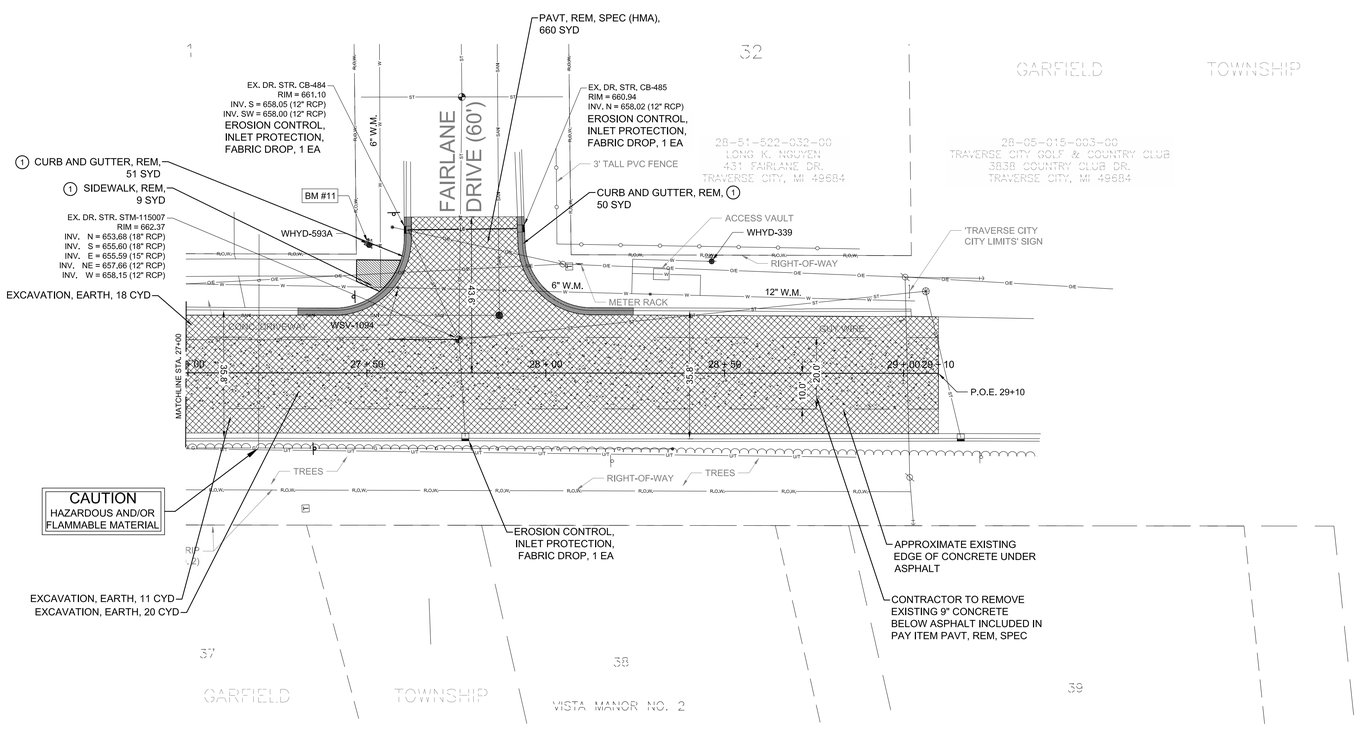
HATCH LEGEND

- PAVT, REM, SPEC (HMA)
- PAVT, REM, SPEC (CONCRETE)
- SIDEWALK, REM
- CURB AND GUTTER, REMOVE

NOTES:

1. LOCATION AS DIRECTED BY ENGINEER





LEGEND

- FOUND EXERTY CORNER
- BENCHMARK
- SIGN
- GAS BOX
- UTILITY POLE
- GUY WIRE
- WATER VALVE
- PED LIGHT POLE
- ELECTRIC RISER
- TELEPHONE RISER/BOX
- FIRE HYDRANT
- CATCHBASIN
- BEEHIVE GRATE CATCHBASIN
- STORM MANHOLE
- SANITARY MANHOLE
- DECIDUOUS TREE
- CONIFEROUS TREE
- TREE LINE
- SHRUB LINE
- OVERHEAD ELECTRIC
- UNDERGROUND ELECTRIC
- OVERHEAD TELEPHONE
- UNDERGROUND TELEPHONE
- OVERHEAD CABLE TV
- UNDERGROUND CABLE TV
- SANITARY SEWER
- STORM SEWER
- WATERMAIN
- GUARDRAIL
- FENCE
- TOP/BOTTOM OF SLOPE
- RIGHT-OF-WAY

BENCHMARK DATA
BENCHMARK # 7
TOP OF 'A' IN 'TRAVERSE CITY'
ON HYDRANT WHYD-150
NE CORNER OF VETERANS
AND FIFTEENTH
ELEV. = 614.68 (NAVD88)

NO.	REVISION DESCRIPTION:	BY:	DATE:
2	WATER PERMIT SUBMITTAL	ZRC	11-30-23
1	G.I. SUBMITTAL	ARY	11-6-23

CITY OF TRAVERSE CITY
ENGINEERING DEPARTMENT
400 BOARDMAN AVE.
TRAVERSE CITY, MI. 49684

DRAWING TITLE:

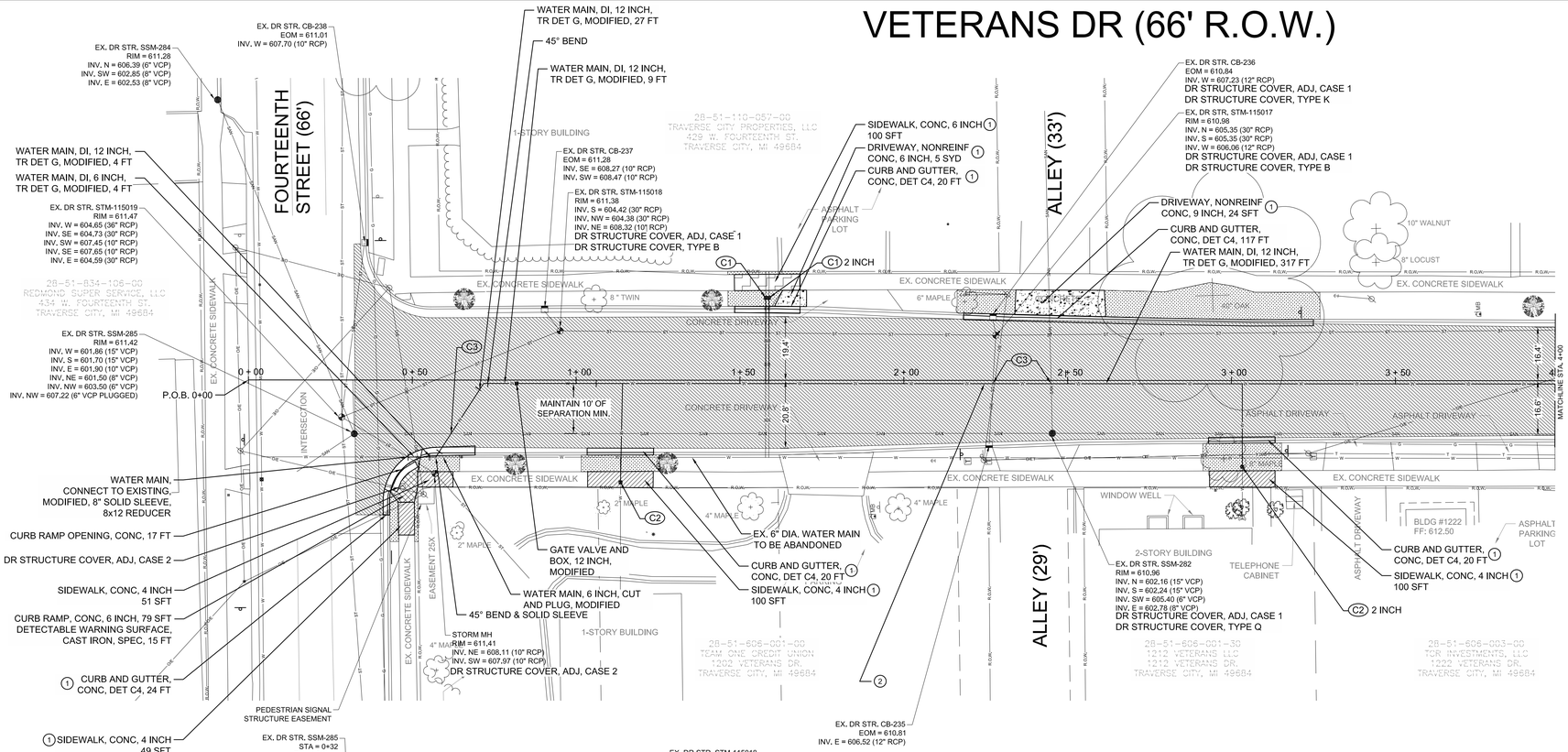
VETERANS REMOVAL PLAN
(23+50 TO STA. P.O.E.)

SCALE:
0 20' 40'

SCALES:
VERTICAL: N / A
HORIZONTAL: 1"=20'
DATE: FEBRUARY 2024
DESIGNED: ZRC
DRAWN: JAS
APPROVED: ARY
JOB NO. 214685

SHEET 10 OF 30 SHEETS

VETERANS DR (66' R.O.W.)



ESTIMATED QUANTITIES THIS SHEET		
ITEM DESCRIPTION	UNIT	QUANTITY
AGGREGATE BASE, 8 INCH	SYD	1613
DR STRUCTURE COVER, ADJ, CASE 1	EA	3
DR STRUCTURE COVER, ADJ, CASE 2	EA	2
DR STRUCTURE COVER, TYPE B	EA	2
DR STRUCTURE COVER, TYPE K	EA	1
DR STRUCTURE COVER, TYPE Q	EA	1
HMA, 4EL LEVELING (275 #/SYD)	TON	243
HMA, 4EL TOP (220 #/SYD)	TON	196
DRIVEWAY, NONREINF CONC, 6 INCH	SYD	5
DRIVEWAY, NONREINF CONC, 9 INCH	SFT	24
CURB AND GUTTER, CONC, DET C4	FT	201
CURB RAMP OPENING, CONC	FT	17
SIDEWALK, CONC, 4 INCH	SFT	300
SIDEWALK, CONC, 6 INCH	SFT	100
CURB RAMP, CONC, 6 INCH	SFT	79
DETECTABLE WARNING SURFACE, CAST IRON, SPEC	FT	15
FERTILIZER, CHEMICAL NUTRIENT, CL A	LBS	9
MULCH	SYD	230
MULCH ANCHORING	SYD	230
SEEDING, MIXTURE TUF	LBS	9
TOPSOIL SURFACE, FURN, 4 INCH	SYD	230
WATER, SODDING/SEEDING	UNIT	1
GATE VALVE AND BOX, 12 INCH, MODIFIED	EA	1
WATER MAIN, 6 INCH, CUT AND PLUG, MODIFIED	EA	1
WATER MAIN, DI, 12 INCH, TR DET G, MODIFIED	FT	357
WATER MAIN, DI, 6 INCH, TR DET G, MODIFIED	FT	4
WATER SERV, LONG SIDE, MODIFIED	EA	2
WATER SERV, SHORT SIDE, MODIFIED	EA	2
WATER MAIN, CONNECT TO EXISTING, MODIFIED	EA	1
EMBANKMENT, CIP	CYD	10

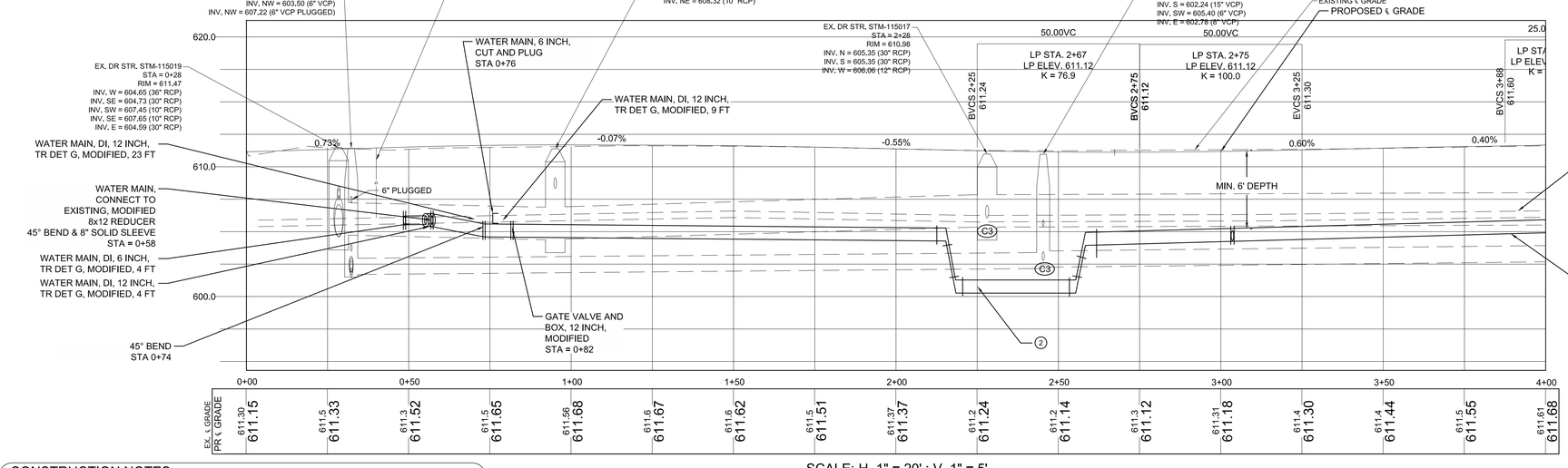
ESTIMATED DRIVEWAY/ADA RAMP QUANTITIES FOR THIS SHEET					
STATION & OFFSET	DRIVEWAY OPENING DETAIL "L" (FT)	CURB RAMP OPENING, CONC (FT)	DRIVEWAY, NON-REINFORCED, 6 INCH (SYD)	CURB RAMP, CONC, 6 INCH (SFT)	DRIVEWAY, NON-REINFORCED, 9 INCH (SYD)
0+48, 27.6 R	-	17	-	79	-
1+81, 22 L	10	-	5	-	-
2+26, 22 L	28	-	-	-	24

NOTES:

1. LOCATION AS DIRECTED BY ENGINEER
2. CONTRACTOR SHALL PROVIDE PETROLEUM RESISTANT GASKETS CONNECTIONS, AND MATERIAL FROM STATION 0+00 TO STA. 2+25 OR AS DIRECTED BY THE ENGINEER. ANY ADDITIONAL PIPE, CONNECTIONS, OR GASKET MATERIALS NEEDED SHALL BE INCLUDED IN THE PER FOOT COST OF THE RESPECTIVE PAY ITEM. ALL GASKETS SHALL MEET ANSI/AWWA C111/A21.11 "STANDARD FOR RUBBER-GASKET JOINTS FOR DUCTILE IRON PRESSURE PIPE AND FITTINGS"

LEGEND

- FOUND EXERTY CORNER
- BENCHMARK
- SIGN
- GAS BOX
- UTILITY POLE
- GUY WIRE
- WATER VALVE
- PED LIGHT POLE
- ELECTRIC RISER
- TELEPHONE RISER/BOX
- FIRE HYDRANT
- CATCHBASIN
- BEEHIVE GRATE CATCHBASIN
- STORM MANHOLE
- SANITARY MANHOLE
- DECIDUOUS TREE
- CONIFEROUS TREE
- PROPOSED TREE
- TREE LINE
- SHRUB LINE
- OHE — OVERHEAD ELECTRIC
- UE — UNDERGROUND ELECTRIC
- T — OVERHEAD TELEPHONE
- UT — UNDERGROUND TELEPHONE
- OC — OVERHEAD CABLE TV
- UC — UNDERGROUND CABLE TV
- SAN — SANITARY SEWER
- ST — STORM SEWER
- W — WATER MAIN
- GUARDRAIL
- FENCE
- TOP/BOTTOM OF SLOPE
- R.O.W. — RIGHT-OF-WAY



SCALE: H, 1" = 20' ; V, 1" = 5'

CONSTRUCTION NOTES

C1 WATER SERVICE, LONG SIDE, MODIFIED. CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY TO INSTALL A NEW SERVICE TO A NEW CURB BOX. THIS ITEM SHALL INCLUDE THE SADDLE FOR TAPPING OF THE NEW MAIN, INSTALLING THE 1" OR 2" DIA. CORPORATION STOP, NEW 1" OR 2" DIA. TYPE K COPPER SERVICE LINE AND NEW CURB STOP & BOX & CONNECTION TO EXISTING SERVICE. NOTE: THESE SERVICES SHALL BE PUSH BORED AND HAND EXCAVATED IN PLACE A MIN. 5' DEEP, IF LOCATED WITHIN 15' OF EXISTING STREET TREE.

C2 WATER SERVICE, SHORT SIDE, MODIFIED. CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY TO INSTALL A NEW SERVICE TO A NEW CURB BOX. THIS ITEM SHALL INCLUDE THE SADDLE FOR TAPPING OF THE NEW MAIN, INSTALLING THE 1" OR 2" DIA. CORPORATION STOP, NEW 1" OR 2" DIA. TYPE K COPPER SERVICE LINE AND NEW CURB STOP & BOX & CONNECTION TO EXISTING SERVICE. NOTE: THESE SERVICES SHALL BE PUSH BORED AND HAND EXCAVATED IN PLACE A MIN. 5' DEEP, IF LOCATED WITHIN 15' OF EXISTING STREET TREE.

C3 MAINTAIN 18" VERTICAL SEPARATION OF WATER MAIN FROM ALL SEWERS. LOWERING OF PROPOSED WATER MAIN REQUIRED TO MAINTAIN 18" VERTICAL SEPARATION FROM SEWERS SHALL BE INCLUDED IN PAY ITEM "WATER MAIN, DI, 12 INCH, TR DET G.

HATCH LEGEND

- SIDEWALK RAMP, CONC, 6 INCH
- DRIVEWAY NON REINFORCED CONC, 6 INCH
- SIDEWALK, CONC, 4 INCH
- SIDEWALK, CONC, 6 INCH
- HMA 4EL
- TOPSOIL REPLACEMENT INCLUDING, FERTILIZER, CHEMICAL NUTRIENT, CL A MULCH, MULCH ANCHORING SEEDING, MIXTURE TUF TOPSOIL SURFACE, FURN, 4 INCH

N

SCALE:

0 20' 40'

NO.	REVISION DESCRIPTION:	BY:	DATE:
2	WATER PERMIT SUBMITTAL	ZRC	11-30-23
1	G.I. SUBMITTAL	ARY	11-6-23

CITY OF TRAVERSE CITY
ENGINEERING DEPARTMENT
400 BOARDMAN AVE.
TRAVERSE CITY, MI. 49684

DRAWING TITLE:

VETERANS DRIVE PLAN & PROFILE
(P.O.B. TO STA. 4+00)

SCALES:
VERTICAL: N / A
HORIZONTAL: 1"=20'

DATE: FEBRUARY 2024

DESIGNED: ZRC

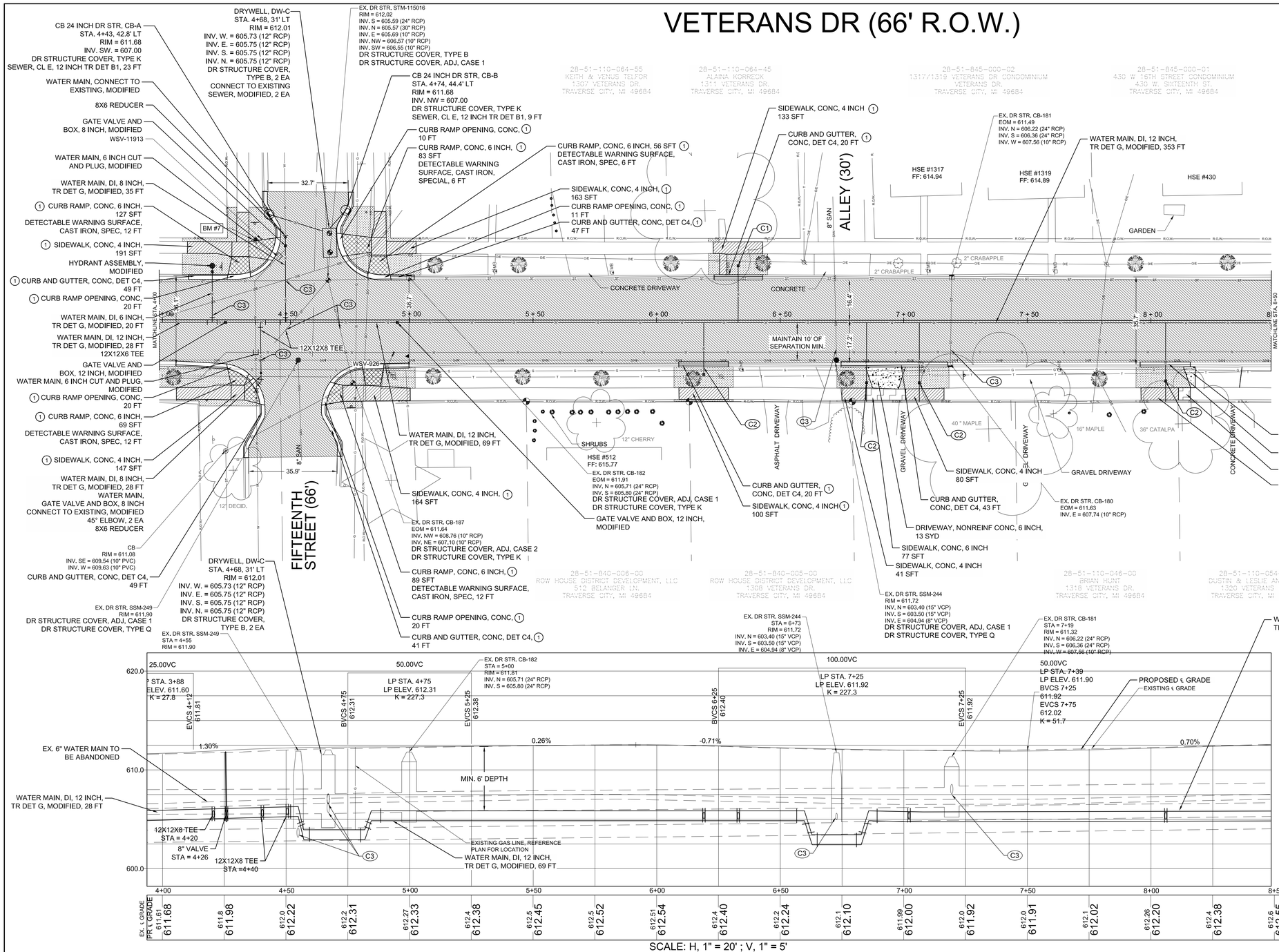
DRAWN: JAS

APPROVED: ARY

JOB NO. 214685

SHEET 11 OF 30 SHEETS

VETERANS DR (66' R.O.W.)



SCALE: H, 1" = 20' ; V, 1" = 5'

ESTIMATED QUANTITIES THIS SHEET		
ITEM DESCRIPTION	UNIT	QUANTITY
AGGREGATE BASE, 8 INCH	SYD	1969
VIDEO TAPING SEWER AND CULV PIPE	FT	32
SEWER, CL E, 12 INCH TR DET B1	FT	32
DR STRUCTURE COVER, ADJ, CASE 1	EA	4
DR STRUCTURE COVER, ADJ, CASE 2	EA	1
DR STRUCTURE COVER, TYPE B	EA	3
DR STRUCTURE COVER, TYPE K	EA	3
DR STRUCTURE COVER, TYPE Q	EA	2
DR STRUCTURE, 24 INCH DIA.	EA	2
DRY WELL, PRECAST	EA	1
HMA, 4EL LEVELING (275 #/SYD)	TON	298
HMA, 4EL TOP (220 #/SYD)	TON	239
DRIVEWAY, NONREINF CONC, 6 INCH	SYD	17
CURB AND GUTTER, CONC, DET C4	FT	289
CURB RAMP OPENING, CONC	FT	81
SIDEWALK, CONC, 4 INCH	SFT	1095
SIDEWALK, CONC, 6 INCH	SFT	101
CURB RAMP, CONC, 6 INCH	SFT	424
DETECTABLE WARNING SURFACE, CAST IRON, SPEC	FT	48
FERTILIZER, CHEMICAL NUTRIENT, CL A	LBS	12
MULCH	SYD	300
MULCH ANCHORING	SYD	300
SEEDING, MIXTURE TUF	LBS	12
TOPSOIL SURFACE, FURN, 4 INCH	SYD	300
WATER, SODDING/SEEDING	UNIT	1
GATE VALVE AND BOX, 8 INCH, MODIFIED	EA	2
GATE VALVE AND BOX, 12 INCH, MODIFIED	EA	2
WATER MAIN, 6 INCH, CUT AND PLUG, MODIFIED	EA	2
WATER MAIN, DI, 6 INCH, TR DET G, MODIFIED	FT	33
WATER MAIN, DI, 8 INCH, TR DET G, MODIFIED	FT	63
WATER MAIN, DI, 12 INCH, TR DET G, MODIFIED	FT	450
WATER SERV, LONG SIDE, MODIFIED	EA	1
WATER SERV, SHORT SIDE, MODIFIED	EA	4
HYDRANT ASSEMBLY,MODIFIED	EA	1
WATER MAIN, CONNECT TO EXISTING, MODIFIED	EA	2
EMBANKMENT, CIP	CYD	10
CONNECT TO EXISTING SEWER, MODIFIED	EA	2

LEGEND

- FOUND EXERTY CORNER
- BENCHMARK
- SIGN
- GAS BOX
- UTILITY POLE
- GUY WIRE
- WATER VALVE
- PED LIGHT POLE
- ELECTRIC RISER
- TELEPHONE RISER/BOX
- FIRE HYDRANT
- CATCHBASIN
- BEEHIVE GRATE CATCHBASIN
- STORM MANHOLE
- SANITARY MANHOLE
- DECIDUOUS TREE
- CONIFEROUS TREE
- PROPOSED TREE
- TREE LINE
- SHRUB LINE
- OVERHEAD ELECTRIC
- UNDERGROUND ELECTRIC
- OVERHEAD TELEPHONE
- UNDERGROUND TELEPHONE
- OVERHEAD CABLE TV
- UNDERGROUND CABLE TV
- SANITARY SEWER
- STORM SEWER
- WATER MAIN
- GUARDRAIL
- FENCE
- TOP/BOTTOM OF SLOPE
- RIGHT-OF-WAY

NOTES:
1. LOCATION AS DIRECTED BY ENGINEER

BENCHMARK DATA
BENCHMARK # 7
TOP OF 'A' IN 'TRAVERSE CITY'
ON HYDRANT WHYD-150
NE CORNER OF VETERANS
AND FIFTEENTH
ELEV. = 614.68 (NAVD88)

CONSTRUCTION NOTES

C1 WATER SERVICE, LONG SIDE, MODIFIED. CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY TO INSTALL A NEW SERVICE TO A NEW CURB BOX. THIS ITEM SHALL INCLUDE THE SADDLE FOR TAPPING OF THE NEW MAIN, INSTALLING THE 1" OR 2" DIA. CORPORATION STOP, NEW 1" OR 2" DIA. TYPE K COPPER SERVICE LINE AND NEW CURB STOP & BOX & CONNECTION TO EXISTING SERVICE. NOTE: THESE SERVICES SHALL BE PUSH BORED AND HAND EXCAVATED IN PLACE A MIN. 5' DEEP, IF LOCATED WITHIN 15' OF EXISTING STREET TREE.

C2 WATER SERVICE, SHORT SIDE, MODIFIED. CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY TO INSTALL A NEW SERVICE TO A NEW CURB BOX. THIS ITEM SHALL INCLUDE THE SADDLE FOR TAPPING OF THE NEW MAIN, INSTALLING THE 1" OR 2" DIA. CORPORATION STOP, NEW 1" OR 2" DIA. TYPE K COPPER SERVICE LINE AND NEW CURB STOP & BOX & CONNECTION TO EXISTING SERVICE. NOTE: THESE SERVICES SHALL BE PUSH BORED AND HAND EXCAVATED IN PLACE A MIN. 5' DEEP, IF LOCATED WITHIN 15' OF EXISTING STREET TREE.

C3 MAINTAIN 18" VERTICAL SEPARATION OF WATER MAIN FROM ALL SEWERS. LOWERING OF PROPOSED WATER MAIN REQUIRED TO MAINTAIN 18" VERTICAL SEPARATION FROM SEWERS SHALL BE INCLUDED IN PAY ITEM "WATER MAIN, DI, 12 INCH, TR DET G.

ESTIMATED DRIVEWAY/ADA RAMP QUANTITIES FOR THIS SHEET				
STATION & OFFSET	DRIVEWAY OPENING DETAIL "L" (FT)	CURB RAMP OPENING, CONC (FT)	DRIVEWAY, NON-REINFORCED, 6 INCH (SYD)	CURB RAMP, CONC, 6 INCH (SFT)
4+34, 21.6R	-	10	-	33
4+38, 18.5L	-	9.6	-	55
4+39, 29.1R	-	12.1	-	37
4+46, 28.6L	-	10	-	71
4+69, 29.7R	-	10	-	40
4+69, 30.4L	-	9.8	-	83
4+87, 19.8R	-	9	-	49
4+88, 18.3L	-	9.9	-	56
6+, 19.8R	16.1	-	13	-
8+, 18.3R	25.6	-	4	-

HATCH LEGEND

- SIDEWALK RAMP, CONC, 6 INCH
- DRIVEWAY NON REINFORCED CONC, 6 INCH
- SIDEWALK, CONC, 4 INCH
- SIDEWALK, CONC, 6 INCH
- HMA 4EL
- TOPSOIL REPLACEMENT INCLUDING, FERTILIZER, CHEMICAL NUTRIENT, CL A MULCH, MULCH ANCHORING SEEDING, MIXTURE TUF TOPSOIL SURFACE, FURN, 4 INCH

N

SCALE:
0 20' 40'

NO.	REVISION DESCRIPTION:	BY:	DATE:
2	WATER PERMIT SUBMITTAL	ZRC	11-30-23
1	G.I. SUBMITTAL	ARY	11-6-23

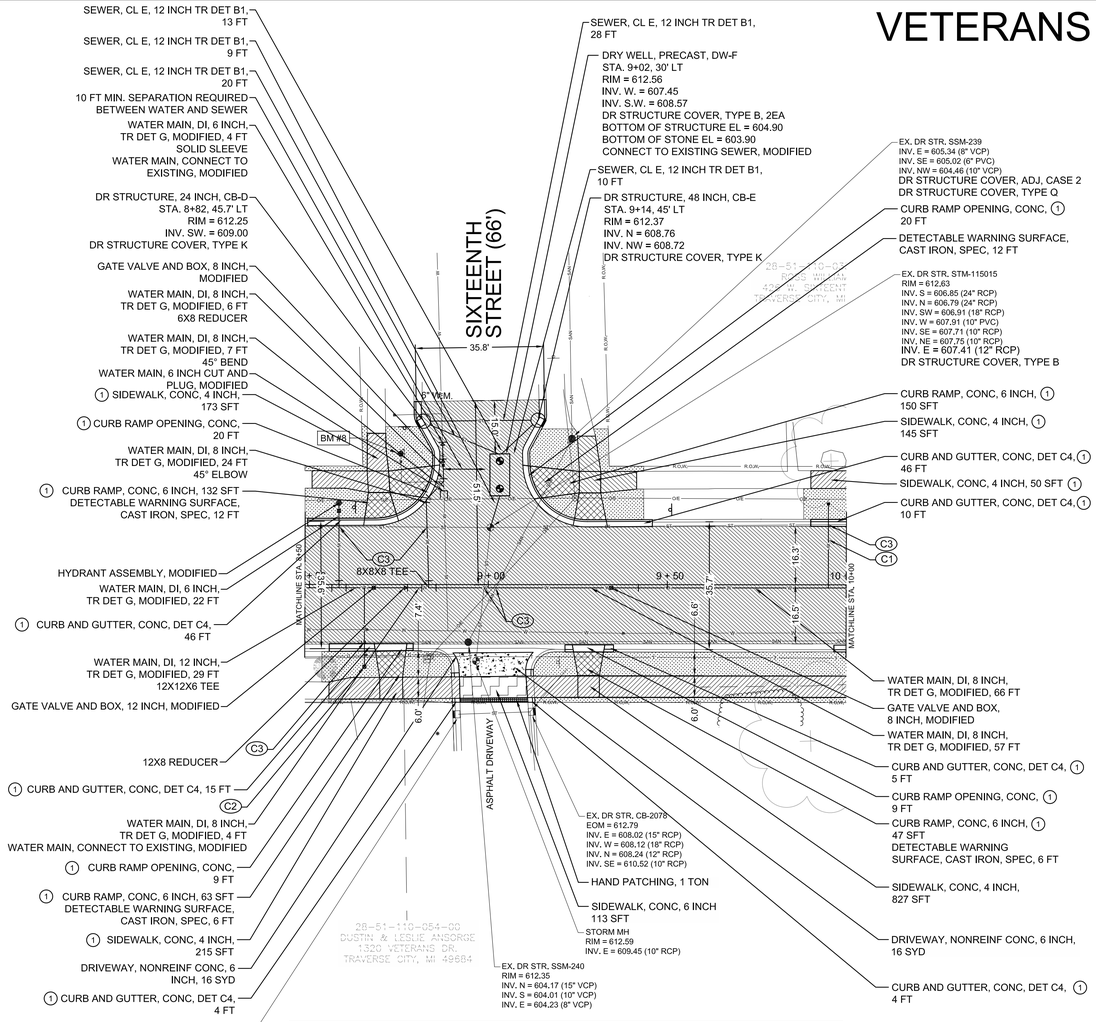
CITY OF TRAVERSE CITY
ENGINEERING DEPARTMENT
400 BOARDMAN AVE.
TRAVERSE CITY, MI. 49684

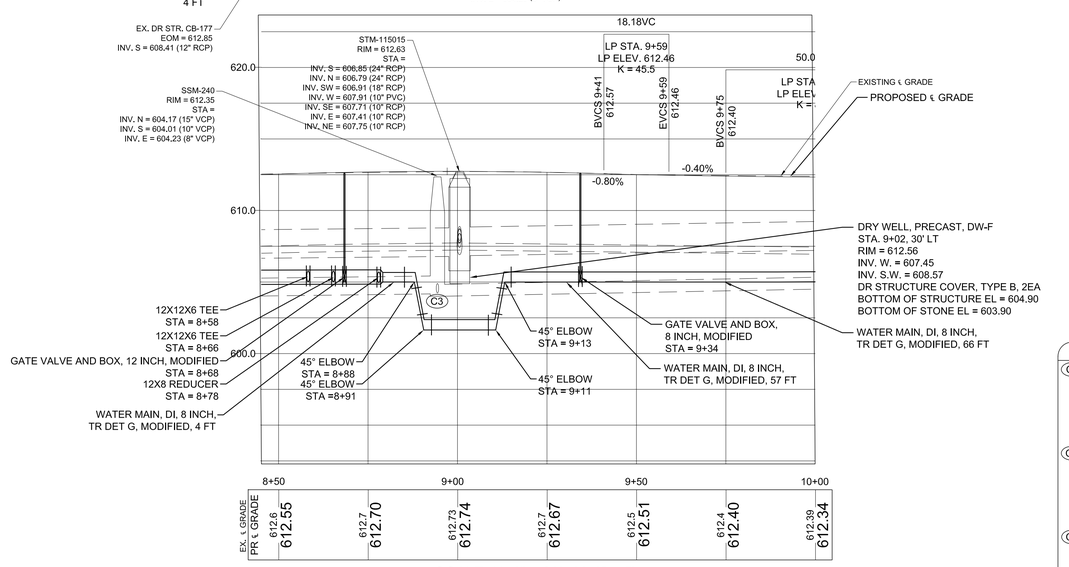
DRAWING TITLE:
VETERANS DRIVE PLAN & PROFILE
(4+00 TO STA. 8+50)

SCALES:
VERTICAL: N / A
HORIZONTAL: 1"=20'
DATE: FEBRUARY 2024
DESIGNED: ZRC
DRAWN: JAS
APPROVED: ARY
JOB NO. 214685

SHEET 12 OF 30 SHEETS

VETERANS DR (66' R.O.W.)





SCALE: H, 1" = 20' ; V, 1" = 5'

ESTIMATED DRIVEWAY/ADA RAMP QUANTITIES FOR THIS SHEET				
STATION & OFFSET	DRIVEWAY OPENING DETAIL "L" (FT)	CURB RAMP OPENING, CONC (FT)	DRIVEWAY, NON-REINFORCED, 6 INCH (SYD)	CURB RAMP, CONC, 6 INCH (SFT)
8+71, 18.7L	-	10	-	52
8+74, 18.6R	-	9	-	63
8+85, 28.6L	-	10	-	80
9+00, 19.0R	22	-	16	-
9+14, 28.4L	-	10	-	95
9+29, 18.9R	-	9	-	47
9+30, 18.1L	-	10	-	55

ESTIMATED QUANTITIES THIS SHEET		
ITEM DESCRIPTION	UNIT	QUANTITY
AGGREGATE BASE, 8 INCH	SYD	737
VIDEO TAPING SEWER AND CULV PIPE	FT	43
SEWER, CL E, 12 INCH TR DET B1	FT	43
DR STRUCTURE COVER, ADJ, CASE 1	EA	1
DR STRUCTURE COVER, ADJ, CASE 2	EA	2
DR STRUCTURE COVER, TYPE B	EA	3
DR STRUCTURE COVER, TYPE K	EA	2
DR STRUCTURE COVER, TYPE Q	EA	1
DR STRUCTURE, 24 INCH	EA	1
DR STRUCTURE, 48 INCH	EA	1
DRY WELL, PRECAST	EA	1
HAND PATCHING	TON	1
HMA, 4EL LEVELING (275 #/SYD)	TON	112
HMA, 4EL TOP (220 #/SYD)	TON	90
DRIVEWAY, NONREINF CONC, 6 INCH	SYD	16
CURB AND GUTTER, CONC, DET C4	FT	130
CURB RAMP OPENING, CONC	FT	58
SIDEWALK, CONC, 4 INCH	SFT	1410
CURB RAMP, CONC, 6 INCH	SFT	392
DETECTABLE WARNING SURFACE, CAST IRON, SPEC	FT	36
FERTILIZER, CHEMICAL NUTRIENT, CL A	LBS	8
MULCH	SYD	200
MULCH ANCHORING	SYD	200
SEEDING, MIXTURE TUF	LBS	8
TOPSOIL SURFACE, FURN, 4 INCH	SYD	200
WATER, SODDING/SEEDING	UNIT	1
WATER MAIN, 6 INCH, CUT AND PLUG, MODIFIED	EA	1
WATER MAIN, DI, 6 INCH, TR DET G, MODIFIED	FT	26
WATER MAIN, DI, 8 INCH, TR DET G, MODIFIED	FT	164
WATER MAIN, DI, 12 INCH, TR DET G, MODIFIED	FT	29
WATER SERV, SHORT SIDE, MODIFIED	EA	1
WATER SERV, LONG SIDE, MODIFIED	EA	1
HYDRANT ASSEMBLY, MODIFIED	EA	1
WATER MAIN, CONNECT TO EXISTING, MODIFIED	EA	1
GATE VALVE AND BOX, 8 INCH, MODIFIED	EA	2
GATE VALVE AND BOX, 12 INCH, MODIFIED	EA	1
EMBANKMENT, CIP	CYD	20
CONNECT TO EXISTING SEWER, MODIFIED	EA	1

NOTES:
1 LOCATION AS DIRECTED BY ENGINEER

LEGEND

- FOUND EXERTY CORNER
- BENCHMARK
- SIGN
- GAS BOX
- UTILITY POLE
- GUY WIRE
- WATER VALVE
- PED LIGHT POLE
- ELECTRIC RISER
- TELEPHONE RISER/BOX
- FIRE HYDRANT
- CATCHBASIN
- BEEHIVE GRATE CATCHBASIN
- STORM MANHOLE
- SANITARY MANHOLE
- DECIDUOUS TREE
- CONIFEROUS TREE
- PROPOSED TREE
- TREE LINE
- SHRUB LINE
- OE — OVERHEAD ELECTRIC
- UE — UNDERGROUND ELECTRIC
- T — OVERHEAD TELEPHONE
- UT — UNDERGROUND TELEPHONE
- OC — OVERHEAD CABLE TV
- UC — UNDERGROUND CABLE TV
- SAN — SANITARY SEWER
- ST — STORM SEWER
- W — WATER MAIN
- GUARDRAIL
- FENCE
- TOP/BOTTOM OF SLOPE
- R.O.W. — RIGHT-OF-WAY

BENCHMARK DATA
BENCHMARK # 8
TOP OF 4" NOZZLE ON HYDRANT WHYD-151 NE CORNER OF VETERANS AND FIFTEENTH
ELEV. = 614.64 (NAVD88)

HATCH LEGEND

- SIDEWALK RAMP, CONC, 6 INCH
- DRIVEWAY NON REINFORCED CONC, 6 INCH
- SIDEWALK, CONC, 4 INCH
- SIDEWALK, CONC, 6 INCH
- HMA 4EL
- TOPSOIL REPLACEMENT INCLUDING FERTILIZER, CHEMICAL NUTRIENT, CL A MULCH, MULCH ANCHORING SEEDING, MIXTURE TUF TOPSOIL SURFACE, FURN, 4 INCH

CONSTRUCTION NOTES

C1 WATER SERVICE, LONG SIDE, MODIFIED. CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY TO INSTALL A NEW SERVICE TO A NEW CURB BOX. THIS ITEM SHALL INCLUDE THE SADDLE FOR TAPPING OF THE NEW MAIN, INSTALLING THE 1" OR 2" DIA. CORPORATION STOP, NEW 1" OR 2" DIA. TYPE K COPPER SERVICE LINE AND NEW CURB STOP & BOX & CONNECTION TO EXISTING SERVICE. NOTE: THESE SERVICES SHALL BE PUSH BORED AND HAND EXCAVATED IN PLACE A MIN. 5' DEEP, IF LOCATED WITHIN 15' OF EXISTING STREET TREE.

C2 WATER SERVICE, SHORT SIDE, MODIFIED. CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY TO INSTALL A NEW SERVICE TO A NEW CURB BOX. THIS ITEM SHALL INCLUDE THE SADDLE FOR TAPPING OF THE NEW MAIN, INSTALLING THE 1" OR 2" DIA. CORPORATION STOP, NEW 1" OR 2" DIA. TYPE K COPPER SERVICE LINE AND NEW CURB STOP & BOX & CONNECTION TO EXISTING SERVICE. NOTE: THESE SERVICES SHALL BE PUSH BORED AND HAND EXCAVATED IN PLACE A MIN. 5' DEEP, IF LOCATED WITHIN 15' OF EXISTING STREET TREE.

C3 MAINTAIN 18" VERTICAL SEPARATION OF WATER MAIN FROM ALL SEWERS. LOWERING OF PROPOSED WATER MAIN REQUIRED TO MAINTAIN 18" VERTICAL SEPARATION FROM SEWERS SHALL BE INCLUDED IN PAY ITEM "WATER MAIN, DI, 12 INCH, TR DET G.

N

SCALE:
0 20' 40'

NO.	REVISION DESCRIPTION:	BY:	DATE:
2	WATER PERMIT SUBMITTAL	ZRC	11-30-23
1	G.I. SUBMITTAL	ARY	11-6-23

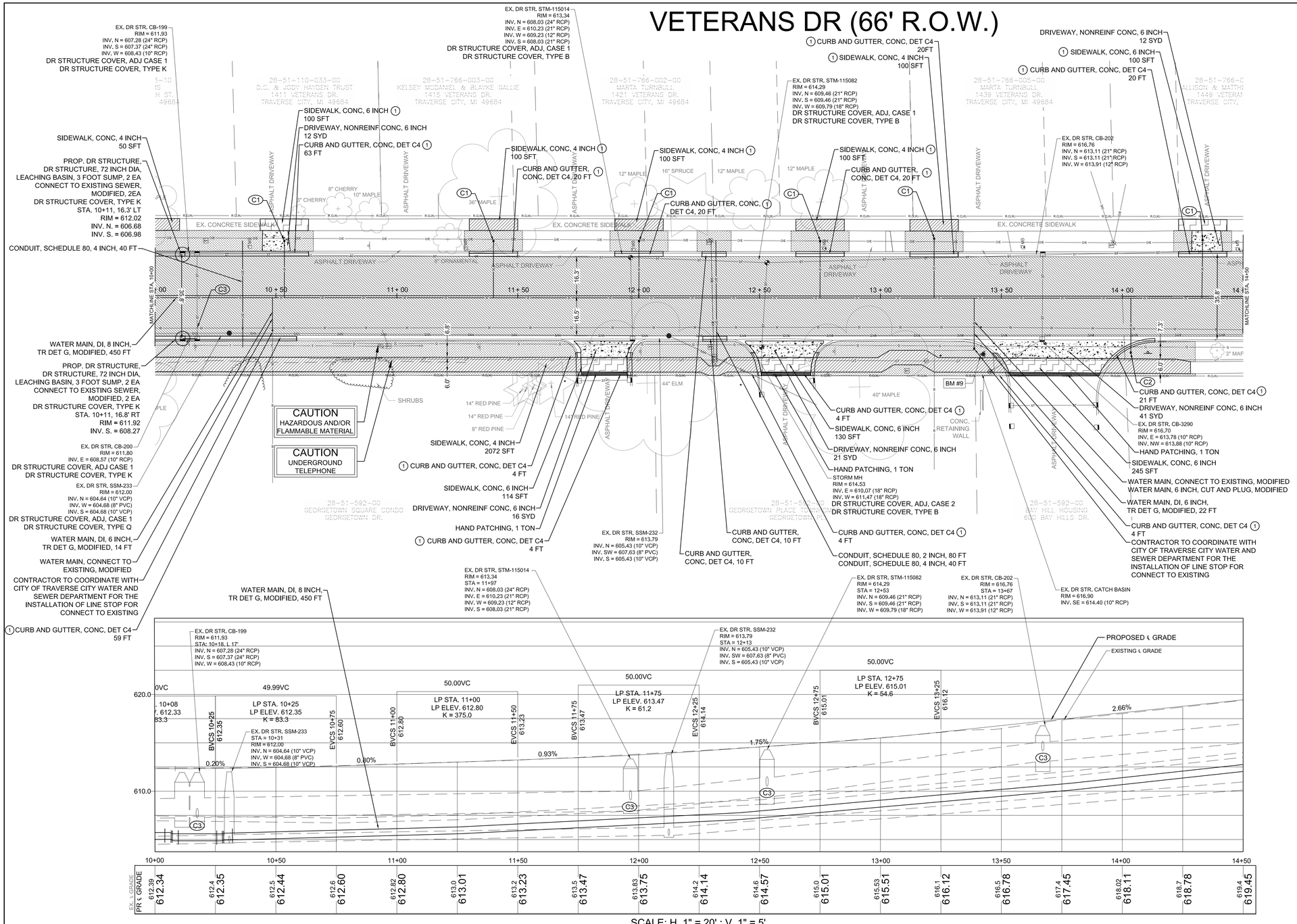
CITY OF TRAVERSE CITY
ENGINEERING DEPARTMENT
400 BOARDMAN AVE.
TRAVERSE CITY, MI. 49684

DRAWING TITLE:
VETERANS DRIVE PLAN & PROFILE (8+50 TO STA. 10+00)

SCALES:
VERTICAL: N / A
HORIZONTAL: 1"=20'
DATE: FEBRUARY 2024
DESIGNED: ZRC
DRAWN: JAS
APPROVED: ARY
JOB NO. 214685

SHEET 13 OF 30 SHEETS

VETERANS DR (66' R.O.W.)



SCALE: H, 1" = 20' ; V, 1" = 5'

ESTIMATED QUANTITIES THIS SHEET		
ITEM DESCRIPTION	UNIT	QUANTITY
AGGREGATE BASE, 8 INCH	SYD	1807
DR STRUCTURE COVER, ADJ, CASE 1	EA	5
DR STRUCTURE COVER, ADJ, CASE 2	EA	1
DR STRUCTURE COVER, TYPE B	EA	3
DR STRUCTURE COVER, TYPE K	EA	4
DR STRUCTURE COVER, TYPE Q	EA	1
HAND PATCHING	TON	3
HMA, 4EL LEVELING (275 #/SYD)	TON	274
HMA, 4EL TOP (220 #/SYD)	TON	219
DRIVEWAY, NONREINF CONC, 6 INCH	SYD	102
CURB AND GUTTER, CONC, DET C4	FT	263
SIDEWALK, CONC, 4 INCH	SFT	2522
SIDEWALK, CONC, 6 INCH	SFT	689
FERTILIZER, CHEMICAL NUTRIENT, CL A	LBS	16
MULCH	SYD	429
MULCH ANCHORING	SYD	429
SEEDING, MIXTURE TUF	LBS	16
TOPSOIL SURFACE, FURN, 4 INCH	SYD	429
WATER, SODDING/SEEDING	UNIT	1
WATER MAIN, 6 INCH, CUT AND PLUG, MODIFIED	EA	1
WATER MAIN, DI, 6 INCH, TR DET G, MODIFIED	FT	36
WATER MAIN, DI, 8 INCH, TR DET G, MODIFIED	FT	450
WATER SERV, LONG SIDE, MODIFIED	EA	6
WATER SERV, SHORT SIDE, MODIFIED	EA	1
WATER MAIN, CONNECT TO EXISTING, MODIFIED	EA	2
DR STRUCTURE, 72 INCH DIA, LEACHING BASIN, 3 FOOT SUMP	EA	2
CONNECT TO EXISTING SEWER, MODIFIED	EA	4
CONDUIT, SCHEDULE 80, 2 INCH	FT	80
CONDUIT, SCHEDULE 80, 4 INCH	FT	80
EMBANKMENT, CIP	CYD	20

ESTIMATED DRIVEWAY/ADA RAMP QUANTITIES FOR THIS SHEET				
STATION & OFFSET	DRIVEWAY OPENING DETAIL "L" (FT)	CURB RAMP OPENING, CONC (FT)	DRIVEWAY, NON-REINFORCED, 6 INCH (SYD)	CURB RAMP, CONC, 6 INCH (SFT)
10+50, 18.4 L	11.6	-	12	-
11+86, 18.7 R	25.2	-	16	-
12+60, 18.7 R	35.3	-	21	-
13+72, 18.1 R	56.8	-	41	-
14+35, 18.6 L	12.9	-	12	-

NOTES:

1 LOCATION AS DIRECTED BY ENGINEER

⚠ BENCHMARK DATA
BENCHMARK # 9
TOP OF 'A' IN 'TRAVERSE CITY'
ON HYDRANT WHYD-320
W SIDE OF VETERANS DRIVE
ELEV. = 618.79 (NAVD88)

LEGEND

- FOUND EXERTY CORNER
- BENCHMARK
- SIGN
- GAS BOX
- UTILITY POLE
- GUY WIRE
- WATER VALVE
- PED LIGHT POLE
- ELECTRIC RISER
- TELEPHONE RISER/BOX
- FIRE HYDRANT
- CATCHBASIN
- BEEHIVE GRATE CATCHBASIN
- STORM MANHOLE
- SANITARY MANHOLE
- DECIDUOUS TREE
- CONIFEROUS TREE
- TREE LINE
- SHRUB LINE
- OVERHEAD ELECTRIC
- UNDERGROUND ELECTRIC
- OVERHEAD TELEPHONE
- UNDERGROUND TELEPHONE
- OVERHEAD CABLE TV
- UNDERGROUND CABLE TV
- SANITARY SEWER
- STORM SEWER
- WATER MAIN
- GUARDRAIL
- FENCE
- TOP/BOTTOM OF SLOPE
- RIGHT-OF-WAY

CONSTRUCTION NOTES

C1 WATER SERVICE, LONG SIDE, MODIFIED. CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY TO INSTALL A NEW SERVICE TO A NEW CURB BOX. THIS ITEM SHALL INCLUDE THE SADDLE FOR TAPPING OF THE NEW MAIN, INSTALLING THE 1" OR 2" DIA. CORPORATION STOP, NEW 1" OR 2" DIA. TYPE K COPPER SERVICE LINE AND NEW CURB STOP & BOX & CONNECTION TO EXISTING SERVICE. NOTE: THESE SERVICES SHALL BE PUSH BORED AND HAND EXCAVATED IN PLACE A MIN. 5' DEEP, IF LOCATED WITHIN 15' OF EXISTING STREET TREE.

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HATCH LEGEND

- SIDEWALK RAMP, CONC, 6 INCH
- DRIVEWAY NON REINFORCED CONC, 6 INCH
- SIDEWALK, CONC, 4 INCH
- SIDEWALK, CONC, 6 INCH
- HMA 4EL
- TOPSOIL REPLACEMENT INCLUDING, FERTILIZER, CHEMICAL NUTRIENT, CL A MULCH, MULCH ANCHORING SEEDING, MIXTURE TUF TOPSOIL SURFACE, FURN, 4 INCH

N

SCALE:
0 20' 40'

NO.	REVISION DESCRIPTION:	BY:	DATE:
2	WATER PERMIT SUBMITTAL	ZRC	11-30-23
1	G.I. SUBMITTAL	ARY	11-6-23

CITY OF TRAVERSE CITY
ENGINEERING DEPARTMENT
400 BOARDMAN AVE.
TRAVERSE CITY, MI. 49684

DRAWING TITLE:

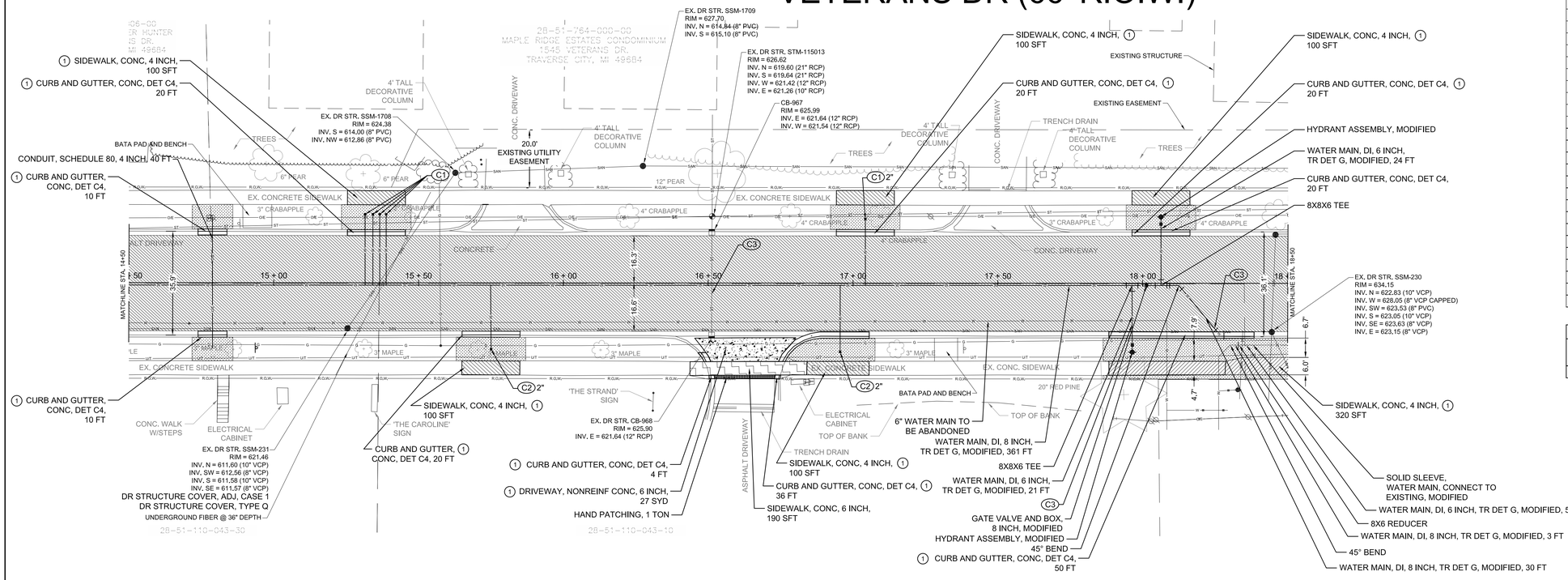
VETERANS DRIVE PLAN & PROFILE
(10+00 TO STA. 14+50)

SCALES:
VERTICAL: N / A
HORIZONTAL: 1"=20'

DATE: FEBRUARY 2024
DESIGNED: ZRC
DRAWN: JAS
APPROVED: ARY
JOB NO. 214685

SHEET 14 OF 30 SHEETS

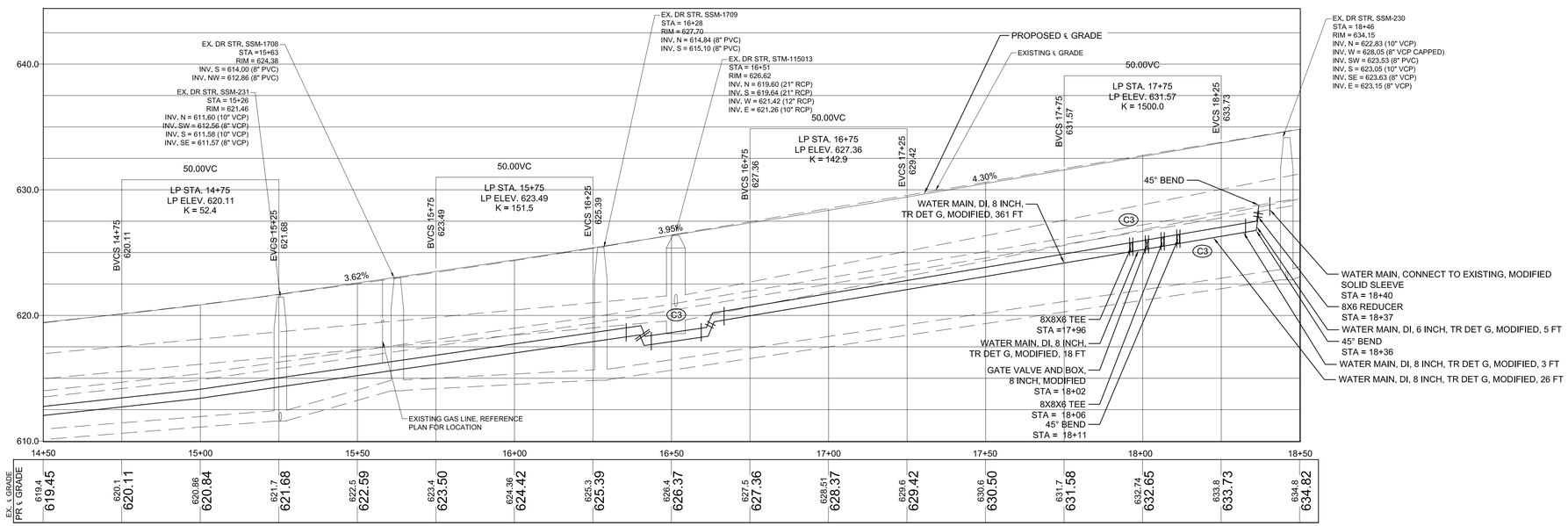
VETERANS DR (66' R.O.W.)



ESTIMATED QUANTITIES THIS SHEET		
ITEM DESCRIPTION	UNIT	QUANTITY
AGGREGATE BASE, 8 INCH	SYD	1609
DR STRUCTURE COVER, ADJ, CASE 1	EA	1
DR STRUCTURE COVER, TYPE Q	EA	1
HAND PATCHING	TON	1
HMA, 4EL LEVELING (275 #/SYD)	TON	244
HMA, 4EL TOP (220 #/SYD)	TON	195
DRIVEWAY, NONREINF CONC, 6 INCH	SYD	27
CURB AND GUTTER, CONC, DET C4	FT	190
SIDEWALK, CONC, 4 INCH	SFT	820
SIDEWALK, CONC, 6 INCH	SFT	170
FERTILIZER, CHEMICAL NUTRIENT, CL A	LBS	7
MULCH BLANKET	SYD	175
MULCH ANCHORING	SYD	175
SEEDING, MIXTURE TUF	LBS	7
TOPSOIL SURFACE, FURN, 4 INCH	SYD	175
WATER, SODDING/SEEDING	UNIT	1
HYDRANT ASSEMBLY, MODIFIED	EA	2
GATE VALVE AND BOX, 8 INCH, MODIFIED	EA	1
WATER MAIN, DI, 6 INCH, TR DET G, MODIFIED	FT	50
WATER MAIN, DI, 8 INCH, TR DET G, MODIFIED	FT	399
WATER MAIN, CONNECT TO EXISTING, MODIFIED	EA	1
WATER SERV, SHORT SIDE, MODIFIED	EA	2
WATER SERV, LONG SIDE, MODIFIED	EA	5
CONDUIT, SCHEDULE 80, 4 INCH	FT	40
EMBANKMENT, CIP	CYD	20

ESTIMATED DRIVEWAY/ADA RAMP QUANTITIES FOR THIS SHEET				
STATION & OFFSET	DRIVEWAY OPENING DETAIL "L" (FT)	CURB RAMP OPENING, CONC (FT)	DRIVEWAY NON-REINFORCED, 6 INCH (SYD)	CURB RAMP, CONC, 6 INCH (SFT)
16+60, 18.9 R	11.6	-	27	-

NOTES:
1. LOCATION AS DIRECTED BY ENGINEER



SCALE: H, 1" = 20' ; V, 1" = 5'

LEGEND

- FOUND EXERTY CORNER
- BENCHMARK
- SIGN
- GAS BOX
- UTILITY POLE
- GUY WIRE
- WATER VALVE
- PED LIGHT POLE
- ELECTRIC RISER
- TELEPHONE RISER/BOX
- FIRE HYDRANT
- CATCHBASIN
- BEEHIVE GRATE CATCHBASIN
- STORM MANHOLE
- SANITARY MANHOLE
- DECIDUOUS TREE
- CONIFEROUS TREE
- TREE LINE
- SHRUB LINE
- OVERHEAD ELECTRIC
- UNDERGROUND ELECTRIC
- OVERHEAD TELEPHONE
- UNDERGROUND TELEPHONE
- OVERHEAD CABLE TV
- UNDERGROUND CABLE TV
- SANITARY SEWER
- STORM SEWER
- WATER MAIN
- GUARDRAIL
- FENCE
- TOP/BOTTOM OF SLOPE
- RIGHT-OF-WAY

CONSTRUCTION NOTES

(C1) WATER SERVICE, LONG SIDE, MODIFIED. CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY TO INSTALL A NEW SERVICE TO A NEW CURB BOX. THIS ITEM SHALL INCLUDE THE SADDLE FOR TAPPING OF THE NEW MAIN, INSTALLING THE 1" OR 2" DIA. CORPORATION STOP, NEW 1" OR 2" DIA. TYPE K COPPER SERVICE LINE AND NEW CURB STOP & BOX & CONNECTION TO EXISTING SERVICE. NOTE: THESE SERVICES SHALL BE PUSH BORED AND HAND EXCAVATED IN PLACE A MIN. 5' DEEP, IF LOCATED WITHIN 15' OF EXISTING STREET TREE.

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HATCH LEGEND

- SIDEWALK RAMP, CONC, 6 INCH
- DRIVEWAY NON REINFORCED CONC, 6 INCH
- SIDEWALK, CONC, 4 INCH
- SIDEWALK, CONC, 6 INCH
- HMA 4EL
- TOPSOIL REPLACEMENT INCLUDING, FERTILIZER, CHEMICAL NUTRIENT, CL A MULCH, MULCH ANCHORING SEEDING, MIXTURE TUF TOPSOIL SURFACE, FURN, 4 INCH

N

SCALE:
0 20' 40'

NO.	REVISION DESCRIPTION:	BY:	DATE:
2	WATER PERMIT SUBMITTAL	ZRC	11-30-23
1	G.I. SUBMITTAL	ARY	11-6-23

CITY OF TRAVERSE CITY
ENGINEERING DEPARTMENT
400 BOARDMAN AVE.
TRAVERSE CITY, MI. 49684

DRAWING TITLE:

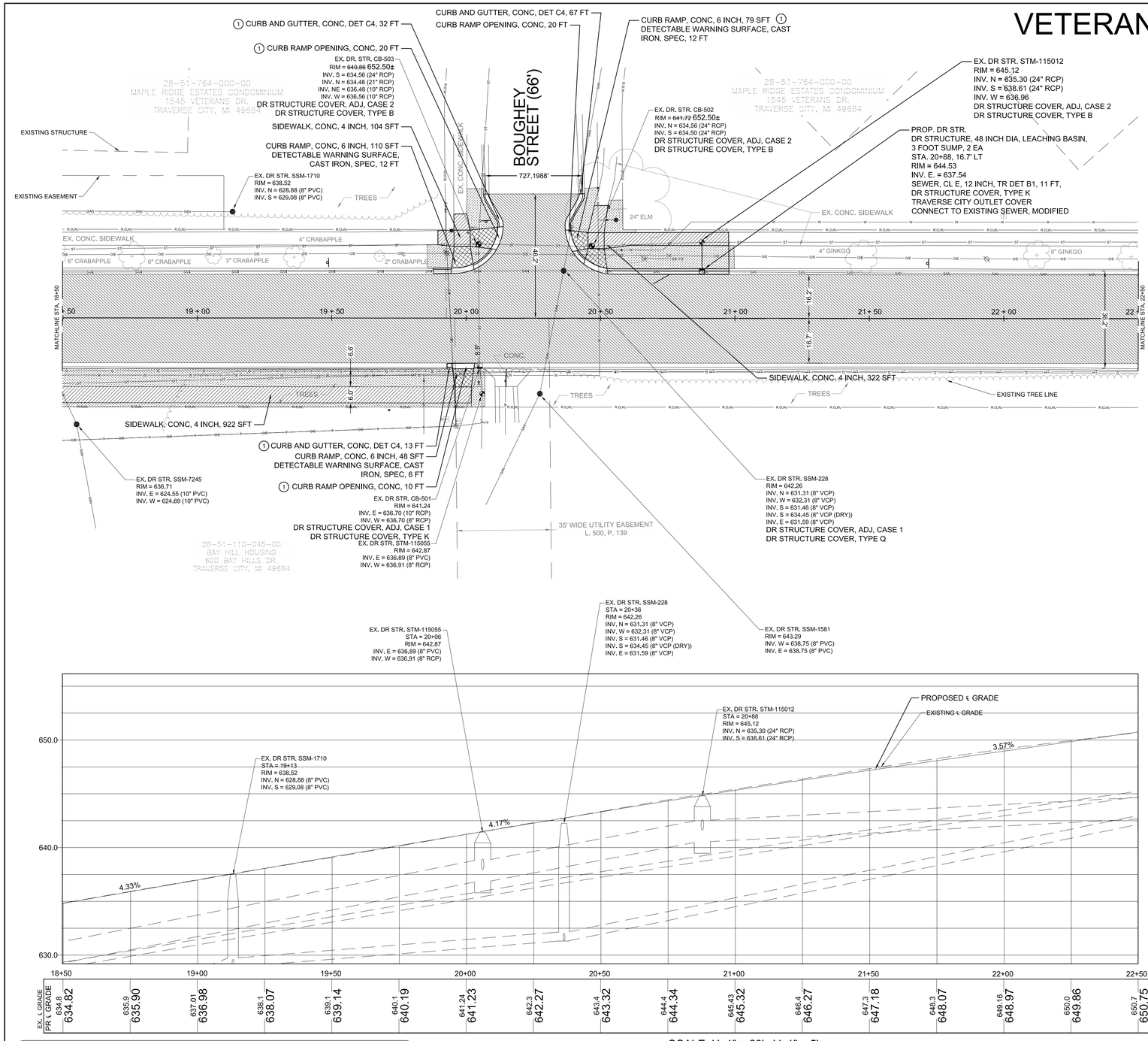
VETERANS DRIVE PLAN & PROFILE
(14+50 TO STA. 18+50)

SCALES:
VERTICAL: N / A
HORIZONTAL: 1"=20'

DATE: FEBRUARY 2024
DESIGNED: ZRC
DRAWN: JAS
APPROVED: ARY
JOB NO. 214685

SHEET 15 OF 30 SHEETS

VETERANS DR (66' R.O.W.)



SCALE: H, 1" = 20' ; V, 1" = 5'

ESTIMATED QUANTITIES THIS SHEET		
ITEM DESCRIPTION	UNIT	QUANTITY
AGGREGATE BASE, 8 INCH	SYD	1719
VIDEO TAPING SEWER AND CULV PIPE	FT	11
SEWER, CL E, 12 INCH, TR DET B1	FT	11
CONNECT TO EXISTING SEWER, MODIFIED	EA	1
DR STRUCTURE COVER, ADJ, CASE 1	EA	2
DR STRUCTURE COVER, ADJ, CASE 2	EA	4
DR STRUCTURE COVER, TYPE B	EA	3
DR STRUCTURE COVER, TYPE K	EA	1
DR STRUCTURE COVER, TYPE Q	EA	1
TRAVERSE CITY OUTLET COVER	EA	1
HMA, 4EL LEVELING (275 #/SYD)	TON	260
HMA, 4EL TOP (220 #/SYD)	TON	208
CURB AND GUTTER, CONC, DET C4	FT	112
CURB RAMP OPENING, CONC	FT	50
SIDEWALK, CONC, 4 INCH	SFT	1348
CURB RAMP, CONC, 6 INCH	SFT	237
DETECTABLE WARNING SURFACE, CAST IRON, SPEC	FT	30
FERTILIZER, CHEMICAL NUTRIENT, CL A	LBS	10
MULCH BLANKET	SYD	255
MULCH ANCHORING	SYD	255
SEEDING, MIXTURE TUF	LBS	10
TOPSOIL SURFACE, FURN, 4 INCH	SYD	255
WATER, SODDING/SEEDING	UNIT	1
DR STRUCTURE, 48 INCH DIA, LEACHING BASIN, 3 FOOT SUMP	EA	1
EMBANKMENT, CIP	CYD	20

ESTIMATED DRIVEWAY/ADA RAMP QUANTITIES FOR THIS SHEET				
STATION & OFFSET	DRIVEWAY OPENING, DETAIL "L" (FT)	CURB RAMP OPENING, CONC (FT)	DRIVEWAY, NON-REINFORCED, 6 INCH (SYD)	CURB RAMP, CONC, 6 INCH (SFT)
19+99, 19 L	-	8	-	54
19+99, 18.9 R	-	8	-	47
20+11, 29.6 L	-	8	-	66
20+16, 18.9 R	17.4	-	10	-
20+40, 28.7 L	-	8	-	37
20+48, 19.8 L	-	8	-	42
20+49, 18.9 R	-	8	-	46

NOTES:
(1) LOCATION AS DIRECTED BY ENGINEER

LEGEND

- FOUND EXERTY CORNER
- BENCHMARK
- SIGN
- GAS BOX
- UTILITY POLE
- GUY WIRE
- WATER VALVE
- PED LIGHT POLE
- ELECTRIC RISER
- TELEPHONE RISER/BOX
- FIRE HYDRANT
- CATCHBASIN
- BEEHIVE GRATE CATCHBASIN
- STORM MANHOLE
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- WATERMAIN
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- FENCE
- TOP/BOTTOM OF SLOPE
- RIGHT-OF-WAY

CONSTRUCTION NOTES

(C1) WATER SERVICE, LONG SIDE, MODIFIED. CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY TO INSTALL A NEW SERVICE TO A NEW CURB BOX. THIS ITEM SHALL INCLUDE THE SADDLE FOR TAPPING OF THE NEW MAIN, INSTALLING THE 1" OR 2" DIA. CORPORATION STOP, NEW 1" OR 2" DIA, TYPE K COPPER SERVICE LINE AND NEW CURB STOP & BOX & CONNECTION TO EXISTING SERVICE. NOTE: THESE SERVICES SHALL BE PUSH BORED AND HAND EXCAVATED IN PLACE A MIN. 5' DEEP, IF LOCATED WITHIN 15' OF EXISTING STREET TREE.

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HATCH LEGEND

- SIDEWALK RAMP, CONC, 6 INCH
- DRIVEWAY NON REINFORCED CONC, 6 INCH
- SIDEWALK, CONC, 4 INCH
- SIDEWALK, CONC, 6 INCH
- HMA 4EL
- TOPSOIL REPLACEMENT INCLUDING, FERTILIZER, CHEMICAL NUTRIENT, CL A MULCH, MULCH ANCHORING SEEDING, MIXTURE TUF TOPSOIL SURFACE, FURN, 4 INCH

N

SCALE:
0 20' 40'

NO.	REVISION DESCRIPTION:	BY:	DATE:
2	WATER PERMIT SUBMITTAL	ZRC	11-30-23
1	G.I. SUBMITTAL	ARY	11-6-23

CITY OF TRAVERSE CITY
ENGINEERING DEPARTMENT
400 BOARDMAN AVE.
TRAVERSE CITY, MI. 49684

DRAWING TITLE:

VETERANS DRIVE PLAN & PROFILE
(18+50 TO STA. 22+50)

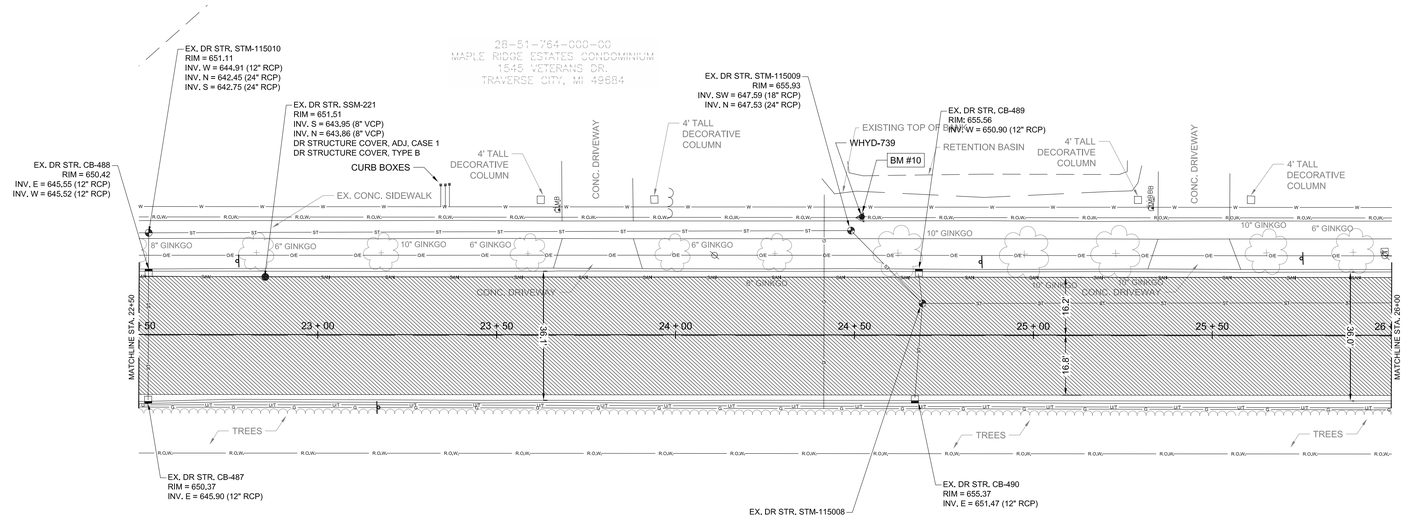
SCALES:
VERTICAL: N / A
HORIZONTAL: 1"=20'

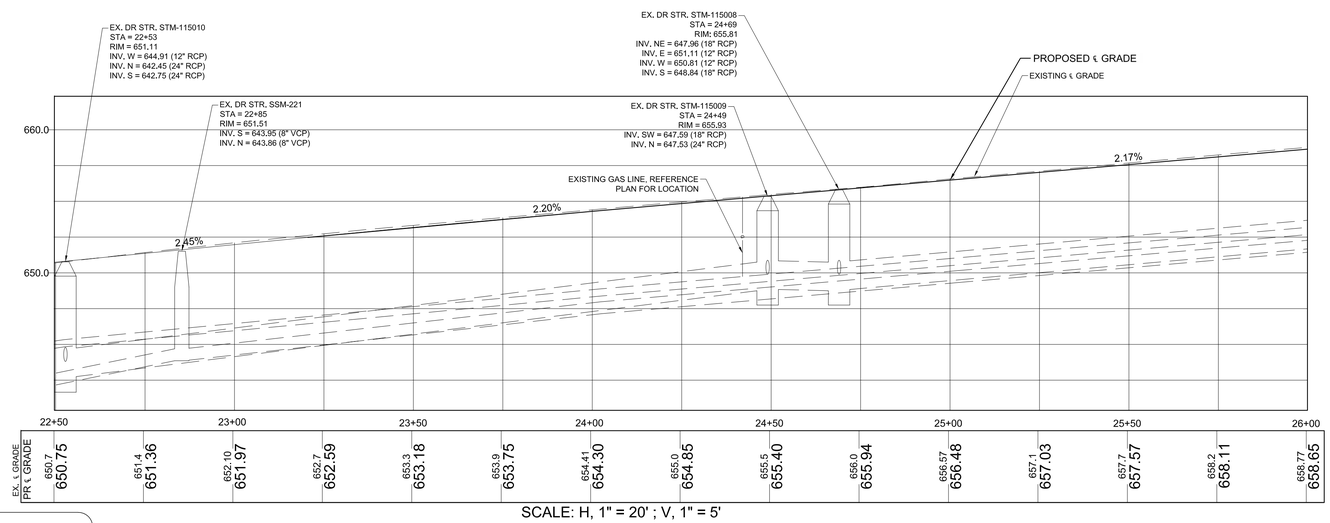
DATE: FEBRUARY 2024
DESIGNED: ZRC
DRAWN: JAS
APPROVED: ARY
JOB NO. 214685

SHEET 16 OF 30 SHEETS

VETERANS DR (66' R.O.W.)

ESTIMATED QUANTITIES THIS SHEET		
ITEM DESCRIPTION	UNIT	QUANTITY
AGGREGATE BASE, 8 INCH	SYD	1417
DR STRUCTURE COVER, ADJ, CASE 1	EA	1
DR STRUCTURE COVER, TYPE B	EA	1
HMA, 4EL LEVELING (275 #/SYD)	TON	215
HMA, 4EL TOP (220 #/SYD)	TON	172
EMBANKMENT, CIP	CYD	10





SCALE: H, 1" = 20' ; V, 1" = 5'

LEGEND

- FOUND EXERTY CORNER
- BENCHMARK
- SIGN
- GAS BOX
- UTILITY POLE
- GUY WIRE
- WATER VALVE
- PED LIGHT POLE
- ELECTRIC RISER
- TELEPHONE RISER/BOX
- FIRE HYDRANT
- CATCHBASIN
- BEEHIVE GRATE CATCHBASIN
- STORM MANHOLE
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- DECIDUOUS TREE
- CONIFEROUS TREE
- TREE LINE
- SHRUB LINE
- OVERHEAD ELECTRIC
- UNDERGROUND ELECTRIC
- OVERHEAD TELEPHONE
- UNDERGROUND TELEPHONE
- OVERHEAD CABLE TV
- UNDERGROUND CABLE TV
- SANITARY SEWER
- STORM SEWER
- WATERMAIN
- GUARDRAIL
- FENCE
- TOP/BOTTOM OF SLOPE
- RIGHT-OF-WAY

BENCHMARK DATA
BENCHMARK # 10
TOP OF 4" NOZZLE ON
HYDRANT WHYD-739
W SIDE OF VETERANS DRIVE
ELEV. = 658.02 (NAVD88)

CONSTRUCTION NOTES

C1 WATER SERVICE, LONG SIDE, MODIFIED. CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY TO INSTALL A NEW SERVICE TO A NEW CURB BOX. THIS ITEM SHALL INCLUDE THE SADDLE FOR TAPPING OF THE NEW MAIN, INSTALLING THE 1" OR 2" DIA. CORPORATION STOP, NEW 1" OR 2" DIA. TYPE K COPPER SERVICE LINE AND NEW CURB STOP & BOX & CONNECTION TO EXISTING SERVICE. NOTE: THESE SERVICES SHALL BE PUSH BORED AND HAND EXCAVATED IN PLACE A MIN. 5' DEEP, IF LOCATED WITHIN 15' OF EXISTING STREET TREE.

C2 WATER SERVICE, SHORT SIDE, MODIFIED. CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY TO INSTALL A NEW SERVICE TO A NEW CURB BOX. THIS ITEM SHALL INCLUDE THE SADDLE FOR TAPPING OF THE NEW MAIN, INSTALLING THE 1" OR 2" DIA. CORPORATION STOP, NEW 1" OR 2" DIA. TYPE K COPPER SERVICE LINE AND NEW CURB STOP & BOX & CONNECTION TO EXISTING SERVICE. NOTE: THESE SERVICES SHALL BE PUSH BORED AND HAND EXCAVATED IN PLACE A MIN. 5' DEEP, IF LOCATED WITHIN 15' OF EXISTING STREET TREE.

C3 MAINTAIN 18" VERTICAL SEPARATION OF WATER MAIN FROM ALL SEWERS. LOWERING OF PROPOSED WATER MAIN REQUIRED TO MAINTAIN 18" VERTICAL SEPARATION FROM SEWERS SHALL BE INCLUDED IN PAY ITEM "WATER MAIN, DI, 12 INCH, TR DET G.

HATCH LEGEND

- SIDEWALK RAMP, CONC, 6 INCH
- DRIVEWAY NON REINFORCED CONC, 6 INCH
- SIDEWALK, CONC, 4 INCH
- SIDEWALK, CONC, 6 INCH
- HMA 4EL
- TOPSOIL REPLACEMENT INCLUDING, FERTILIZER, CHEMICAL NUTRIENT, CL A MULCH, MULCH ANCHORING SEEDING, MIXTURE TUF TOPSOIL SURFACE, FURN, 4 INCH

N

SCALE:
0 20' 40'

NO.	REVISION DESCRIPTION:	BY:	DATE:
2	WATER PERMIT SUBMITTAL	ZRC	11-30-23
1	G.I. SUBMITTAL	ARY	11-6-23

CITY OF TRAVERSE CITY
ENGINEERING DEPARTMENT
400 BOARDMAN AVE.
TRAVERSE CITY, MI. 49684

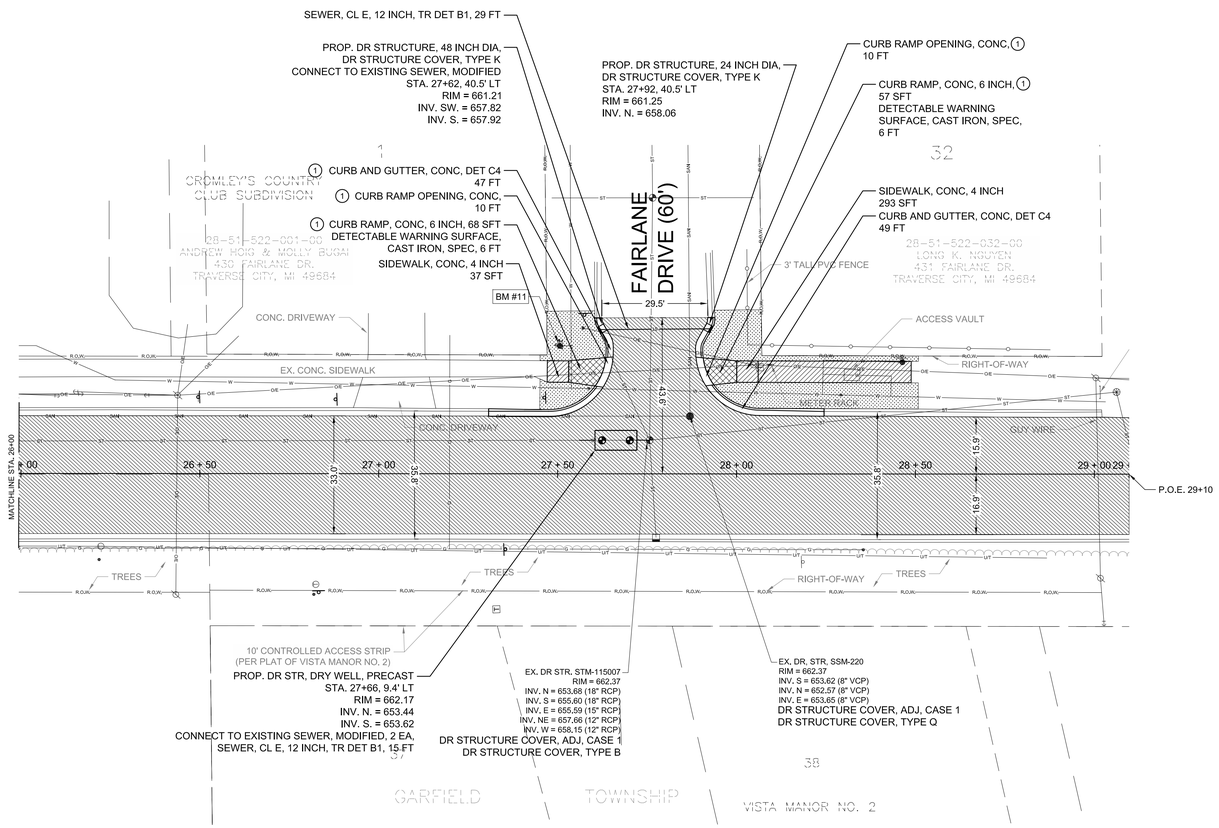
DRAWING TITLE:

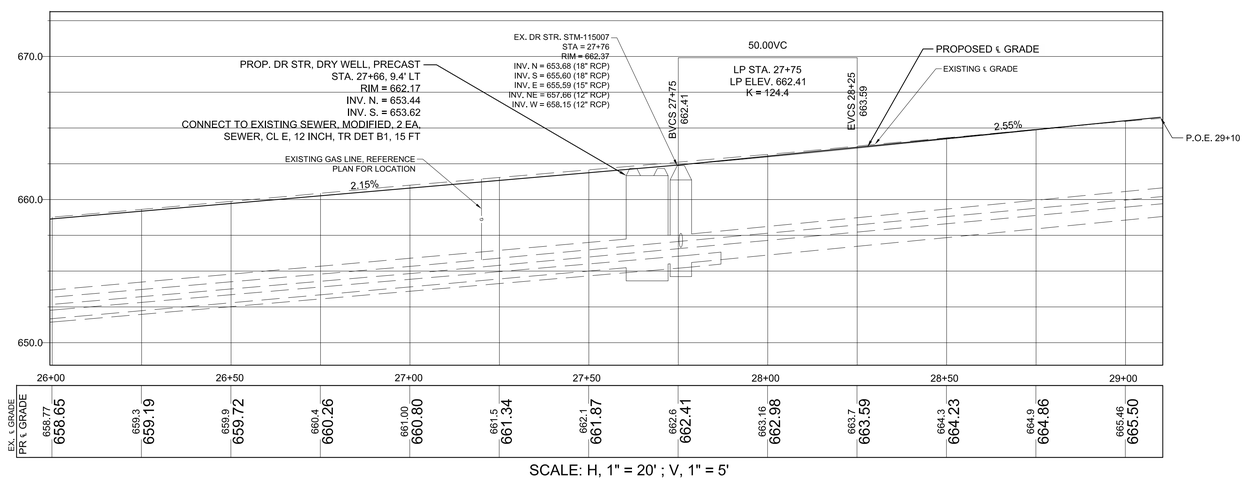
VETERANS DRIVE PLAN & PROFILE
(22+50 TO STA. 26+00)

SCALES:
VERTICAL: N / A
HORIZONTAL: 1"=20'
DATE: FEBRUARY 2024
DESIGNED: ZRC
DRAWN: JAS
APPROVED: ARY
JOB NO. 214685

SHEET 17 OF 30 SHEETS

VETERANS DR (66' R.O.W.)





SCALE: H, 1" = 20' ; V, 1" = 5'

ESTIMATED QUANTITIES THIS SHEET		
ITEM DESCRIPTION	UNIT	QUANTITY
AGGREGATE BASE, 8 INCH	SYD	1350
VIDEO TAPING SEWER AND CULV PIPE	FT	44
SEWER, CL E, 12 INCH, TR DET B1	FT	44
DR STRUCTURE COVER, ADJ, CASE 1	EA	2
DR STRUCTURE COVER, TYPE B	EA	3
DR STRUCTURE COVER, TYPE K	EA	2
DR STRUCTURE COVER, TYPE Q	EA	1
DR STRUCTURE, 24 INCH DIA	EA	1
DR STRUCTURE, 48 INCH DIA	EA	1
DRY WELL, PRECAST	EA	1
HMA, 4EL LEVELING (275 #/SYD)	TON	205
HMA, 4EL TOP (220 #/SYD)	TON	164
CURB AND GUTTER, CONC, DET C4	FT	96
CURB RAMP OPENING, CONC	FT	20
SIDEWALK, CONC, 4 INCH	SFT	330
CURB RAMP, CONC, 6 INCH	SFT	125
DETECTABLE WARNING SURFACE, CAST IRON, SPEC	FT	12
FERTILIZER, CHEMICAL NUTRIENT, CL A	LBS	6
MULCH	SYD	150
MULCH ANCHORING	SYD	150
SEEDING, MIXTURE TUF	LBS	6
TOPSOIL SURFACE, FURN, 4 INCH	SYD	150
WATER, SODDING/SEEDING	UNIT	1
CONNECT TO EXISTING SEWER, MODIFIED	EA	3
EMBANKMENT, CIP	CYD	10

ESTIMATED DRIVEWAY/ADA RAMP QUANTITIES FOR THIS SHEET				
STATION & OFFSET	DRIVEWAY OPENING DETAIL "L" (FT)	CURB RAMP OPENING, CONC (FT)	DRIVEWAY, NON-REINFORCED, 6 INCH (SYD)	CURB RAMP, CONC, 6 INCH (SFT)
27+62, 25.7 L	-	10	-	68
27+92, 25.7 L	-	10	-	57

NOTES:
(1) LOCATION AS DIRECTED BY ENGINEER

LEGEND

- FOUND EXERTY CORNER
- BENCHMARK
- SIGN
- GAS BOX
- UTILITY POLE
- GUY WIRE
- WATER VALVE
- PED LIGHT POLE
- ELECTRIC RISER
- TELEPHONE RISER/BOX
- FIRE HYDRANT
- CATCHBASIN
- BEEHIVE GRATE CATCHBASIN
- STORM MANHOLE
- SANITARY MANHOLE
- DECIDUOUS TREE
- CONIFEROUS TREE
- TREE LINE
- SHRUB LINE
- OVERHEAD ELECTRIC
- UNDERGROUND ELECTRIC
- OVERHEAD TELEPHONE
- UNDERGROUND TELEPHONE
- OVERHEAD CABLE TV
- UNDERGROUND CABLE TV
- SANITARY SEWER
- STORM SEWER
- WATERMAIN
- GUARDRAIL
- FENCE
- TOP/BOTTOM OF SLOPE
- RIGHT-OF-WAY

BENCHMARK DATA
BENCHMARK # 11
TOP OF 'A' IN 'TRAVERSE CITY' ON HYDRANT WHYD-593 NE CORNER OF VETERANS AND FAIRLANE
ELEV. = 664.32 (NAVD88)

CONSTRUCTION NOTES

(C1) WATER SERVICE, LONG SIDE, MODIFIED. CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY TO INSTALL A NEW SERVICE TO A NEW CURB BOX. THIS ITEM SHALL INCLUDE THE SADDLE FOR TAPPING OF THE NEW MAIN, INSTALLING THE 1" OR 2" DIA. CORPORATION STOP, NEW 1" OR 2" DIA. TYPE K COPPER SERVICE LINE AND NEW CURB STOP & BOX & CONNECTION TO EXISTING SERVICE. NOTE: THESE SERVICES SHALL BE PUSH BORED AND HAND EXCAVATED IN PLACE A MIN. 5' DEEP, IF LOCATED WITHIN 15' OF EXISTING STREET TREE.

(C2) WATER SERVICE, SHORT SIDE, MODIFIED. CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY TO INSTALL A NEW SERVICE TO A NEW CURB BOX. THIS ITEM SHALL INCLUDE THE SADDLE FOR TAPPING OF THE NEW MAIN, INSTALLING THE 1" OR 2" DIA. CORPORATION STOP, NEW 1" OR 2" DIA. TYPE K COPPER SERVICE LINE AND NEW CURB STOP & BOX & CONNECTION TO EXISTING SERVICE. NOTE: THESE SERVICES SHALL BE PUSH BORED AND HAND EXCAVATED IN PLACE A MIN. 5' DEEP, IF LOCATED WITHIN 15' OF EXISTING STREET TREE.

(C3) MAINTAIN 18" VERTICAL SEPARATION OF WATER MAIN FROM ALL SEWERS. LOWERING OF PROPOSED WATER MAIN REQUIRED TO MAINTAIN 18" VERTICAL SEPARATION FROM SEWERS SHALL BE INCLUDED IN PAY ITEM "WATER MAIN, DI, 12 INCH, TR DET G.

HATCH LEGEND

- SIDEWALK RAMP, CONC, 6 INCH
- DRIVEWAY NON REINFORCED CONC, 6 INCH
- SIDEWALK, CONC, 4 INCH
- SIDEWALK, CONC, 6 INCH
- HMA 4EL
- TOPSOIL REPLACEMENT INCLUDING, FERTILIZER, CHEMICAL NUTRIENT, CL A MULCH, MULCH ANCHORING SEEDING, MIXTURE TUF TOPSOIL SURFACE, FURN, 4 INCH

N

SCALE:
0 20' 40'

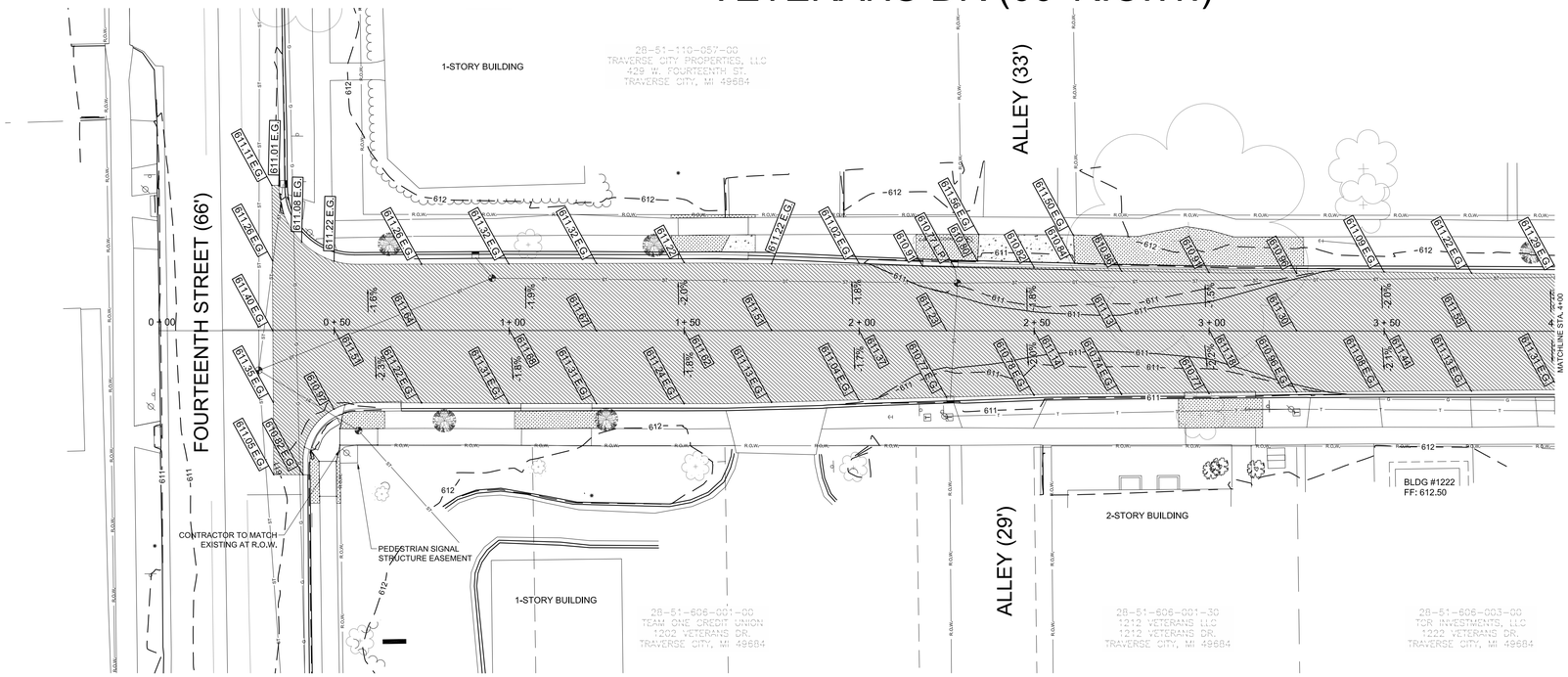
NO.	REVISION DESCRIPTION:	BY:	DATE:
2	WATER PERMIT SUBMITTAL	ZRC	11-30-23
1	G.I. SUBMITTAL	ARY	11-6-23

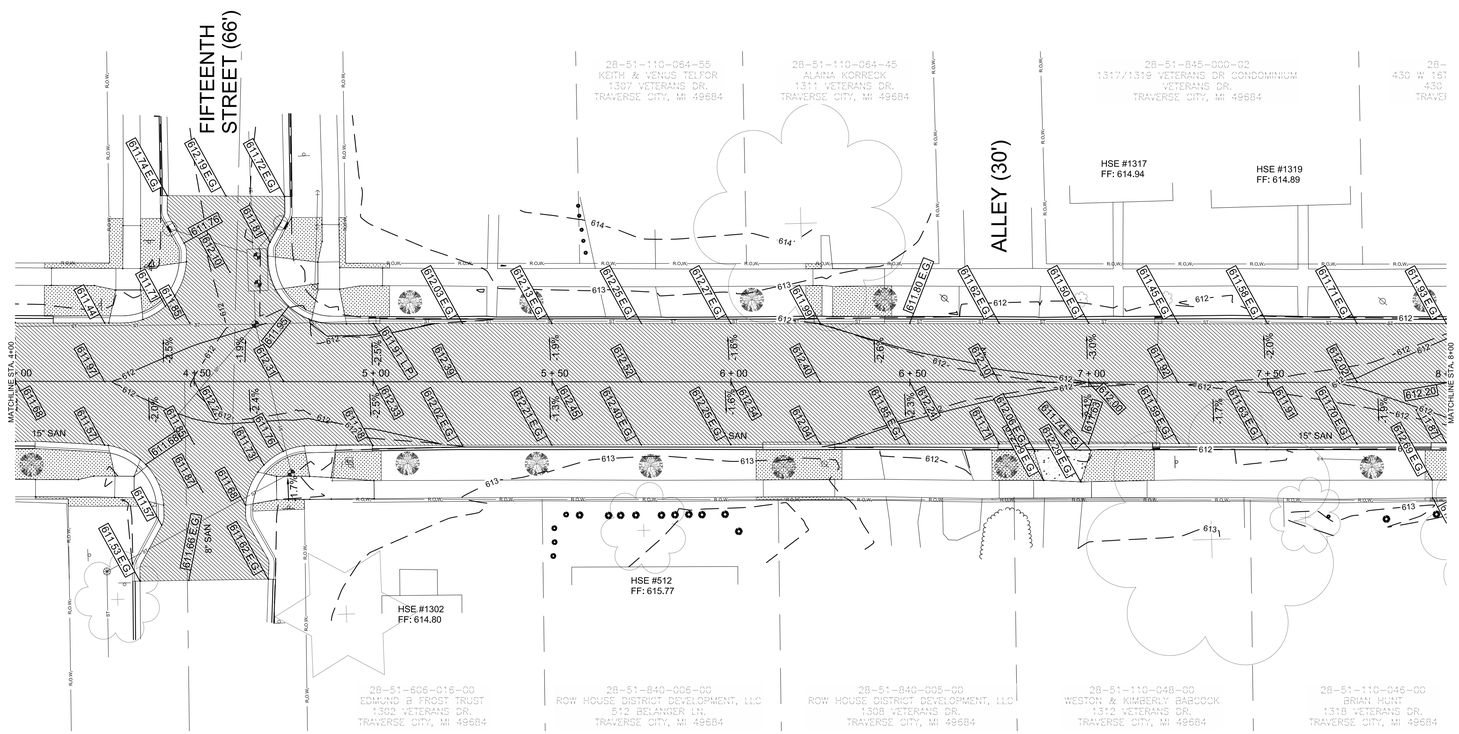
CITY OF TRAVERSE CITY
ENGINEERING DEPARTMENT
400 BOARDMAN AVE.
TRAVERSE CITY, MI. 49684

DRAWING TITLE:
VETERANS DRIVE PLAN & PROFILE (26+00 TO P.O.E.)

SCALES:
VERTICAL: N / A
HORIZONTAL: 1"=20'
DATE: FEBRUARY 2024
DESIGNED: ZRC
DRAWN: JAS
APPROVED: ARY
JOB NO. 214685

VETERANS DR (66' R.O.W.)





LEGEND

- FOUND EXERTY CORNER
- BENCHMARK
- SIGN
- GAS BOX
- UTILITY POLE
- GUY WIRE
- WATER VALVE
- PED LIGHT POLE
- ELECTRIC RISER
- TELEPHONE RISER/BOX
- FIRE HYDRANT
- CATCHBASIN
- BEEHIVE GRATE CATCHBASIN
- STORM MANHOLE
- SANITARY MANHOLE
- DECIDUOUS TREE
- CONIFEROUS TREE
- TREE LINE
- SHRUB LINE
- OHE — OVERHEAD ELECTRIC
- UHE — UNDERGROUND ELECTRIC
- T — OVERHEAD TELEPHONE
- UT — UNDERGROUND TELEPHONE
- OC — OVERHEAD CABLE TV
- UC — UNDERGROUND CABLE TV
- SAN — SANITARY SEWER
- ST — STORM SEWER
- W — WATERMAIN
- GUARDRAIL
- FENCE
- TOP/BOTTOM OF SLOPE
- R.O.W. — RIGHT-OF-WAY
- EXISTING ELEVATIONS
- PROPOSED ELEVATIONS

N

SCALE:

0 10' 20'

NO.	REVISION DESCRIPTION:	BY:	DATE:
1	G.I. SUBMITTAL	ARY	11-6-23

CITY OF TRAVERSE CITY
ENGINEERING DEPARTMENT
400 BOARDMAN AVE.
TRAVERSE CITY, MI. 49684

DRAWING TITLE:

GRADING PLAN
(P.O.B. TO STA. 8+00)

SCALES:
VERTICAL: N / A
HORIZONTAL: 1"=20'

DATE: FEBRUARY 2024

DESIGNED: ZRC

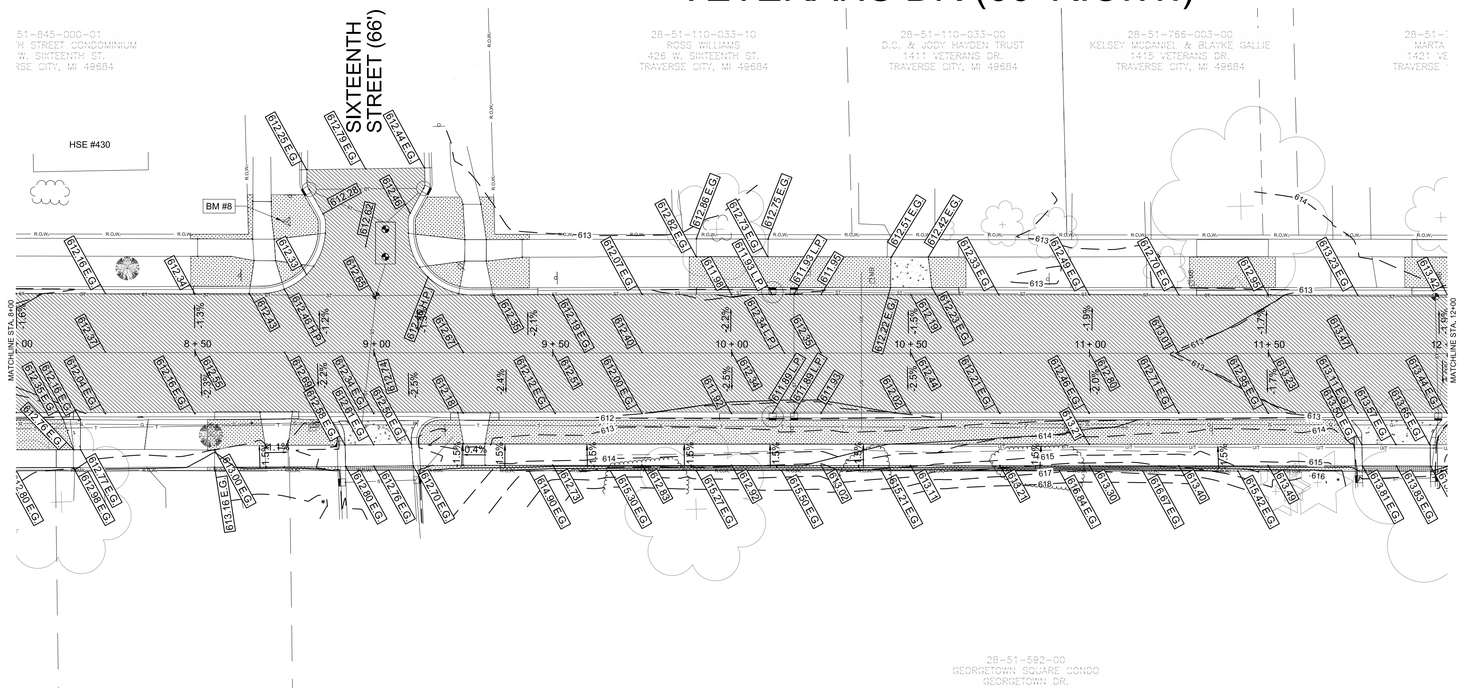
DRAWN: JAS

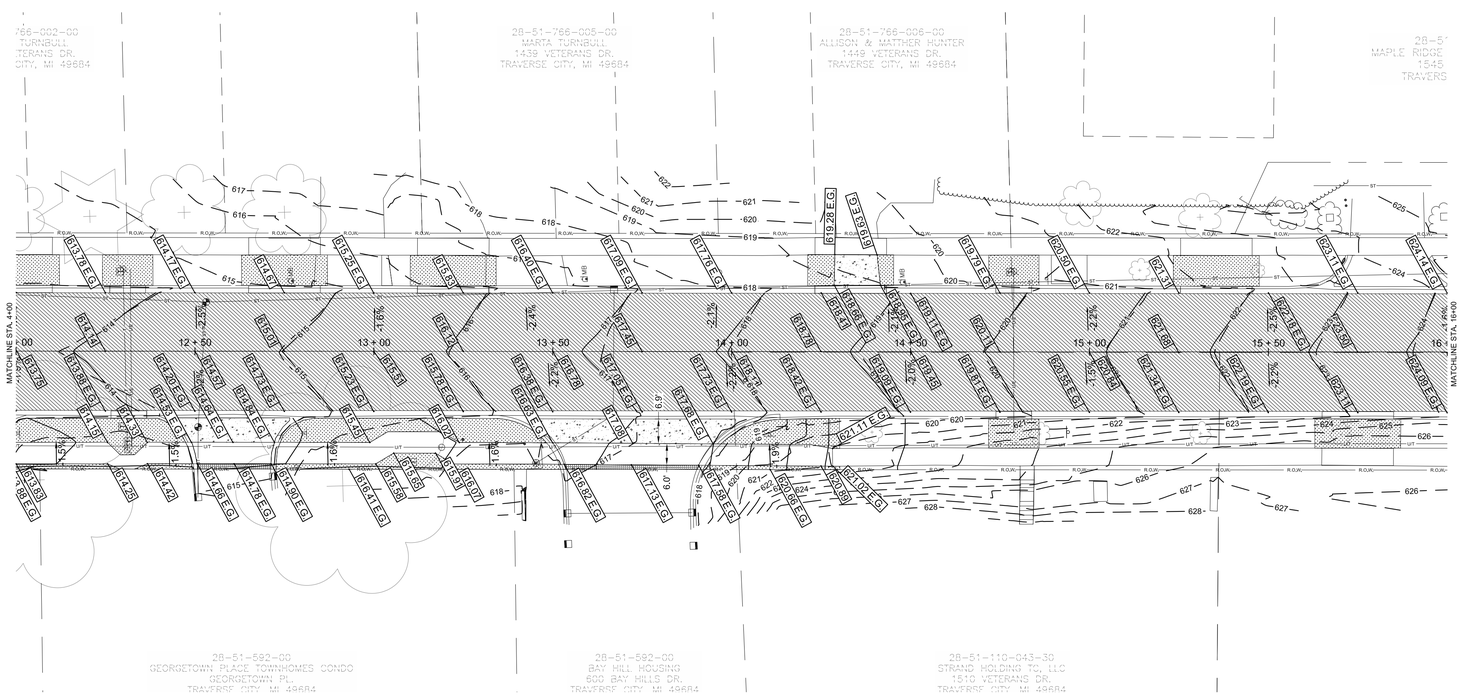
APPROVED: ARY

JOB NO. 214685

SHEET 19 OF 30 SHEETS

VETERANS DR (66' R.O.W.)





LEGEND

- FOUND EXERTY CORNER
- BENCHMARK
- SIGN
- GAS BOX
- UTILITY POLE
- GUY WIRE
- WATER VALVE
- PED LIGHT POLE
- ELECTRIC RISER
- TELEPHONE RISER/BOX
- FIRE HYDRANT
- CATCHBASIN
- BEEHIVE GRATE CATCHBASIN
- STORM MANHOLE
- SANITARY MANHOLE
- DECIDUOUS TREE
- CONIFEROUS TREE
- TREE LINE
- SHRUB LINE
- OHE — OVERHEAD ELECTRIC
- UE — UNDERGROUND ELECTRIC
- T — OVERHEAD TELEPHONE
- UT — UNDERGROUND TELEPHONE
- OC — OVERHEAD CABLE TV
- UC — UNDERGROUND CABLE TV
- SAN — SANITARY SEWER
- ST — STORM SEWER
- W — WATERMAIN
- GUARDRAIL
- FENCE
- TOP/BOTTOM OF SLOPE
- R.O.W. — RIGHT-OF-WAY
- EXISTING ELEVATIONS
- PROPOSED ELEVATIONS

N

SCALE:

0 10' 20'

NO.	REVISION DESCRIPTION:	BY:	DATE:
1	G.I. SUBMITTAL	ARY	11-6-23

CITY OF TRAVERSE CITY
ENGINEERING DEPARTMENT
400 BOARDMAN AVE.
TRAVERSE CITY, MI. 49684

DRAWING TITLE:

GRADING PLAN
(8+00 TO STA. 16+00)

SCALES:
VERTICAL: N / A
HORIZONTAL: 1"=20'

DATE: FEBRUARY 2024

DESIGNED: ARY

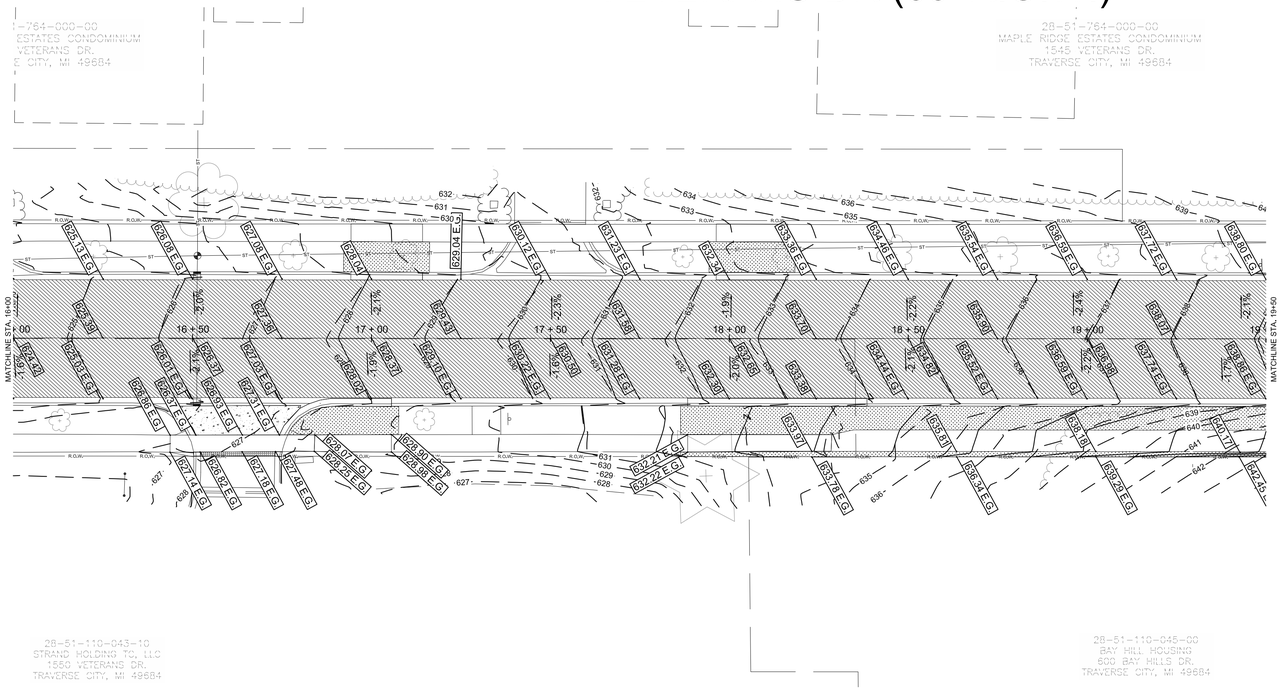
DRAWN: JAS

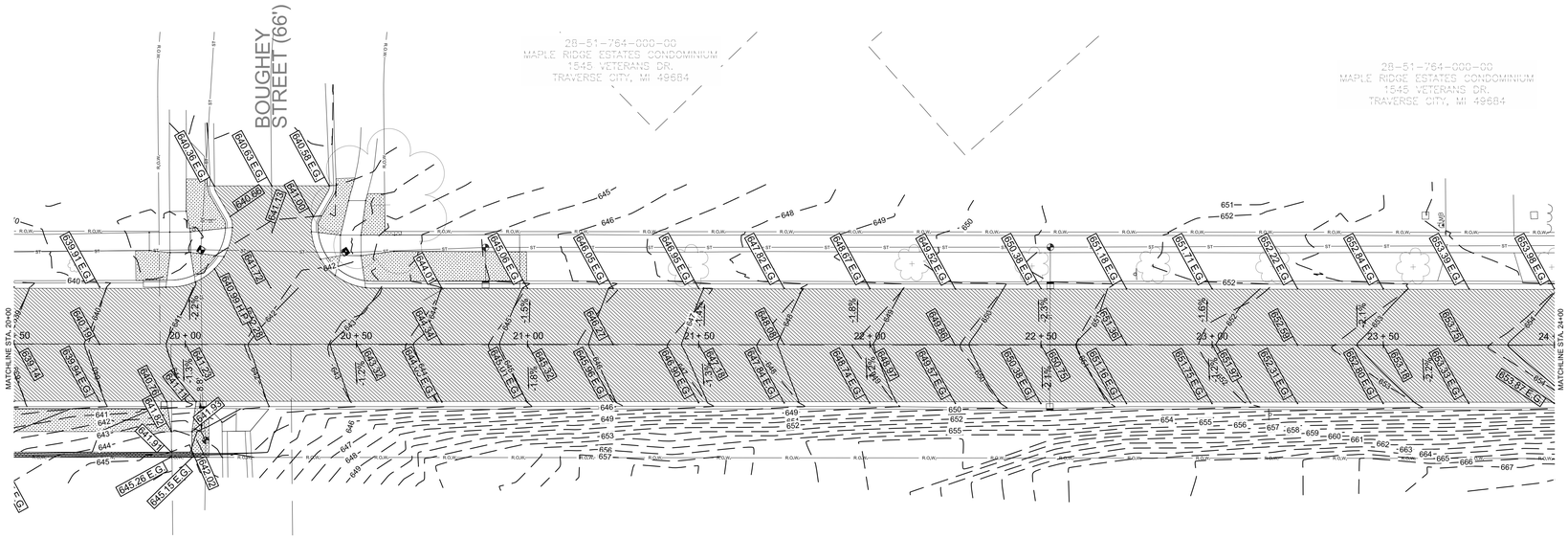
APPROVED: ZRC

JOB NO. 214685

SHEET 20 OF 30 SHEETS

VETERANS DR (66' R.O.W.)





LEGEND

- FOUND EXERTY CORNER
- BENCHMARK
- SIGN
- GAS BOX
- UTILITY POLE
- GUY WIRE
- WATER VALVE
- PED LIGHT POLE
- ELECTRIC RISER
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- DECIDUOUS TREE
- CONIFEROUS TREE
- TREE LINE
- SHRUB LINE
- OVERHEAD ELECTRIC
- UNDERGROUND ELECTRIC
- OVERHEAD TELEPHONE
- UNDERGROUND TELEPHONE
- OVERHEAD CABLE TV
- UNDERGROUND CABLE TV
- SANITARY SEWER
- STORM SEWER
- WATERMAIN
- GUARDRAIL
- FENCE
- TOP/BOTTOM OF SLOPE
- RIGHT-OF-WAY
- EXISTING ELEVATIONS
- PROPOSED ELEVATIONS

NO.	REVISION DESCRIPTION:	BY:	DATE:
1	G.I. SUBMITTAL	ARY	11-6-23

CITY OF TRAVERSE CITY
ENGINEERING DEPARTMENT
400 BOARDMAN AVE.
TRAVERSE CITY, MI. 49684

DRAWING TITLE:

GRADING PLAN
(16+00 TO STA. 24+00)

N

SCALE:
0 10' 20'

SCALES:
VERTICAL: N / A
HORIZONTAL: 1"=20'

DATE: FEBRUARY 2024

DESIGNED: ZRC

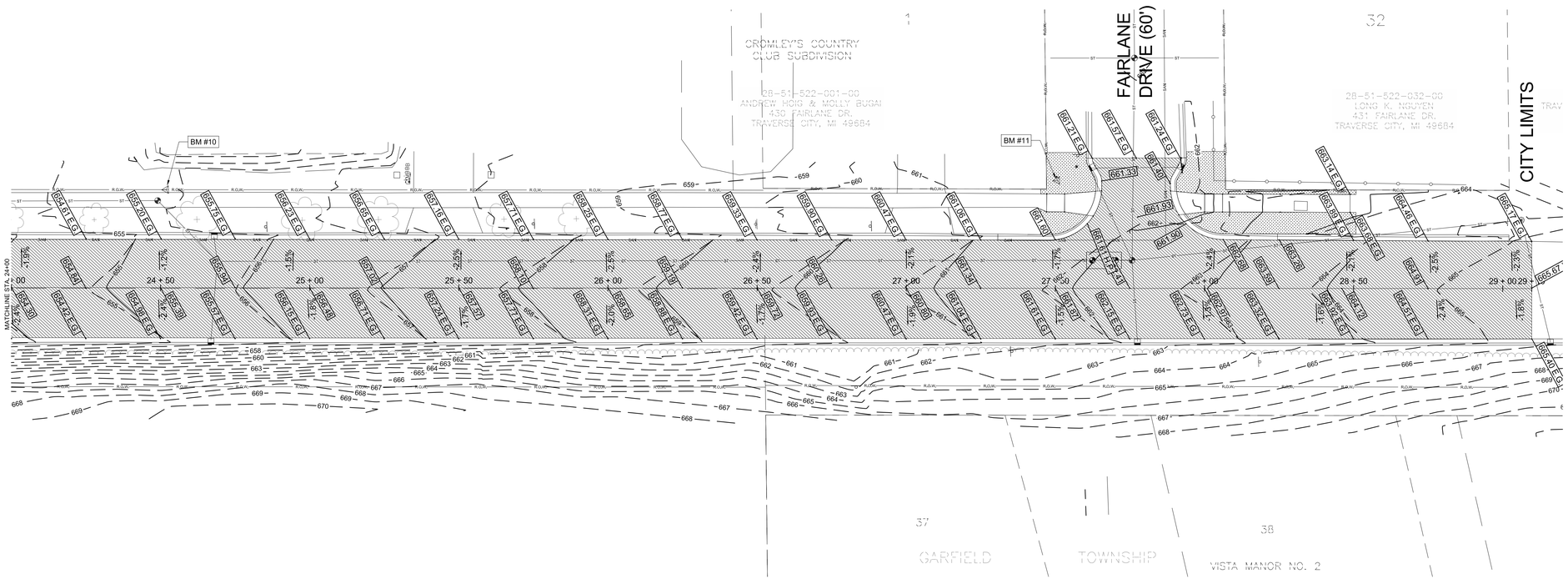
DRAWN: JAS

APPROVED: ARY

JOB NO. 214685

SHEET 21 OF 30 SHEETS

VETERANS DR (66' R.O.W.)



LEGEND

- FOUND EXERTY CORNER
- BENCHMARK
- SIGN
- GAS BOX
- UTILITY POLE
- GUY WIRE
- WATER VALVE
- PED LIGHT POLE
- ELECTRIC RISER
- TELEPHONE RISER/BOX
- FIRE HYDRANT
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- DECIDUOUS TREE
- CONIFEROUS TREE
- TREE LINE
- SHRUB LINE
- OVERHEAD ELECTRIC
- UNDERGROUND ELECTRIC
- OVERHEAD TELEPHONE
- UNDERGROUND TELEPHONE
- OVERHEAD CABLE TV
- UNDERGROUND CABLE TV
- SANITARY SEWER
- STORM SEWER
- WATERMAIN
- GUARDRAIL
- FENCE
- TOP/BOTTOM OF SLOPE
- RIGHT-OF-WAY
- EXISTING ELEVATIONS
- PROPOSED ELEVATIONS

N

SCALE:

0 10' 20'

NO.	REVISION DESCRIPTION:	BY:	DATE:
1	G.I. SUBMITTAL	ARY	11-6-23

CITY OF TRAVERSE CITY
ENGINEERING DEPARTMENT
400 BOARDMAN AVE.
TRAVERSE CITY, MI. 49684

DRAWING TITLE:

GRADING PLAN
(24+00 TO P.O.E.)

SCALES:
VERTICAL: N / A
HORIZONTAL: 1"=20'

DATE: FEBRUARY 2024

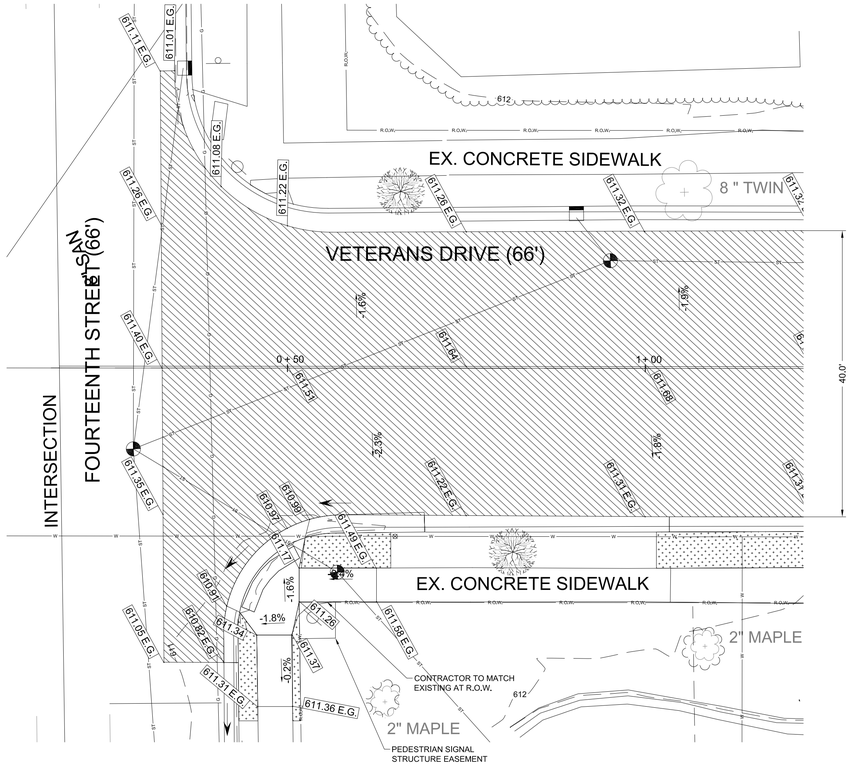
DESIGNED: ZRC

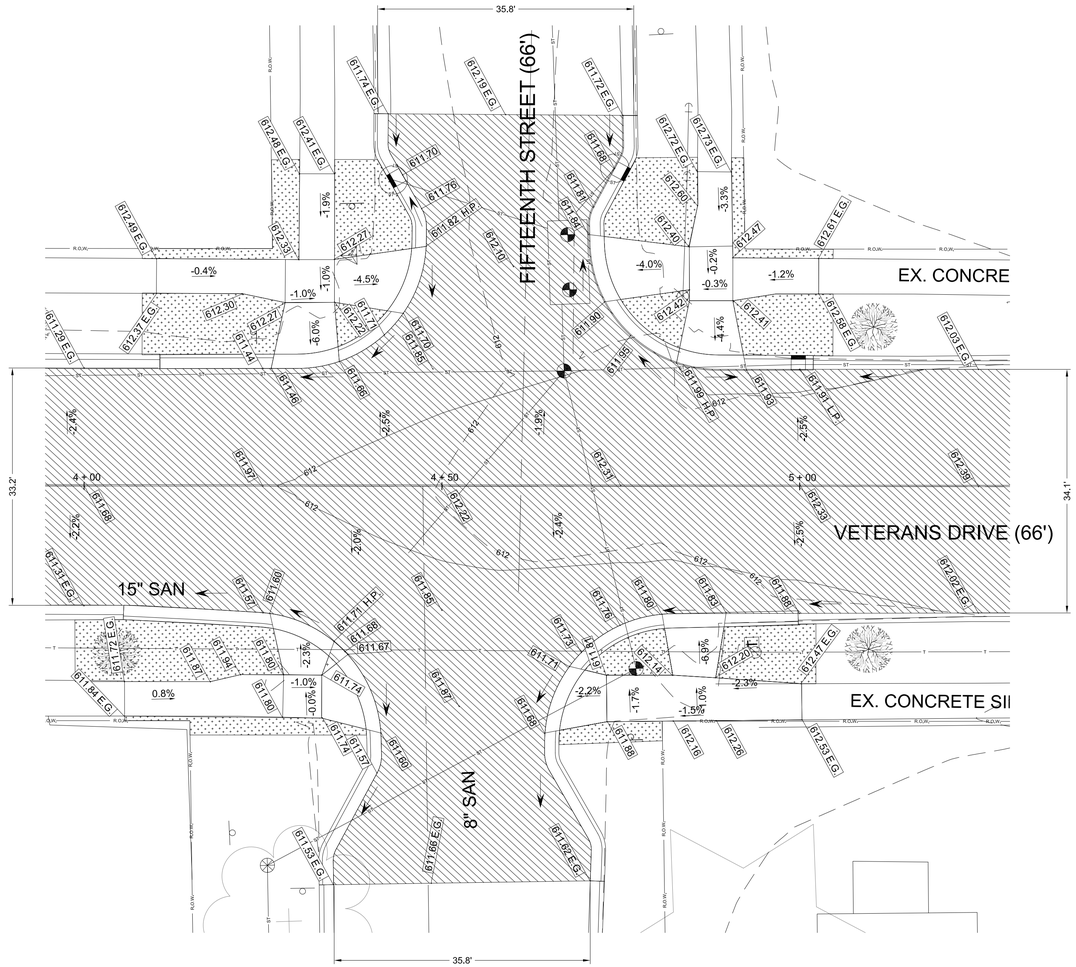
DRAWN: JAS

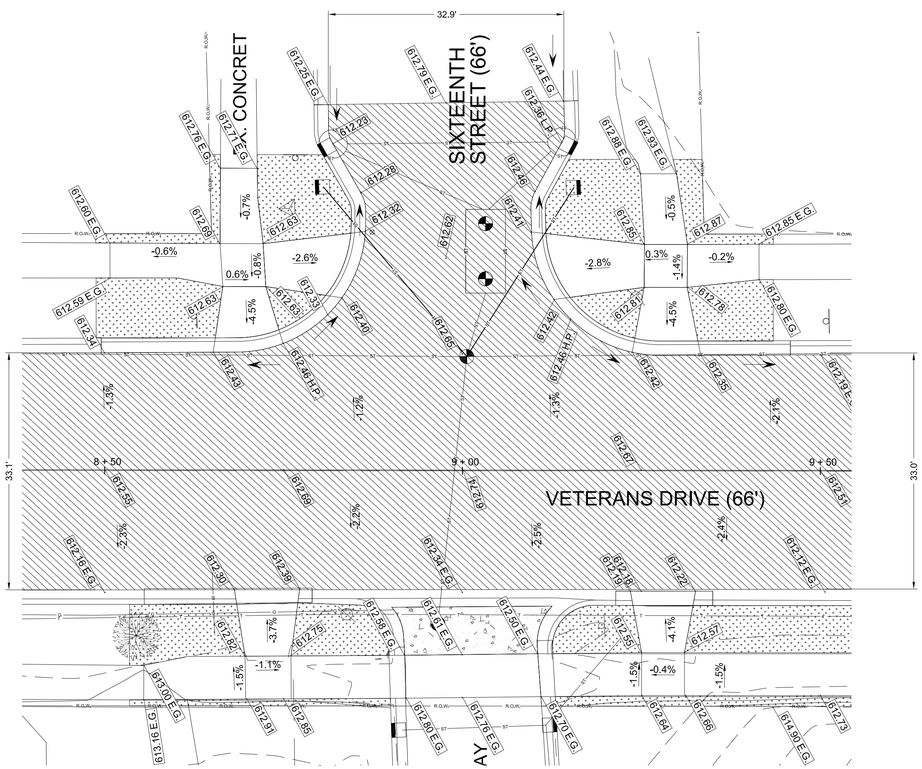
APPROVED: ZRC

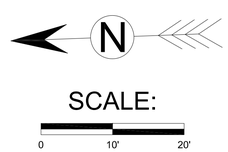
JOB NO. 214685

SHEET 22 OF 30 SHEETS









NOTE: ALL PROPOSED ELEVATIONS ARE EDGE OF METAL LOCATION ON THIS SHEET UNLESS OTHERWISE CALLED OUT.

NO.	REVISION DESCRIPTION:	BY:	DATE:
1	G.I. SUBMITTAL	ARY	11-6-23

CITY OF TRAVERSE CITY
ENGINEERING DEPARTMENT
400 BOARDMAN AVE.
TRAVERSE CITY, MI. 49684

DRAWING TITLE:

VETERANS DRIVE INTERSECTION GRADING
(P.O.B. TO STA. 4+00)

SCALES:
VERTICAL: N / A
HORIZONTAL: 1"=20'

DATE: FEBRUARY 2024

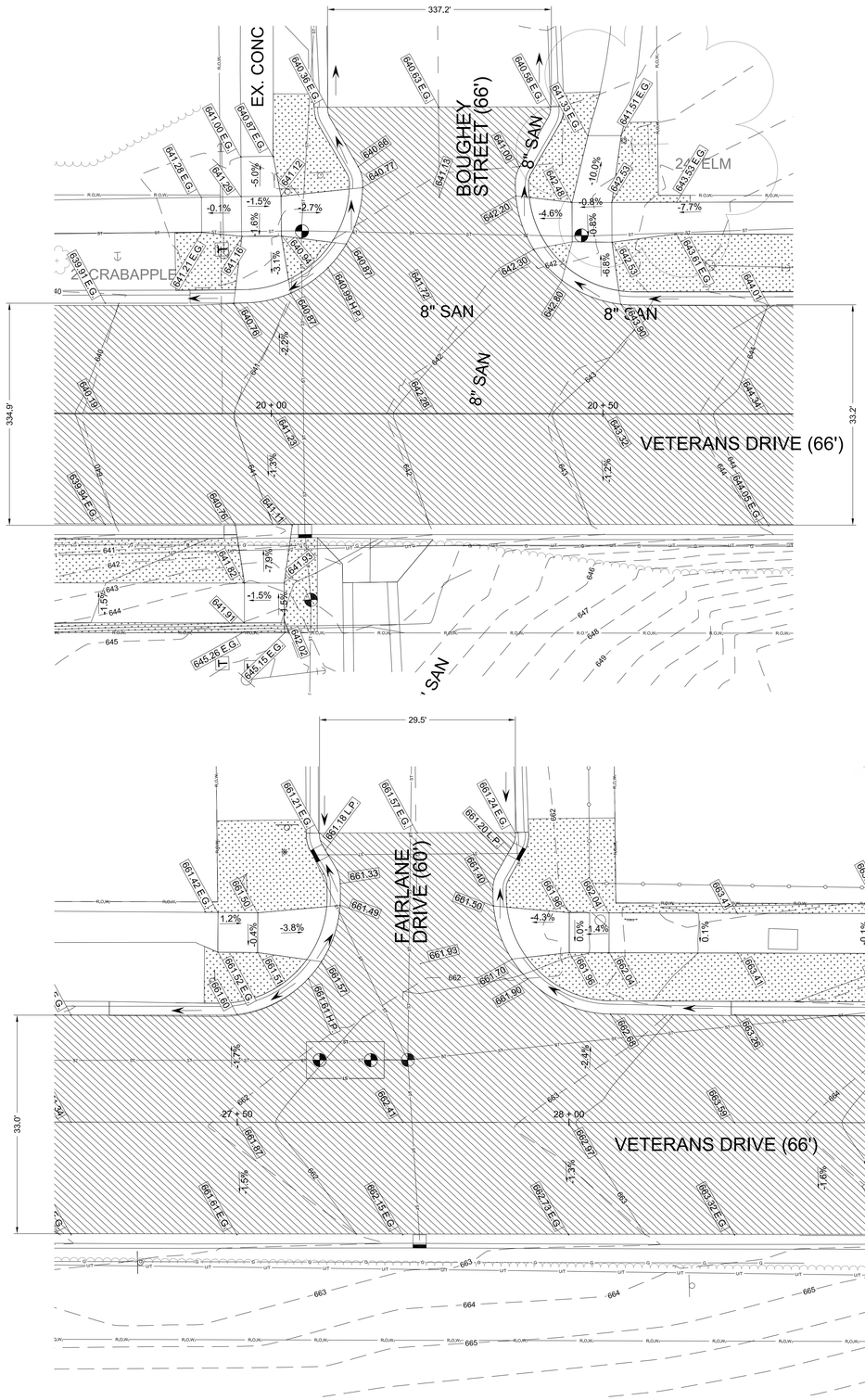
DESIGNED: ZRC

DRAWN: JAS

APPROVED: ARY

JOB NO. 214685

SHEET 23 OF 30 SHEETS



NOTE: ALL PROPOSED ELEVATIONS ARE EDGE OF METAL LOCATION ON THIS SHEET UNLESS OTHERWISE CALLED OUT.

N

SCALE:

0 10' 20'

NO.	REVISION DESCRIPTION:	BY:	DATE:
1	G.I. SUBMITTAL	ARY	11-6-23

CITY OF TRAVERSE CITY
ENGINEERING DEPARTMENT
400 BOARDMAN AVE.
TRAVERSE CITY, MI. 49684

DRAWING TITLE:

VETERANS DRIVE INTERSECTION GRADING
(4+00 TO STA. P.O.E.)

SCALES:
VERTICAL: N / A
HORIZONTAL: 1"=20'

DATE: FEBRUARY 2024

DESIGNED: ZRC

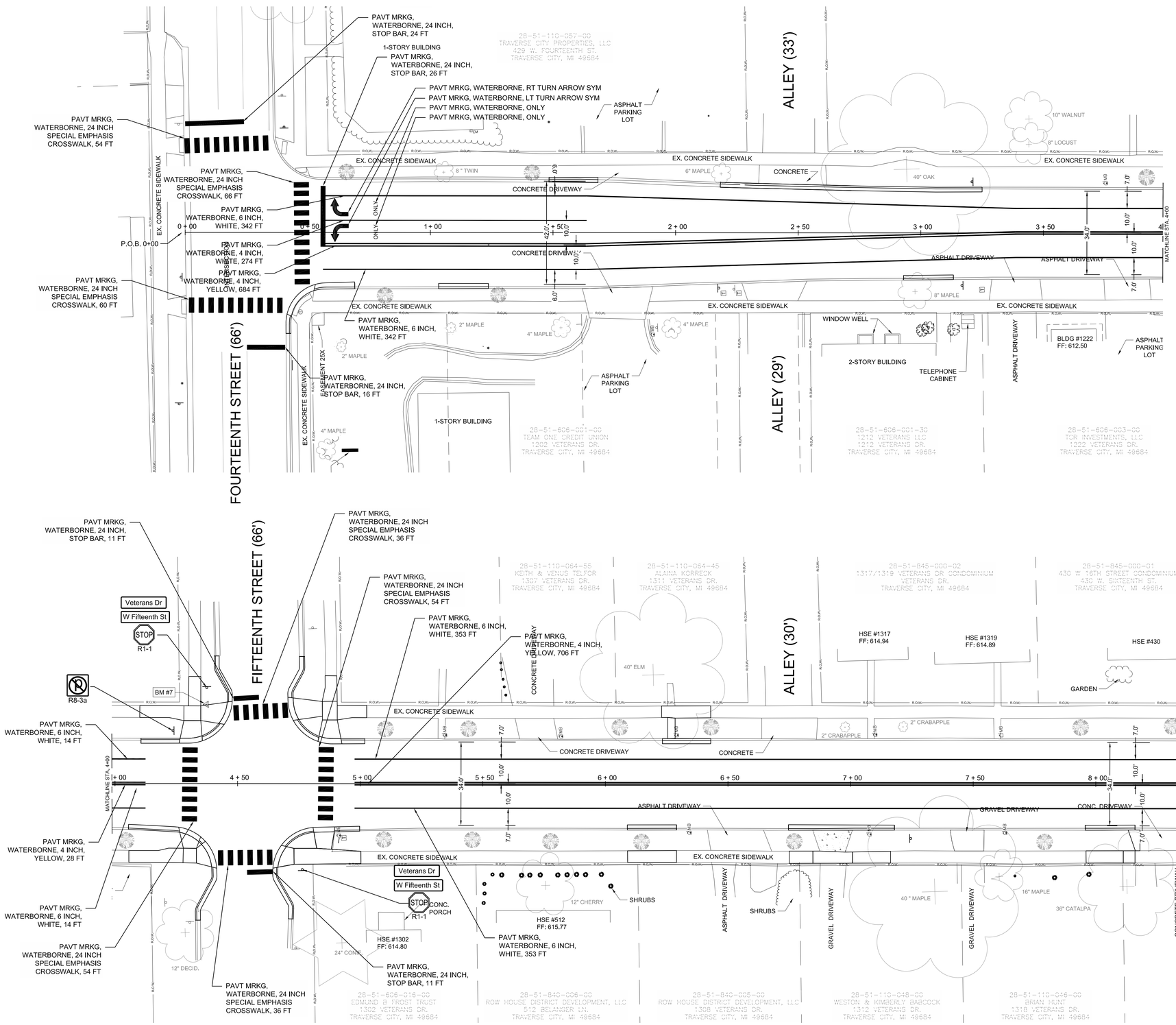
DRAWN: JAS

APPROVED: ARY

JOB NO. 214685

SHEET 24 OF 30 SHEETS

VETERANS DR. (66' R.O.W.)



ESTIMATED SIGN, TYPE III A QUANTITIES THIS SHEET

SYMBOL	LABEL	DIMENSION	AREA (SFT)	SURFACE FACES	QUANTITY	SUBTOTAL
STOP	R1-1	30"x30"	6.25	1	2	12.5
R	R8-3a	12"x12"	1.0	1	1	2
Veterans Dr	D3-1	30"x9"	1.875	2	2	7.5
W. Fifteenth St	D3-1	30"x9"	1.875	2	2	7.5
					TOTAL	29.5

QUANTITY DESCRIPTION THIS SHEET

ITEM DESCRIPTION	UNIT	TOTAL
POST, STEEL, 3 LB (14 FOOT)	FT	42
SIGN, TYPE III A	SFT	22
RECESSING PAVEMENT MARKINGS, LONGIT	FT	2946
PAVT MRKG, WATERBORNE, 4 INCH, WHITE	FT	272
PAVT MRKG, WATERBORNE, 6 INCH, WHITE	FT	1418
PAVT MRKG, WATERBORNE, 4 INCH, YELLOW	FT	1418
PAVT MRKG, WATERBORNE, 24 INCH, STOPBAR	FT	88
PAVT MRKG, WATERBORNE, 24 INCH, SPECIAL EMPHASIS CROSSWALK	FT	360
PAVT MRKG, WATERBORNE, LT TURN ARROW SYM	EA	1
PAVT MRKG, WATERBORNE, RT TURN ARROW SYM	EA	1
PAVT MRKG, WATERBORNE, LT TURN ARROW SYM	EA	2

NOTES:

1. ALL PERMANENT SIGNS SHALL HAVE HIGH INTENSITY SHEETING.

NO.	REVISION DESCRIPTION:	BY:	DATE:
1	G.I. SUBMITTAL	ARY	11-6-23

CITY OF TRAVERSE CITY
ENGINEERING DEPARTMENT
400 BOARDMAN AVE.
TRAVERSE CITY, MI. 49684

DRAWING TITLE:

VETERANS DRIVE STRIPING & SIGNAGE
(P.O.B. TO STA. 8+50)

SCALES:
VERTICAL: N / A
HORIZONTAL: 1"=20'

DATE: FEBRUARY 2024

DESIGNED: ZRC

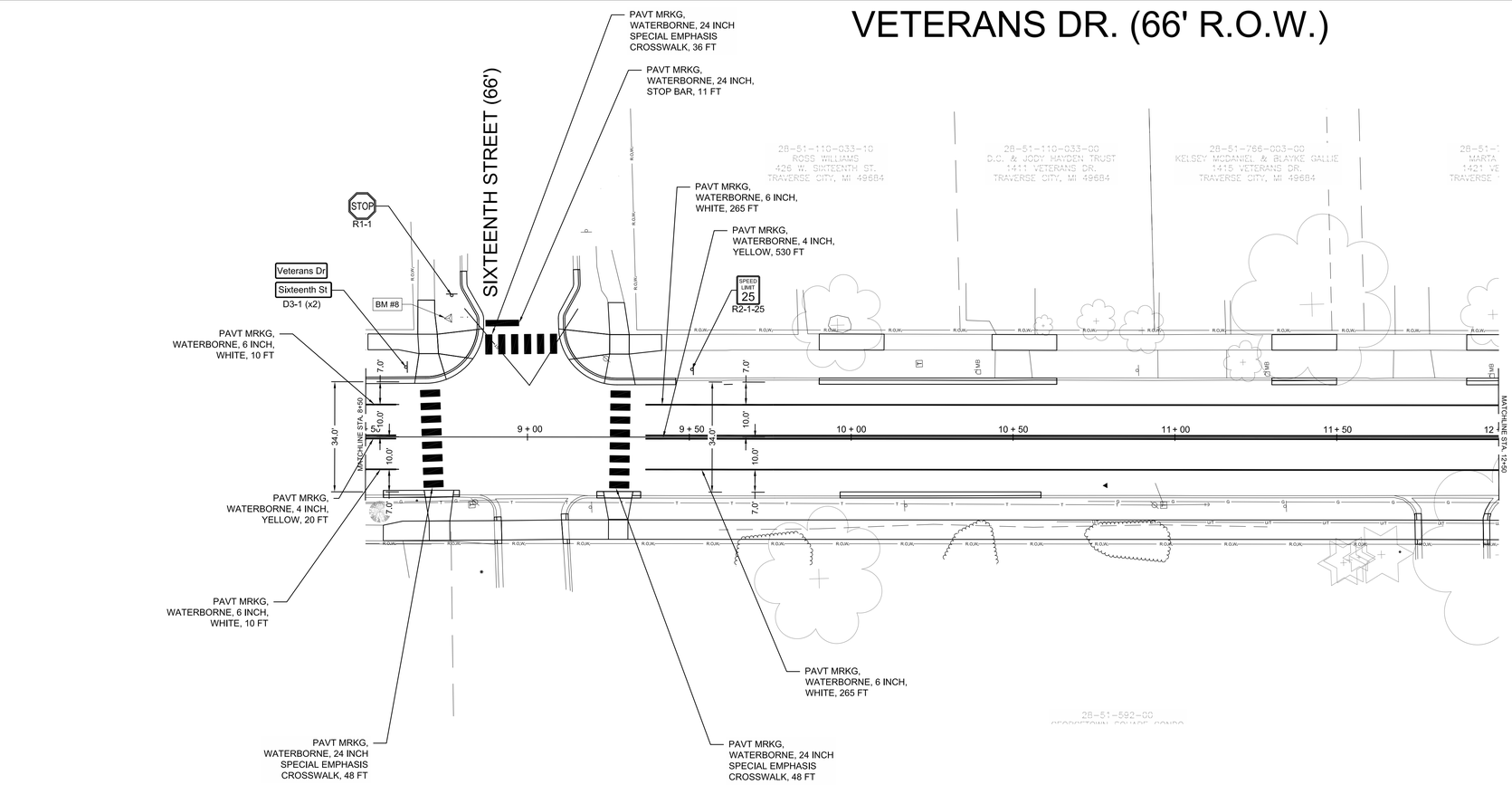
DRAWN: JAS

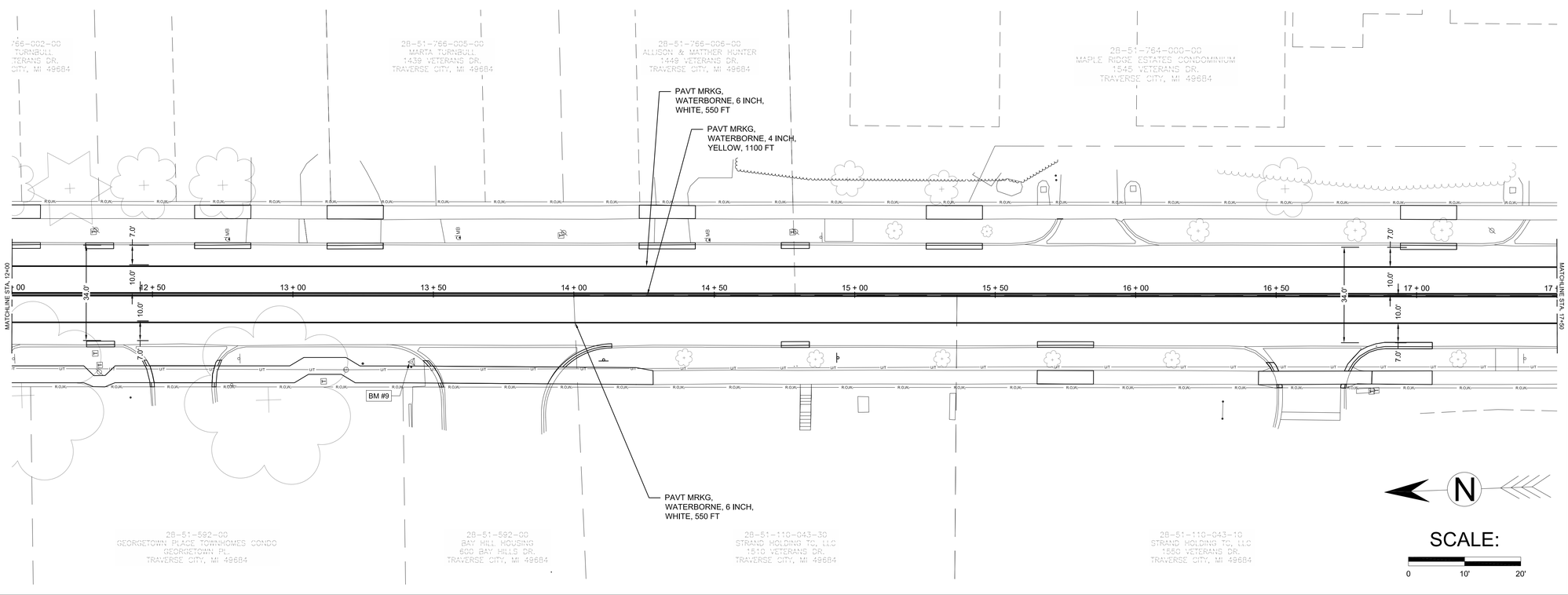
APPROVED: ARY

JOB NO. 214685

SHEET 25 OF 30 SHEETS

VETERANS DR. (66' R.O.W.)





ESTIMATED SIGN, TYPE III A QUANTITIES THIS SHEET

SYMBOL	LABEL	DIMENSION	AREA (SFT)	SURFACE FACES	QUANTITY	SUBTOTAL
STOP	R1-1	30"x30"	6.25	1	1	6.25
Veterans Dr	D3-1	30"x9"	1.875	2	1	3.75
Sixteenth St	D3-1	30"x9"	1.875	2	1	3.75
SPEED LIMIT 25	R2-1-25	18"x24"	3.0	1	1	3
					TOTAL	16.75

QUANTITY DESCRIPTION THIS SHEET

ITEM DESCRIPTION	UNIT	TOTAL
POST, STEEL, 3 LB (14 FOOT)	FT	28
SIGN, TYPE III A	SFT	17
RECESSING PAVEMENT MARKINGS, LONGIT	FT	3300
PAVT MRKG, WATERBORNE, 6 INCH, WHITE	FT	1650
PAVT MRKG, WATERBORNE, 4 INCH, YELLOW	FT	1650
PAVT MRKG, WATERBORNE, 24 INCH, STOPBAR	FT	11
PAVT MRKG, WATERBORNE, 24 INCH, SPECIAL EMPHASIS CROSSWALK	FT	132

NOTES:

1. ALL PERMANENT SIGNS SHALL HAVE HIGH INTENSITY SHEETING.

NO.	REVISION DESCRIPTION:	BY:	DATE:
1	G.I. SUBMITTAL	ARY	11-6-23

CITY OF TRAVERSE CITY
ENGINEERING DEPARTMENT
400 BOARDMAN AVE.
TRAVERSE CITY, MI. 49684

DRAWING TITLE:

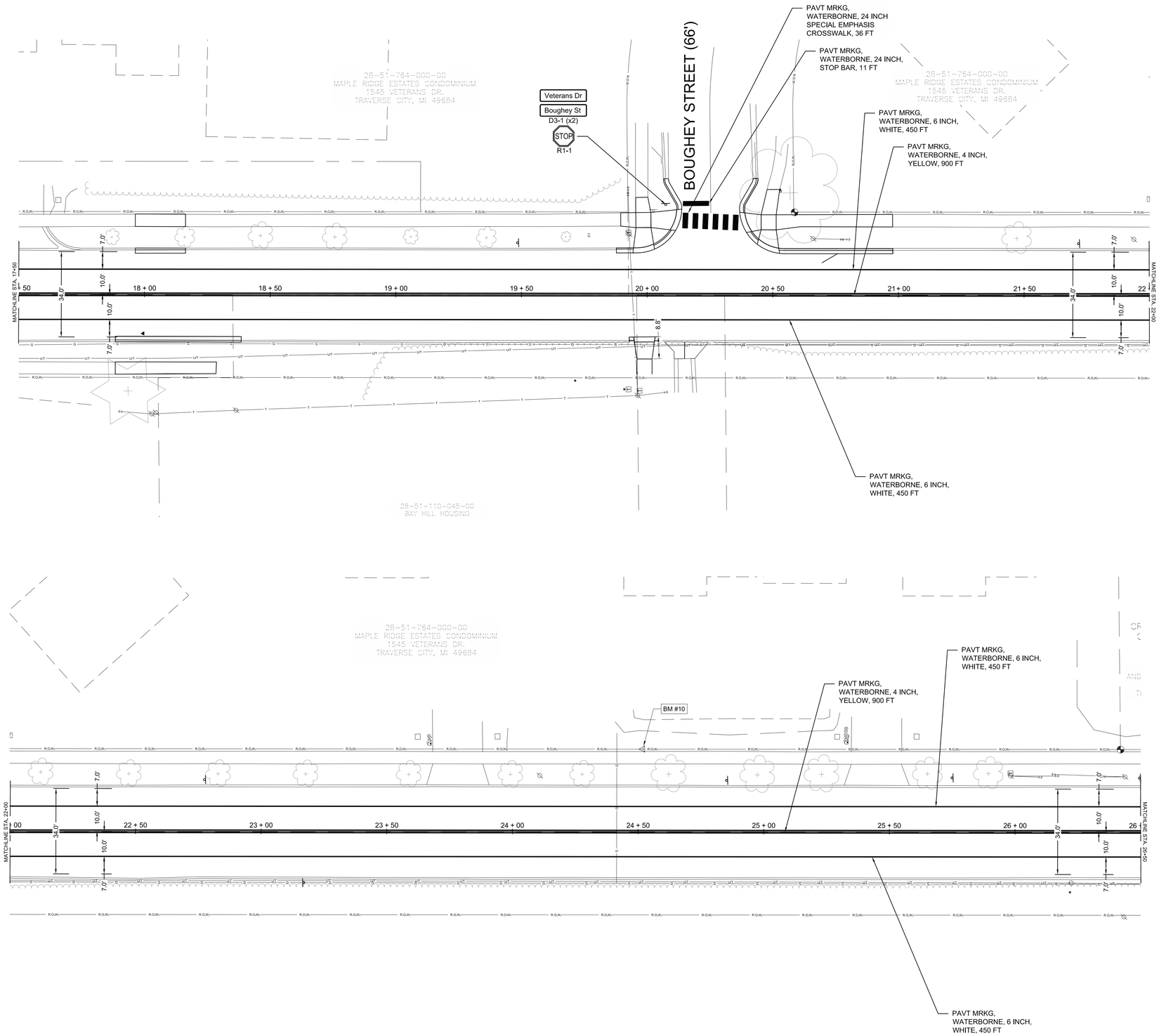
VETERANS DRIVE STRIPING & SIGNAGE
(8+50 TO STA. 17+50)

SCALES:
VERTICAL: N / A
HORIZONTAL: 1"=20'

DATE: FEBRUARY 2024
DESIGNED: ARY
DRAWN: JAS
APPROVED: ZRC
JOB NO. 214685

SHEET 26 OF 30 SHEETS

VETERANS DR. (66' R.O.W.)



ESTIMATED SIGN, TYPE III A QUANTITIES THIS SHEET

SYMBOL	LABEL	DIMENSION	AREA (SFT)	SURFACE FACES	QUANTITY	SUBTOTAL
STOP	R1-1	30"x30"	6.25	1	1	6.25
Veterans Dr	D3-1	30"x9"	1.875	2	1	3.75
Boughey St	D3-1	30"x9"	1.875	2	1	3.75
					TOTAL	13.75

QUANTITY DESCRIPTION THIS SHEET

ITEM DESCRIPTION	UNIT	TOTAL
POST, STEEL, 3 LB (14 FOOT)	FT	14
SIGN, TYPE III A	SFT	14
RECESSING PAVEMENT MARKINGS, LONGIT	FT	3600
PAVT MRKG, WATERBORNE, 6 INCH, WHITE	FT	1800
PAVT MRKG, WATERBORNE, 4 INCH, YELLOW	FT	1800
PAVT MRKG, WATERBORNE, 24 INCH, STOPBAR	FT	11
PAVT MRKG, WATERBORNE, 24 INCH, SPECIAL EMPHASIS CROSSWALK	FT	36

NOTES:

1. ALL PERMANENT SIGNS SHALL HAVE HIGH INTENSITY SHEETING.

N

SCALE:

0 10' 20'

NO.	REVISION DESCRIPTION:	BY:	DATE:
1	G.I. SUBMITTAL	ARY	11-6-23

CITY OF TRAVERSE CITY
ENGINEERING DEPARTMENT
400 BOARDMAN AVE.
TRAVERSE CITY, MI. 49684

DRAWING TITLE:

VETERANS DRIVE STRIPING & SIGNAGE
(17+50 TO STA. 26+50)

SCALES:
VERTICAL: N / A
HORIZONTAL: 1"=20'

DATE: FEBRUARY 2024

DESIGNED: ARY

DRAWN: JAS

APPROVED: ZRC

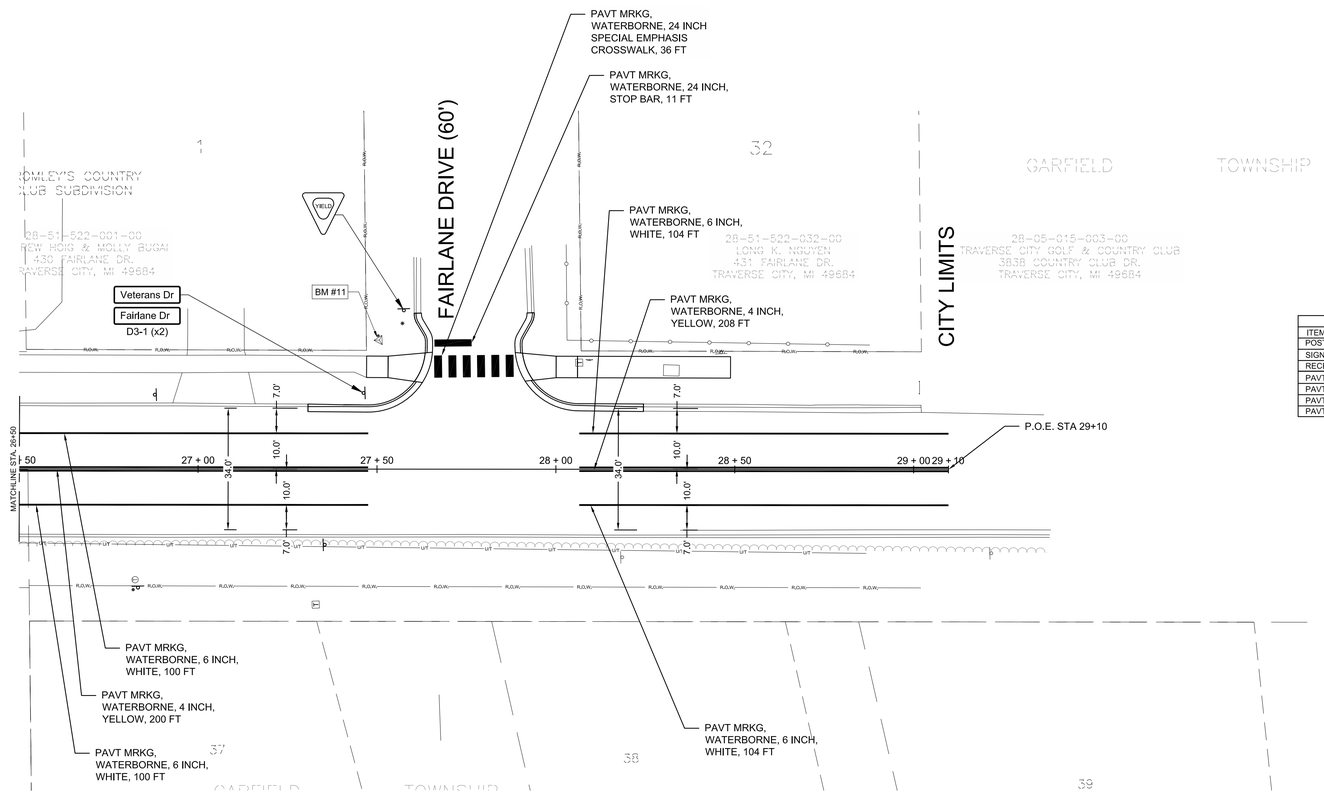
JOB NO. 214685

SHEET 27 OF 30 SHEETS

VETERANS DR. (66' R.O.W.)

ESTIMATED SIGN, TYPE III A QUANTITIES THIS SHEET

SYMBOL	LABEL	DIMENSION	AREA (SFT)	SURFACE FACES	QUANTITY	SUBTOTAL
Veterans Dr	D3-1	30"x9"	1.875	2	1	3.75
Fairlane Dr	D3-1	30"x9"	1.875	2	1	3.75
YIELD	R1-1	30" TRIANGLE	7.5	1	1	7.5
					TOTAL	15



QUANTITY DESCRIPTION THIS SHEET

ITEM DESCRIPTION	UNIT	TOTAL
POST, STEEL, 3 LB (14 FOOT)	FT	28
SIGN, TYPE III A	SFT	15
RECESSING PAVEMENT MARKINGS, LONGIT	FT	816
PAVT MRKG, WATERBORNE, 6 INCH, WHITE	FT	408
PAVT MRKG, WATERBORNE, 4 INCH, YELLOW	FT	408
PAVT MRKG, WATERBORNE, 24 INCH, STOPBAR	FT	11
PAVT MRKG, WATERBORNE, 24 INCH, SPECIAL EMPHASIS CROSSWALK	FT	36

NOTES:

1. ALL PERMANENT SIGNS SHALL HAVE HIGH INTENSITY SHEETING.

NO.	REVISION DESCRIPTION:	BY:	DATE:
1	G.I. SUBMITTAL	ARY	11-6-23

CITY OF TRAVERSE CITY
ENGINEERING DEPARTMENT
400 BOARDMAN AVE.
TRAVERSE CITY, MI. 49684

DRAWING TITLE:

VETERANS DRIVE STRIPING & SIGNAGE
(26+50 TO STA. P.O.E.)

N

SCALE:
0 10' 20'

SCALES:
VERTICAL: N / A
HORIZONTAL: 1"=20'

DATE: FEBRUARY 2024

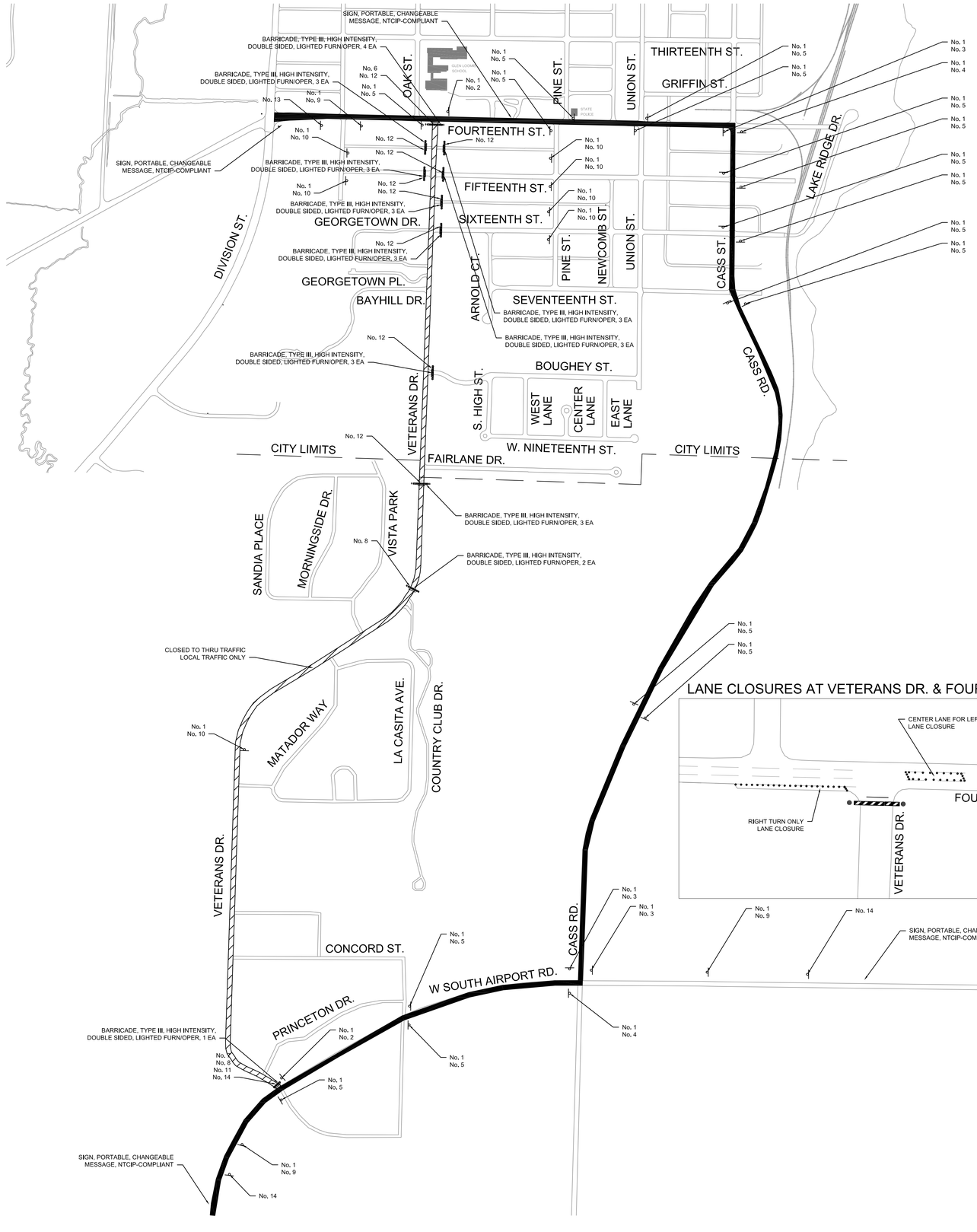
DESIGNED: ARY

DRAWN: JAS

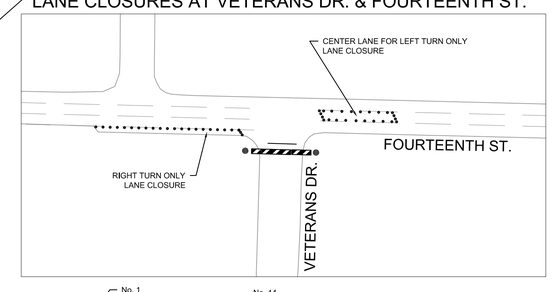
APPROVED: ZRC

JOB NO. 214685

SHEET 28 OF 30 SHEETS



LANE CLOSURES AT VETERANS DR. & FOURTEENTH ST.



SIGN, TYPE B, TEMP. VEHICULAR DETOUR PLAN QUANTITIES

No.	SYMBOL	LABEL	DIMENSION (ft)	AREA (sft)	QTY	SFT
1	VETERANS DR	D3-1	2.5x0.5	1.25	34	42.5
2	DETOUR ENDS	M4-8a	2x1.5	3	2	6
3	DETOUR	M4-9R	2.5x2	5	2	10
4	DETOUR	M4-9L	2.5x2	5	2	10
5	DETOUR	M4-9S	2.5x2	5	16	80
6	DETOUR	M4-10L	4X1.5	6	1	6
7	DETOUR	M4-10R	4X1.5	6	1	6
8	ROAD CLOSED TO THRU TRAFFIC	R11-4	5x2.5	12.5	2	25
9	DETOUR AHEAD	W20-2	4x4	16	3	48
10	ROAD CLOSED AHEAD	W20-3	4x4	16	9	144
11	ROAD OPEN TO BUSINESSES	SPECIAL 1	5x2.5	12.5	1	12.5
12	ROAD CLOSED	R11-2	4 X 2.5	10	10	10
					TOTAL: 400	

SIGN, TYPE B, TEMP, SPEC VEHICULAR DETOUR PLAN QUANTITIES

No.	SYMBOL	LABEL	DIMENSION (ft)	AREA (sft)	QTY	SFT
13	VETERANS DR CLOSED AT 14TH ST SEEK ALTERNATE ROUTE	SPECIAL 2	4 X 2.5	10	1	10
14	VETERANS DR CLOSED AT CITY LIMITS SEEK ALTERNATE ROUTE	SPECIAL 3	4 X 2.5	10	3	30
					TOTAL: 40	

LEGEND

- BARRICADE, TYP III, LIGHTED
- PLASTIC DRUM, HIGH INTENSITY
- SIGN, TYPE B, TEMP INTENSITY

QUANTITY DESCRIPTION VEHICULAR DETOUR

ITEM DESCRIPTION	UNIT	QUANTITY
BARRICADE, TYPE III, HIGH INTENSITY, DOUBLE SIDED, LIGHTED FURN	EA	31
BARRICADE, TYPE III, HIGH INTENSITY, DOUBLE SIDED, LIGHTED OPER	EA	31
MINOR TRAF DEVICES	LSUM	1
CHANNELIZING DEVICE, 42 INCH, FLUORESCENT, FURN	EA	50
CHANNELIZING DEVICE, 42 INCH, FLUORESCENT, OPER	EA	50
PLASTIC DRUM, FLUORESCENT, FURN	EA	50
PLASTIC DRUM, FLUORESCENT, OPER	EA	50
SIGN, PORTABLE, CHANGEABLE MESSAGE, NTCIP-COMPLIANT, FURN	EA	4
SIGN, PORTABLE, CHANGEABLE MESSAGE, NTCIP-COMPLIANT, OPER	EA	4
SIGN, TYPE B, TEMP, PRISMATIC, FURN	SFT	400
SIGN, TYPE B, TEMP, PRISMATIC, OPER	SFT	400
SIGN, TYPE B, TEMP, PRISMATIC, SPEC, FURN	EA	40
SIGN, TYPE B, TEMP, PRISMATIC, SPEC, OPER	EA	40
TRAF REGULATOR CONTROL	LSUM	1

MAINTAINING TRAFFIC NOTES:

1. THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN ALL NECESSARY BARRICADES, SIGNS AND OTHER NECESSARY TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH THE 2011 MMUTCD AND THE 2020 MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION.
2. TRAFFIC SHALL BE MAINTAINED TO ALL LOCAL RESIDENCES AND BUSINESSES AT ALL TIMES.
3. TRAFFIC CROSSING TO SIDE STREETS SHALL BE ACCOMMODATED TO THE MAXIMUM EXTENT POSSIBLE.
4. ALL WARNING SIGNS SHALL BE TYPE B, TEMPORARY. FLEXIBLE ROLL UP SIGNS WILL NOT BE ALLOWED.
5. IT IS ANTICIPATED THAT CONSTRUCTION STAGING WILL COMMENCE AS OUTLINED IN THE SPECIAL PROVISION FOR MAINTAINING TRAFFIC. CHANGES TO THE CONSTRUCTION STAGING SHALL BE APPROVED BY THE ENGINEER.
6. MAINTAIN PEDESTRIAN FACILITIES USING EXISTING SIDEWALKS, PROPOSED SIDEWALKS OR TEMPORARY WOOD SIDEWALKS AS DIRECTED BY ENGINEER.
7. ALL SIGNS SHALL BE PLACED IN LOCATIONS SUCH THAT A MINIMUM 3 FT. CLEAR PATH ON ALL SIDEWALKS IS MAINTAINED.
8. WORK HOURS FOR LANE CLOSURE SHALL BE IN ACCORDANCE WITH THE MDOT PERMIT FOR THE PROJECT. OVERNIGHT LANE CLOSURES ARE PROHIBITED.
9. SEE THE PROPOSAL FOR MDOT TYPICALS 101-GEN-SPACING-CHARTS, 102-GEN-NOTES, 122-NFW-SHL-(R), 130-CLT-1(CLT), AND STANDARD PLANS WZD-100-A AND WZD-125-E.

N

SCALE:

0 70' 140'

NO.	REVISION DESCRIPTION:	BY:	DATE:
1	G.I. SUBMITTAL	ARY	11-6-23

CITY OF TRAVERSE CITY
ENGINEERING DEPARTMENT
400 BOARDMAN AVE.
TRAVERSE CITY, MI. 49684

DRAWING TITLE:

VETERANS DRIVE PHASE 1 DETOUR PLAN
(P.O.B. TO STA. P.O.E)

SCALES:
VERTICAL: N / A
HORIZONTAL: N.T.S.

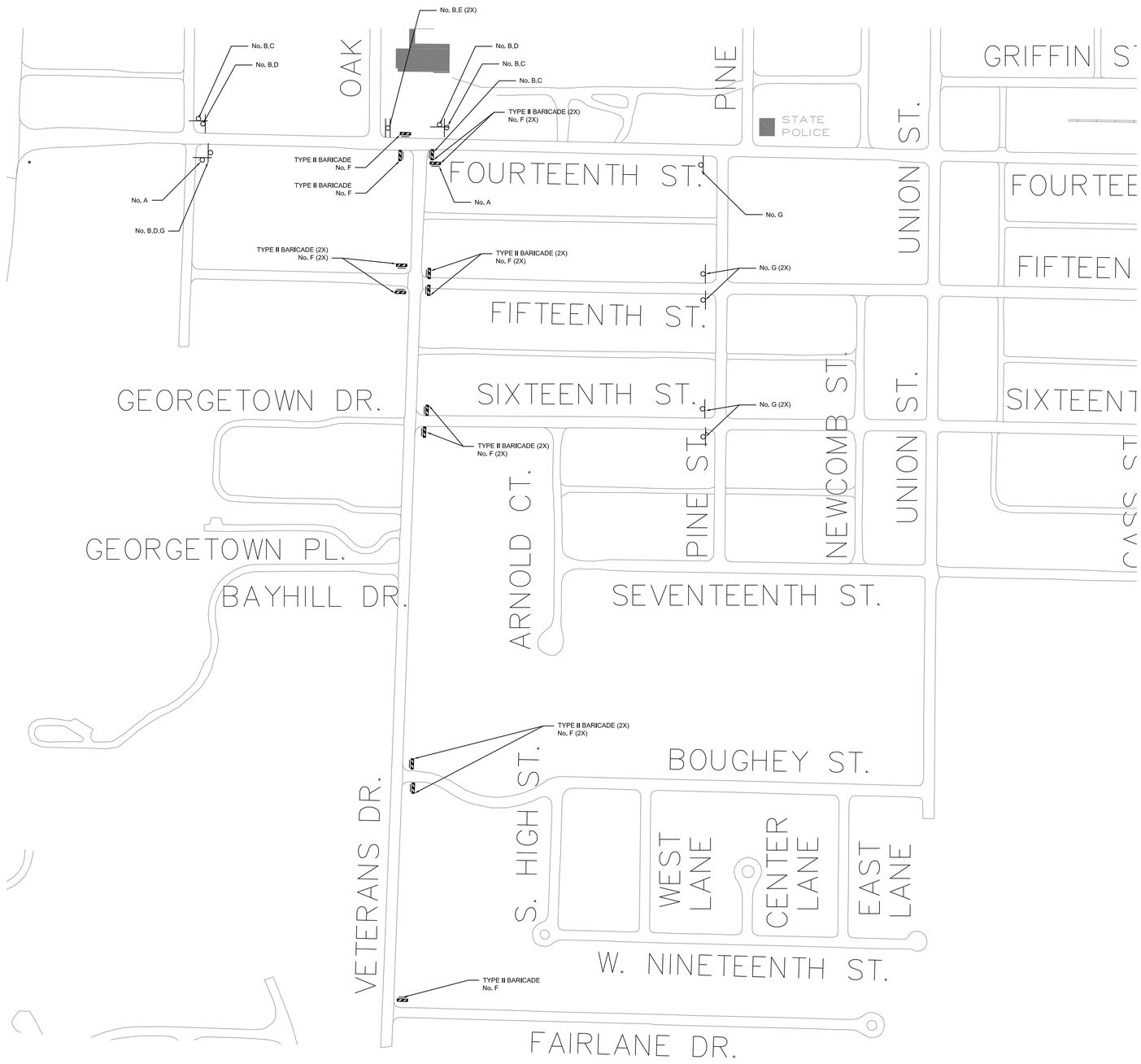
DATE: FEBRUARY 2024

DESIGNED: ZRC

DRAWN: JAS

APPROVED: ARY

JOB NO. 214685



LEGEND

- BARRICADE, TYP III, LIGHTED
- PLASTIC DRUM, HIGH INTENSITY
- SIGN, TYPE B, TEMP INTENSITY

N

SCALE:

0 30' 60'

SIGN, TYPE B, TEMP. PEDESTRIAN DETOUR PLAN QUANTITIES

No.	SYMBOL	LABEL	DIMENSION (ft)	AREA (sft)	QTY	SFT
A	DETOUR ENDS	M4-8a	2x1.5	3	2	6
B	DETOUR	M4-9b	2.5x2	5	8	40
C		M6-1R	1.75x1.25	2.1875	3	6.5625
D		M6-1L	1.75x1.25	2.1875	2	4.375
E		M6-1S	1.75x1.25	2.1875	2	4.375
F	SIDEWALK CLOSED	R9-9	2x1	2	13	24
G	SIDEWALK CLOSED AT VETERANS DR.	SPECIAL -1	1.75x1.25	2.1875	6	13.125
					TOTAL: 129	

MAINTAINING TRAFFIC NOTES:

1. THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN ALL NECESSARY BARRICADES, SIGNS AND OTHER NECESSARY TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH THE 2011 MMUTCD AND THE 2020 STANDARD SPECIFICATIONS FOR CONSTRUCTION.
2. TRAFFIC SHALL BE MAINTAINED TO ALL LOCAL RESIDENCES AND BUSINESSES AT ALL TIMES.
3. TRAFFIC CROSSING TO SIDE STREETS SHALL BE ACCOMMODATED TO THE MAXIMUM EXTENT POSSIBLE.
4. ALL WARNING SIGNS SHALL BE TYPE B, TEMPORARY. FLEXIBLE ROLL UP SIGNS WILL NOT BE ALLOWED.
5. IT IS ANTICIPATED THAT CONSTRUCTION STAGING WILL COMMENCE AS OUTLINED IN THE SPECIAL PROVISION FOR MAINTAINING TRAFFIC. CHANGES TO THE CONSTRUCTION STAGING SHALL BE APPROVED BY THE ENGINEER.
6. MAINTAIN PEDESTRIAN FACILITIES USING EXISTING SIDEWALKS, PROPOSED SIDEWALKS OR TEMPORARY WOOD SIDEWALKS AS DIRECTED BY ENGINEER.
7. ALL SIGNS SHALL BE PLACED IN LOCATIONS SUCH THAT A MINIMUM 3 FT. CLEAR PATH ON ALL SIDEWALKS IS MAINTAINED.
8. WORK HOURS FOR LANE CLOSURE SHALL BE IN ACCORDANCE WITH THE MDOT PERMIT FOR THE PROJECT. OVERNIGHT LANE CLOSURES ARE PROHIBITED.
9. SEE THE PROPOSAL FOR MDOT TYPICALS 101-GEN-SPACING-CHARTS, 102-GEN-NOTES, 122-NFW-SHL-(R), 130-CLT-1(CLT), AND STANDARD PLANS WZD-100-A AND WZD-125-E.

QUANTITY DESCRIPTION PEDESTRIAN DETOUR

ITEM DESCRIPTION	UNIT	QUANTITY
PEDESTRIAN TYPE II BARRICADE, TEMP	EA	13
SIGN, TYPE B, TEMP, PRISMATIC, SPEC, FURN	EA	50
SIGN, TYPE B, TEMP, PRISMATIC, SPEC, FURN	EA	50
SIGN, TYPE B, TEMP, PRISMATIC, FURN	EA	50
SIGN, TYPE B, TEMP, PRISMATIC, OPER	EA	50

NO.	REVISION DESCRIPTION:	BY:	DATE:
2	FINAL SUBMITTAL	ZRC	1-19-24
1	G.I. SUBMITTAL	ARY	11-6-23

CITY OF TRAVERSE CITY
ENGINEERING DEPARTMENT
400 BOARDMAN AVE.
TRAVERSE CITY, MI. 49684

DRAWING TITLE:

VETERANS DRIVE PEDESTRIAN DETOUR PLAN
(P.O.B. TO STA. P.O.E)

SCALES:
VERTICAL: N / A
HORIZONTAL: 1"=50'

DATE: FEBRUARY 2024

DESIGNED: ARY

DRAWN: JAS

APPROVED: ZRC

JOB NO. 214685

SHEET 30 OF 30 SHEETS