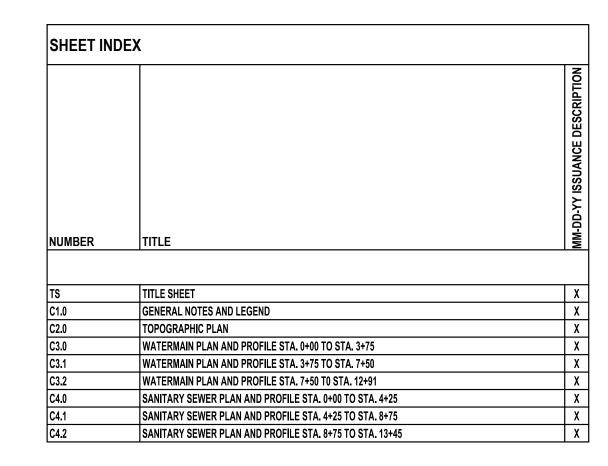
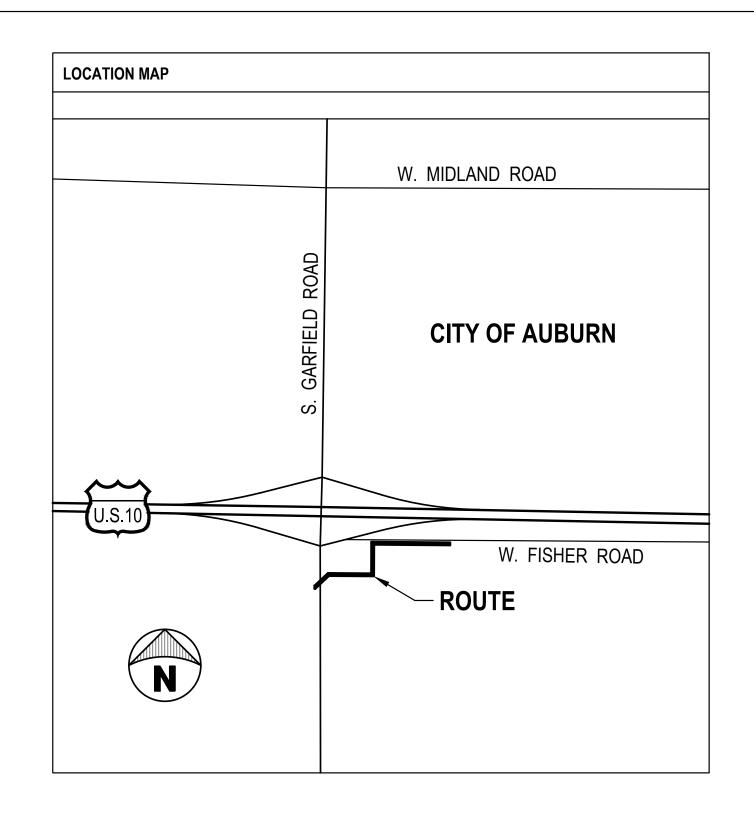
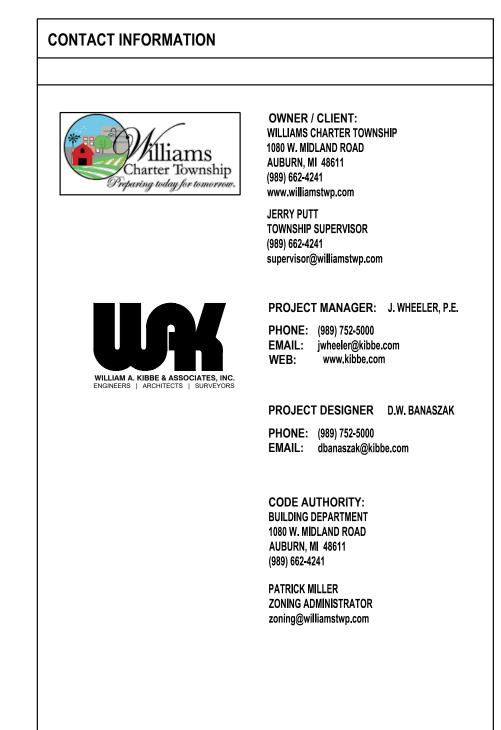
WILLIAMS CHARTER TOWNSHIP

SEWER AND WATERMAIN EXTENSION S. GARFIELD ROAD TO W. FISHER ROAD

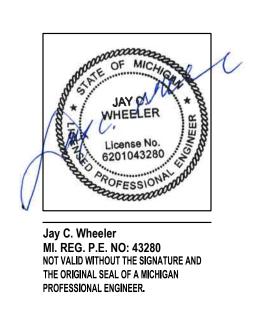
WILLIAMS CHARTER TOWNSHIP, BAY COUNTY, MI 48611













WILLIAMS CHARTER TOWNSHIP
SANITARY SEWER & WATERMAIN EXTENSION
W. FISHER ROAD

TITLE SHEET

HO. STATUS / REVISIONS
STATUS / RELEASED FOR BIDS

DESIGNED BY:
D.W.BANASZAK
DRAWN BY:
D.W.BANASZAK
PROJ #: 25-1247-0021

J. WHEELER

SHEET TS

GENERAL SITE NOTES:

- 1. THE CONTRACTOR SHALL CALL "MISS DIG", 811, A MINIMUM OF 3 WORKING DAYS BEFORE DIGGING ON THE PROJECT TO VERIFY EXISTING UNDERGROUND UTILITIES.
- 2. THE EXISTING UTILITIES SHOWN ON THESE PLANS HAVE BEEN DRAWN IN ACCORDANCE TO THE INFORMATION PROVIDED. ALL UTILITIES SHALL BE FIELD LOCATED BY THE CONTRACTOR PRIOR TO CROSSING. ANY CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
- 3. DURING THE LIFE OF THE PROJECT, THE CONTRACTOR SHALL CONFORM TO ACT No. 451, PUBLIC ACTS OF 1994, RELATIVE TO THE SOIL EROSION AND SEDIMENTATION CONTROL ACT.
- 4. CLEANUP SHALL INCLUDE DEBRIS REMOVAL, ROUGH GRADING, MINIMUM 4" TOPSOIL PLACEMENT, SEEDING, AND FERTILIZING OVER ALL AREAS DISTURBED BY THE CONTRACTOR'S OPERATIONS.
- 5. CONTRACTOR TO SUPPLY ALL MATERIALS AND EQUIPMENT NECESSARY TO COMPLETE THE WORK.
- 6. THE CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR PROTECTION OF ALL EXISTING UTILITIES DURING CONSTRUCTION. ALL COSTS FOR LOCATING, REMOVING, REPLACING OR RELOCATING THESE UTILITIES SHALL BE INCIDENTAL TO CONSTRUCTION. ALL UTILITIES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED WITH LIKE MATERIAL AT NO ADDITIONAL COST TO THE OWNER.
- 7. CONTRACTOR SHALL NOTIFY PROPER GOVERNMENTAL INSPECTION AGENCY AT LEAST 48 HOURS PRIOR TO STARTING CONSTRUCTION.
- 8. THE CONTRACTOR SHALL BE REQUIRED TO COMPLETE ALL WORK IN AN EXPEDITIOUS MANNER AND SHALL NOT STOP CONSTRUCTION FOR EXTENDED PERIODS ONCE CONSTRUCTION HAS BEGUN.
- 9. THE CONTRACTOR SHALL MAINTAIN IN SERVICE, ALL EXISTING SANITARY SEWER, WATER OR STORM SEWER SERVICE CONNECTIONS WHENEVER POSSIBLE. COORDINATE WITH LOCAL UTILITY COMPANY AND OWNER BEFORE ANY UTILITIES TO BE OUT OF SERVICE FOR A PERIOD OF TIME.
- 10. CONSTRUCTION OPERATIONS SHALL BE SCHEDULED AND PERFORMED SO THAT PREVENTATIVE EROSION CONTROL MEASURES ARE IN PLACE PRIOR TO EXCAVATION AND TEMPORARY STABILIZATION MEASURES ARE IN PLACE IMMEDIATELY FOLLOWING BACKFILLING AND/OR GRADING OPERATIONS.

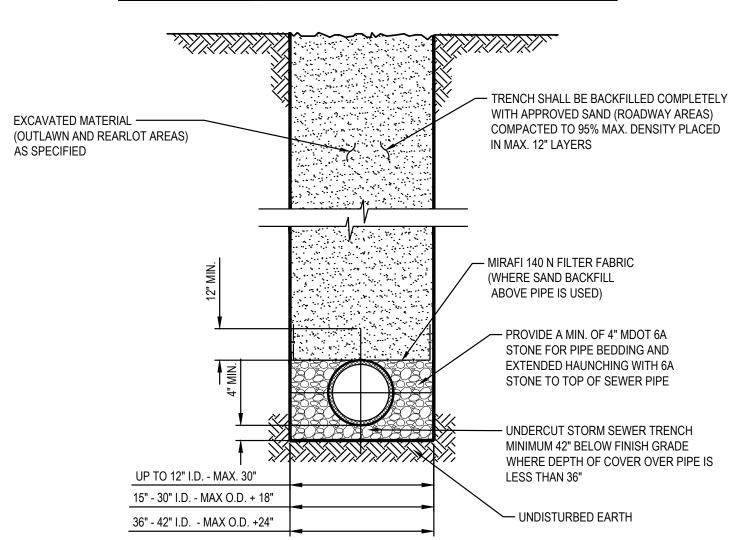
GENERAL GRADING NOTES:

- 1. THE CONTRACTOR SHALL CALL "MISS DIG", 811, A MINIMUM OF 3 WORKING DAYS BEFORE DIGGING ON THE PROJECT TO VERIFY EXISTING UNDERGROUND UTILITIES.
- 2. THE EXISTING UTILITIES SHOWN ON THESE PLANS HAVE BEEN DRAWN IN ACCORDANCE TO THE INFORMATION PROVIDED. ALL UTILITIES SHALL BE FIELD LOCATED BY THE CONTRACTOR PRIOR TO CROSSING. ANY CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE
- 3. DURING THE LIFE OF THE PROJECT, THE CONTRACTOR SHALL CONFORM TO ACT No. 451, PUBLIC ACTS OF 1994, RELATIVE TO THE SOIL EROSION AND SEDIMENTATION CONTROL ACT.
- 4. MATCH EXISTING BIT. PAVEMENT ALONG NEW WALKS AND PROPOSED NEW BIT. PAVEMENT AREAS WHERE APPLICABLE.
- 5. ALL UTILITY WORK SHALL CONFORM TO THE LATEST LOCAL MUNICIPALITY'S STANDARD SPECIFICATIONS AND DETAILS.
- 6. ALL WATER SERVICES SHALL BE TYPE "K" COPPER.
- SAND FILL UNDER FLOOR SLABS SHALL BE MDOT CL.II GRANULAR BACKFILL. SAND SHALL BE SPREAD IN UNIFORM LAYERS NOT TO EXCEED 6" THICK BEFORE COMPACTION. EACH LAYER SHALL BE THOROUGHLY COMPACTED WITH A VIBRATING COMPACTOR AFTER EACH LAYER IS PLACED. FILL SAND SHALL NOT HAVE A MOISTURE CONTENT GREATER THAN 15%. COMPACTION SHALL MEET 95% OF MAXIMUM UNIT WEIGHT AS DETERMINED BY THE MODIFIED PROCTOR TEST.
- 8. THE CONTRACTOR SHALL COMPLY WITH ALL STATE AND LOCAL REGULATIONS FOR WORK AT THE SITE. THIS SHALL INCLUDE MIOSHA
- 9. THE CONTRACTOR/DEVELOPER SHALL PAY FOR AND OBTAIN ALL BUILDING PERMITS, LOCAL PERMITS AND PAY ALL CHARGES FOR ANY INSPECTION AND TESTING.
- 10. THE CONTRACTOR SHALL CONTROL NOISE, CARRY OUT A PROGRAM OF DUST CONTROL AND SHALL ALLOW NO ON-SITE BURNING.
- 11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING UP THE PREMISES AND UPON COMPLETION OF THE PROJECT LEAVE THE SITE IN AN ACCEPTABLE CONDITION AS DETERMINED BY THE ENGINEER OR THE OWNER.

GENERAL UTILITY NOTES:

- 1. THE CONTRACTOR SHALL CALL "MISS DIG" (811) 3 WORKING DAYS BEFORE DIGGING ON THE PROJECT TO VERIFY EXISTING UNDERGROUND UTILITIES.
- 2. CONTRACTOR TO INSTALL WATER SERVICE TO ROW LINE OF PROPERTY PER DETAIL.
- 3. THE EXISTING UTILITIES SHOWN ON THESE PLANS HAVE BEEN DRAWN IN ACCORDANCE TO THE INFORMATION PROVIDED. ALL UTILITIES SHALL BE FIELD LOCATED BY THE CONTRACTOR PRIOR TO CROSSING. ANY CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
- 4. DURING THE LIFE OF THE PROJECT, THE CONTRACTOR SHALL CONFORM TO ACT No. 451. PUBLIC ACTS OF 1994, RELATIVE TO THE SOIL EROSION AND SEDIMENTATION CONTROL ACT.
- 5. ALL UTILITY WORK SHALL CONFORM TO WILLIAMS TOWNSHIP AND BAY COUNTY DEPARTMENT OF WATER & SEWER AND BAY COUNTY ROAD COMMISSION LATEST STANDARD SPECIFICATIONS AND DETAILS WHERE APPLICABLE.
- 6. THE SITE EXCAVATION CONTRACTOR SHALL VERIFY THE EXISTING WATER MAIN CONNECTION DEPTH PRIOR TO ANY EXCAVATION.
- 7. ALL DISTURBED AREAS AND PROPERTY TO BE RETURNED TO EXISTING OR BETTER CONDITION UPON PROJECT COMPLETION.
- 8. BACKFILL ALL TRENCHES UNDER SLABS, WALKS AND PAVED AREAS WITH COMPACTED SAND BACKFILL MDOT CL.II. COMPACTION SHALL BE 95% MAXIMUM UNIT WEIGHT PER MDOT
- 9. THE CONTRACTOR SHALL COMPLY WITH ALL STATE AND LOCAL REGULATIONS FOR WORK AT THE SITE. THIS SHALL INCLUDE MIOSHA REGULATIONS.
- 10. THE CONTRACTOR SHALL CONTROL NOISE, CARRY OUT A PROGRAM OF DUST CONTROL AND SHALL ALLOW NO ON-SITE BURNING.
- 11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING UP THE PREMISES AND UPON COMPLETION OF THE PROJECT LEAVE THE SITE IN AN ACCEPTABLE CONDITION AS DETERMINED BY THE ENGINEER OR THE OWNER.
- 12. ALL WATER MAIN AND WATER SERVICE CONSTRUCTION SHALL BE IN ACCORDANCE WITH WILLIAMS TOWNSHIP, BAY COUNTY DEPARTMENT OF WATER AND SEWER, AND BAY COUNTY ROAD COMMISSION SPECIFICATIONS FOR WATER MAIN INSTALLATION AND AS APPROVED BY THE MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES AND ENERGY (EGLE), IF APPLICABLE. CONTRACTOR TO OBTAIN ALL NECESSARY PERMITS AND FEES PRIOR TO ANY CONSTRUCTION.
- 13. MAINTAIN A MINIMUM OF 10' OF HORIZONTAL SEPARATION BETWEEN WATER MAIN AND ANY SANITARY SEWER MAINLINE, WHERE APPLICABLE.
- 14. WATER MAIN PIPE MUST BE C900 PVC IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, IF APPLICABLE. MAINTAIN A MINIMUM OF 5.5' FEET OF COVER OVER ALL WATER MAIN PIPE. MAINTAIN A 18" SEPARATION FOR ANY UTILITY CROSSINGS. INSTALL BENDS AS REQUIRED.
- 15. WATER SERVICES 2" AND SMALLER SHALL BE TYPE K COPPER. 4" AND LARGER SHALL BE C900 DR18 PVC. MAINTAIN A MINIMUM OF 5.5' FEET OF COVER OVER ALL WATER SERVICE
- 16. PRESSURE TESTING AND CHLORINATION SHALL BE IN ACCORDANCE WITH BAY COUNTY DWS AND AWWA STANDARDS.

PIPE SIZE	TRENCH WIDTH						
THE OILL	MINIMUM	MAXIMUM					
8" & 10"	24"	30"					
12" & 15"	30"	36"					
18"	34"	40"					
21"	38"	42"					
24"	42"	46"					
27"	45"	49"					
30"	49"	53"					
36"	56"	60"					
LARGER THAN 36" O.D.	I.D. + 20"	I.D. + 24"					



DWPE, HDPE, PVC, & A/D 2000, SEWER PIPE TRENCH DETAIL NOT TO SCALE

UTILITY CONTACTS

TELEPHONE SERVICES ENGINEERING DEPT. ROOM 525 309 S. WASHINGTON AVENUE SAGINAW, MICHIGAN 48607

CONSUMERS ENERGY 2400 WEISS STREET SAGINAW, MICHIGAN 48602 (517) 791-5903

BAY COUNTY DEPARTMENT OF WATER AND SEWER 3933 PATTERSON RD BAY CITY, MI 48706 TEL. (989) 684-3883

WILLIAMS TOWNSHIP 1080 W. MIDLAND RD **AUBURN**, MI 78611 TEL. (989) 662-4631

BAY COUNTY ROAD COMMISSION 2600 E. BEAVER RD KAWKAWLIN, MI 48631 TEL. (989) 686-4610

UTILITY NOTE

THE UTILITY LOCATIONS AS HEREIN SHOWN ARE BASED ON FIELD OBSERVATIONS AND A CAREFUL REVIEW OF MUNICIPAL AND UTILITY RECORDS. HOWEVER, IT IS NOT POSSIBLE TO DETERMINE THE PRECISE SIZE, LOCATION, DEPTH, PRESSURE, OR ANY OTHER CHARACTERISTICS OF UNDERGROUND UTILITIES, TANKS OR SEPTIC FIELDS WITHOUT EXCAVATION. THEREFORE, WE CANNOT GUARANTEE THE ACCURACY OF COMPLETENESS OF THE BURIED UTILITY INFORMATION HEREIN SHOWN. THE CONTRACTOR SHALL CALL "MISS DIG" AT (811) A MINIMUM OF THREE WORKING DAYS PRIOR TO ANY EXCAVATION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THESE LOCATIONS PRIOR TO CONSTRUCTION AND MAKE EVERY EFFORT TO PROTECT AND/OR RELOCATE THEM AS REQUIRED. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF DESIGN AS SOON AS POSSIBLE IN THE EVENT A DISCREPANCY IS FOUND.

BENCH MARKS

- B.M.#1 NORTHEAST FLANGE BOLT ON HYDRANT ON NINE MILE ROAD 180' NORTH OF W. WILDER ROAD
- B.M.#2 SPIKE IN POWER POLE 49' EAST OF NINE MILE ROAD AND 33' SOUTH OF W. WILDER ROAD

EL. 609.89 B.M.#3 ARROW ON HYDRANT IN FRONT OF 312 W. WILDER

EL. 607.98

ALL ELEVATIONS ARE NAVD.88

SOIL EROSION AND SEDIMENTATION CONTROL NOTES:

- 1.) CONSTRUCTION OPERATIONS SHALL BE SCHEDULED AND PERFORMED SO THAT PREVENTATIVE EROSION CONTROL MEASURES ARE IN PLACE PRIOR TO EXCAVATION AND TEMPORARY STABILIZATION MEASURES ARE IN PLACE IMMEDIATELY FOLLOWING BACKFILLING AND/OR GRADING
- 2.) SPECIAL PRECAUTIONS WILL BE TAKEN IN THE USE OF CONSTRUCTION EQUIPMENT TO PREVENT SITUATIONS THAT PROMOTE EROSION.
- 3.) CLEANUP WILL BE DONE IN A MANNER TO INSURE THAT EROSION CONTROL MEASURES ARE NOT
- 4.) THE PROJECT WILL CONTINUALLY BE INSPECTED FOR SOIL EROSION AND SEDIMENT CONTROL COMPLIANCE. DEFICIENCIES WILL BE CORRECTED BY THE CONTRACTOR WITHIN 24 HOURS.
- 5.) TEMPORARY EROSION CONTROL MEASURES SHALL BE COMPLETELY REMOVED BY THE CONTRACTOR UPON ESTABLISHMENT OF PERMANENT CONTROL MEASURES.

-	HYDRO SEEDING	EFFECTIVE ON LARGE AREAS. MULCH TACKING AGENT USED TO PROVIDE IMMEDIATE PROTECTION UNTIL GRASS IS ROOTED. SHOULD INCLUDE PREPARED TOPSOIL BED.
	CATCH BASIN, DRAIN INLET	COLLECTS HIGH VELOCITY CONCENTRATED RUNOFF. USE "SILT SAK" FOR EASY MAINTENANCE.
38	STRAW WATTLE FILTER	USED TO INTERCEPT WATER RUNNING DOWN STREAM/SLOPE. CAN BE LOCATED AS NECESSARY TO COLLECT SEDIMENT. INEXPENSIVE AND EASY TO CONSTRUCT.
49	CHECK DAMS	REDUCES FLOW VELOCITY. CATCHES SEDIMENT. CAN BE CONSTRUCTED OF LOGS, STRAW, HAY, ROCKS, LUMBER, MASONRY, OR SANDBAGS.
54	SILT FENCE	FILTERS AND DETAINS RUNOFF.

PERMANENT MEASURE PERMANENT TEMPORARY MEASURE TOTAL DISTURBED AREA = 0.85 ACRES DENOTED THUS ON PLANS:

SOIL EROSION AND SEDIMENTATION CONTROL MAINTENANCE SCHEDULE									
TASK	FREQUENCY	TRACKING MAT	SILT FENCE	INLET FILTERS	STORM SEWER	CB SUMPS	VEGETATION		
INSPECT FOR SEDIMENT ACCUMULATION	WEEKLY	Х	Х	Х	Х	Х			
REMOVE ACCUMULATED SEDIMENT	AS NEEDED		Х	Х	Х	Х			
INSPECT FOR FLOATABLES AND DEBRIS	WEEKLY				Х	Х			
REMOVE FLOATABLES AND DEBRIS	AS NEEDED				Х	Х			
INSPECT FOR PERMIT CONFORMANCE	AFTER RAIN	Х	Х	Х					
RESTORE TO PERMIT CONFORMANCE	AS NEEDED	Х	Х	Х					
INSPECT FOR SOIL EROSION	AFTER RAIN						Х		
RESTORE TO PREVENT EROSION	AS NEEDED						Х		
SCRAPE STREET	DAILY								
SWEEP STREET	WEEKLY	1							

SOIL EROSION AND SEDIMENTATION CONTROL OPERATION TIME SCHEDULE													
CONSTRUCTION SEQUENCE	2025	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
TEMPORARY EROSION CONTROL MEASURES													
INSTALL SANITARY SEWER													
INSTALL WATERMAIN													
PERMANENT EROSION CONTROL MEASURES													
FINISH GRADING AND INSTALL LANDSCAPING													
REMOVE CHECK DAM, REMOVE SILT & REGRADE	DITCH												

LEGEND EX. SPOT GRADE — EX. CONTOUR — 600 — EX. CONTOUR · · — EX. CENTERLINE DITCH SAN — EX. SANITARY SEWER W/MANHOLE — — — STM— — — EX. STORM SEWER — -- WAT — -- EX. WATERMAIN -----×-----× EX. CHAINLINK FENCE EX. WOOD FENCE — — — GAS — — EX. GAS LINES EX. COMMUNICATION LINES EX. OVERHEAD UTILITY WIRES EX. BUILDINGS 7777777777 EX. BITUMINOUS PAVEMENT S EX. CONCRETE PAVEMENT 4 4 4

(C. OR CONC.) EX. GRAVEL PAVEMENT

EX. SIGN WITH POST EX. STEEL POST/BOLLARD EX. STORM CURB INLET EX. STORM CATCH BASIN/MANHOLE EX. SANITARY MANHOLE

EX. HYDRANT EX. WATER OR GAS VALVE EX. UTILITY POLE

EX. SEWER CLEANOUT EX. SPRINKLER/SPIGOT

EX. WATER WELL EX. DRINKING FOUNTAIN EX. LIGHT POLE

EX. UTILITY RISER EX. MAILBOX EX. DOWNSPOUT

EX. ELECTRICAL BOX EX. TRANSFORMER PROP. HYDRANT

PROP. WATER VALVE PROP. SANITARY MANHOLE

EX. FLAG POLE

PROP. STORM CATCH BASIN/MANHOLE PROP. SIGN PROP. STEEL POST/BOLLARD

PROP. CENTERLINE DITCH PROP. SANITARY SEWER PROP. STORM SEWER

PROP. WATERMAIN PROP. GAS LINE

PROP. CHAINLINK FENCE PROP. WOOD FENCE PROP. ELECTRIC LINES

PROP. COMMUNICATION LINES PROP. OVERHEAD UTILITY WIRES PROP. DRAINAGE FLOW

FINISH SURFACE TOP OF CURB TOP OF WALK

TC =000.00 PROP. SPOT ELEVATION PROP. GRADE CONTOUR (MAJR) PROP. GRADE CONTOUR (MINR) PROP. BITUMINOUS PAVEMENT

///////

PROP. CONCRETE PAVEMENT PROP. GRAVEL SURFACE

PROP. LIGHTPOLE SOIL BORING UNDERGROUND OHD

OVERHEAD PROP. BUILDING 7777777777

CAUTION: UTILITY CROSSING SET 1/2" X 18" STEEL BAR W/CAP #47954

CONCRETE MONUMENT FOUND CORNER AS NOTED SECTION CORNER

PROP. HEAVY DUTY PAVEMENT

GENE CHECKED BY: J. WHEELER DESIGNED BY D.W.BANASZAK DRAWN BY: D.W.BANASZAK PROJ #: 25-1247-0021

TOWN: WATER

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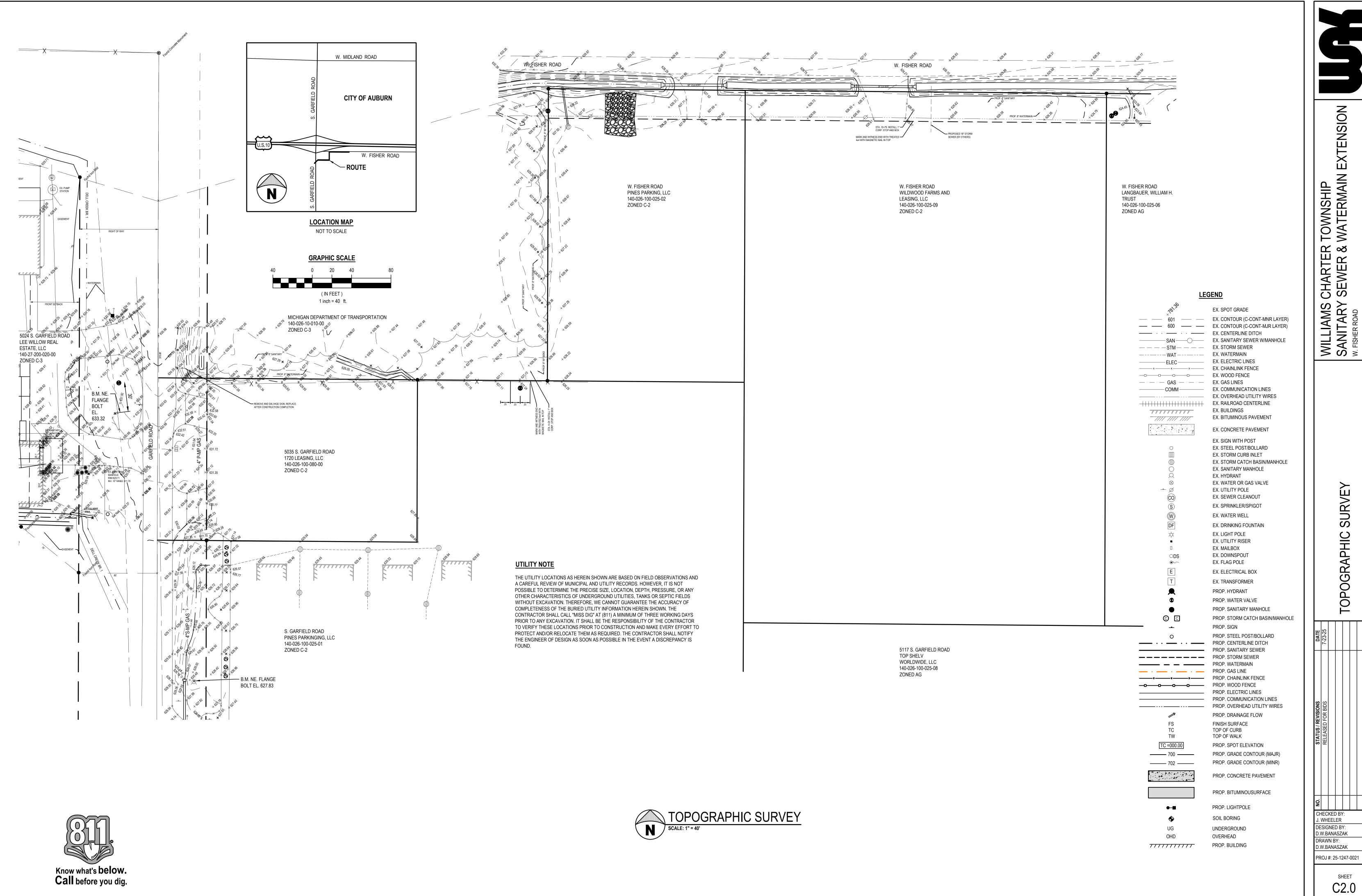
WILLIAMS
SANITAR
W. FISHER ROAD
AUBURN, MI

AND

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NOTE

SHEET



RESTORE DITCH

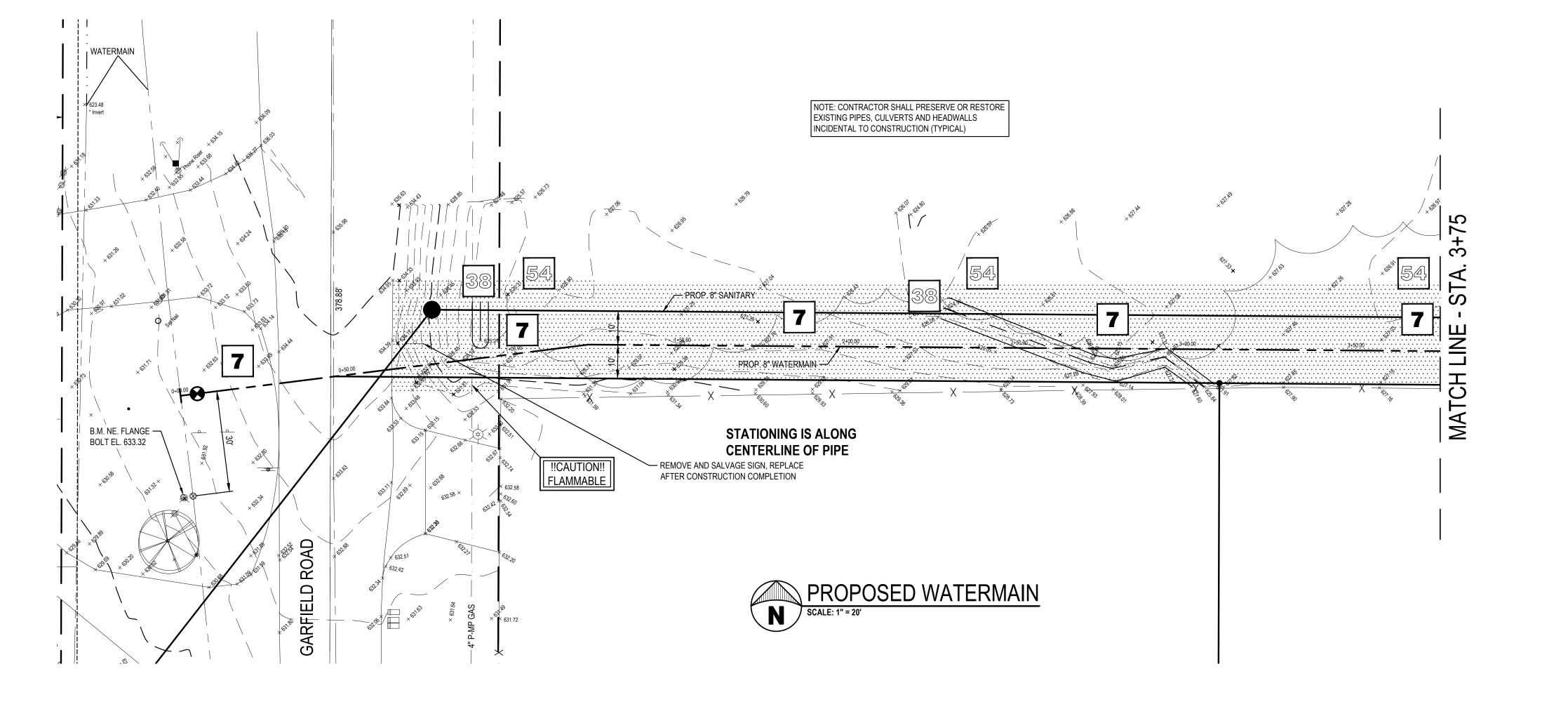
TOP OF BOX ELEVATION 632.5±

634

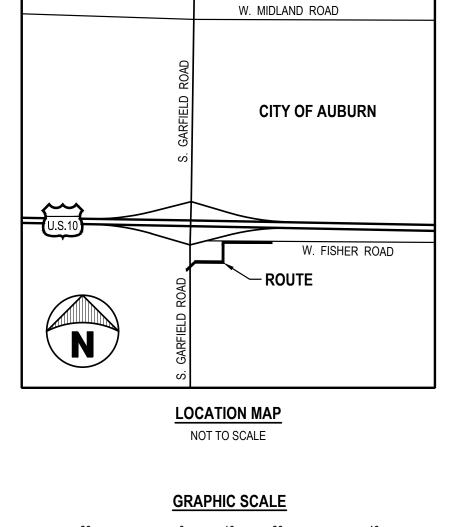
632

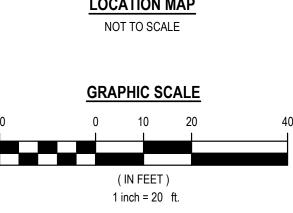
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628



— EXISTING GROUND PROFILE OVER PROPOSED WATERMAIN





632

630

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626

624

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616

3+75

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3+00.00

WILLIAMS CHARTER TOWNSHIP SANITARY SEWER & WATERMAIN EX W. FISHER ROAD AUBURN, MI

CHECKED BY: J. WHEELER DESIGNED BY: D.W.BANASZAK DRAWN BY: D.W.BANASZAK

PROJ #: 25-1247-0021

SHEET

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PROPOSED WATERMAIN PLAN AND PROFILE STA.

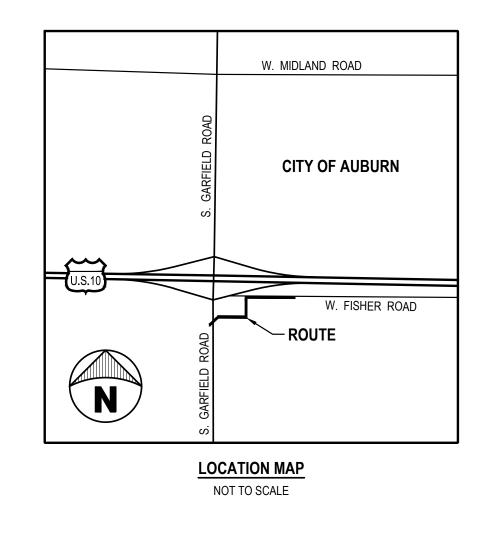
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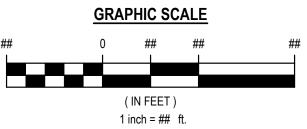
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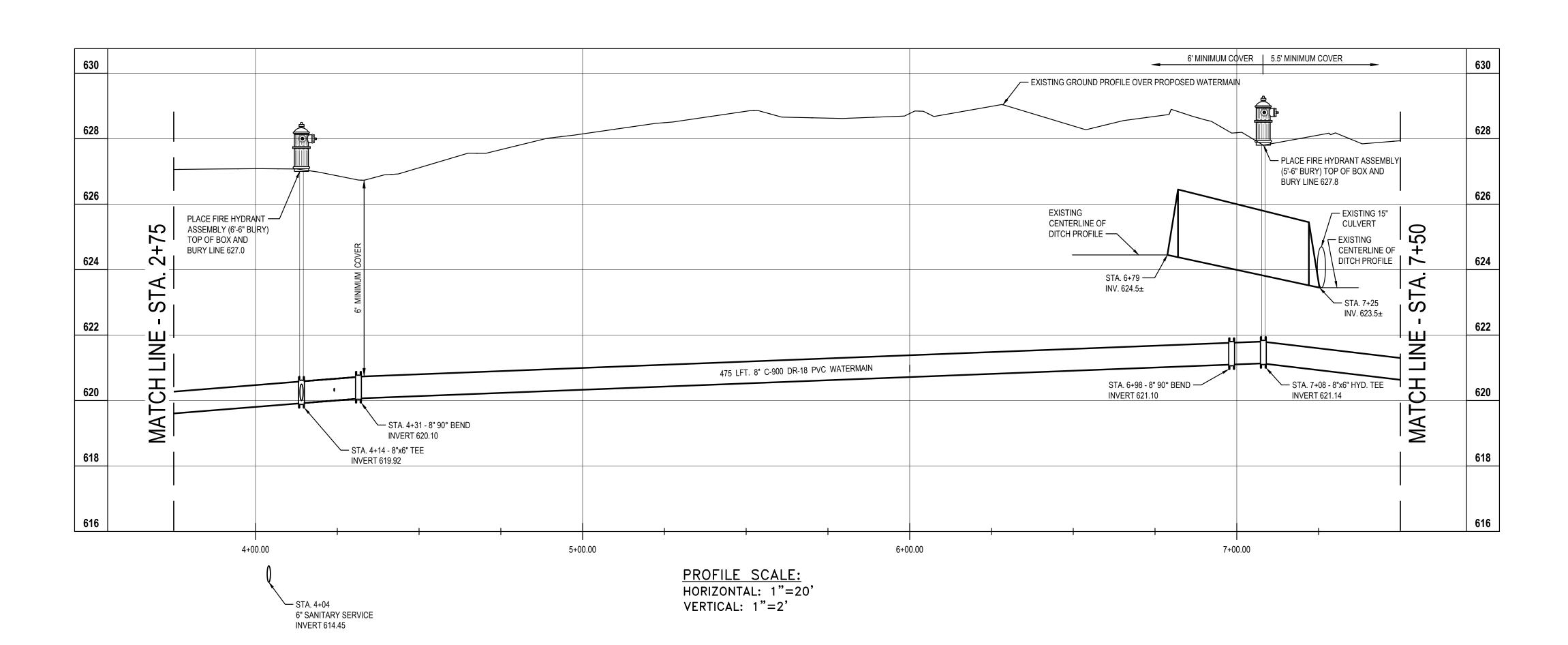
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EXTENSION











PROPOSED WATERMAIN PLAN AND PROFILE STA. CHECKED BY: J. WHEELER DESIGNED BY: D.W.BANASZAK

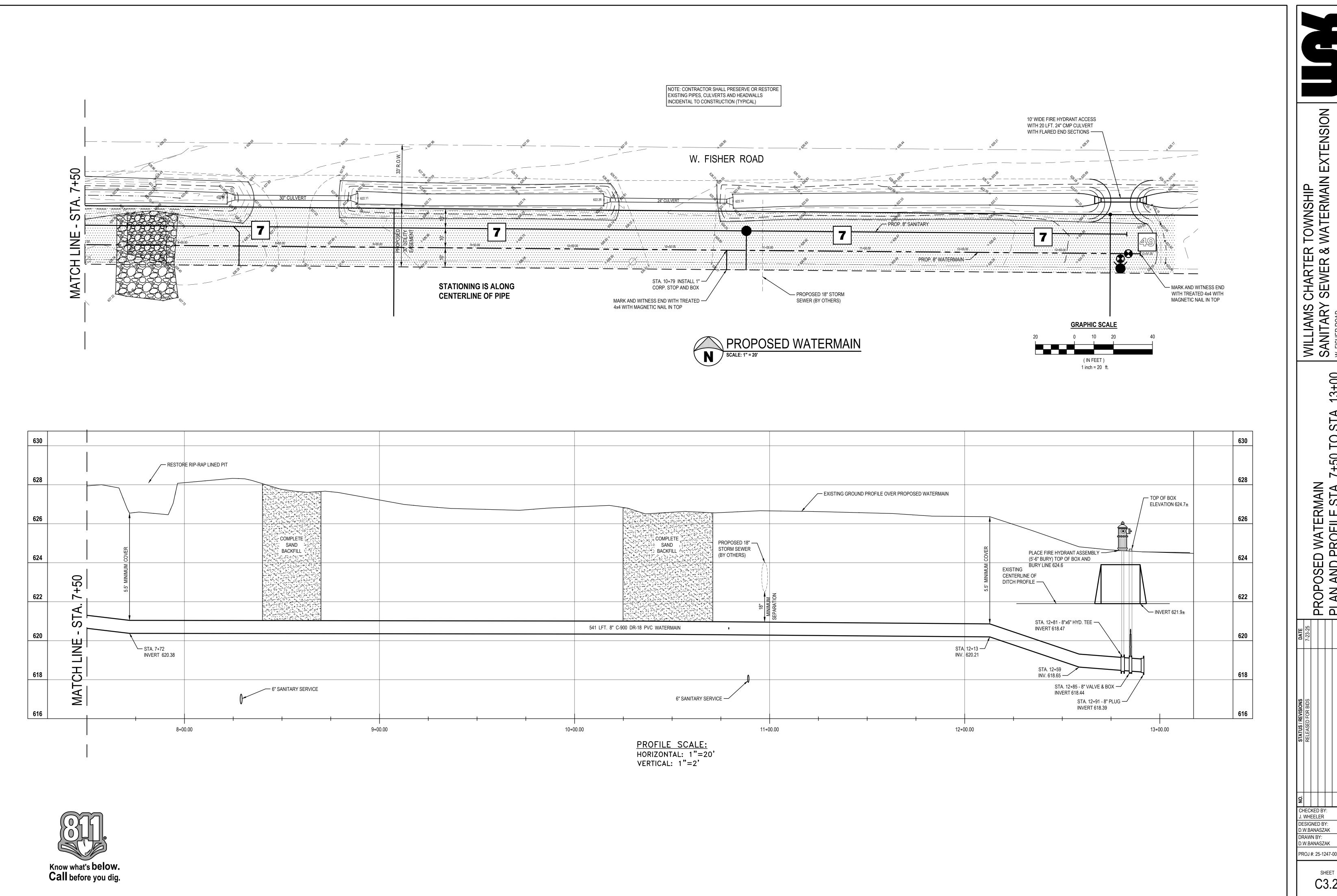
WILLIAMS CHARTER TOWNSHIP
SANITARY SEWER & WATERMAIN EXTENSION
W. FISHER ROAD
AUBURN, MI

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DRAWN BY: D.W.BANASZAK PROJ #: 25-1247-0021

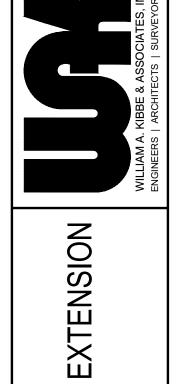
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WILLIAMS (SANITARY W. FISHER ROAD AUBURN, MI 13+00 STA. 0 20 / PROPOSED WATERMAIN PLAN AND PROFILE STA.

CHECKED BY: J. WHEELER DESIGNED BY: D.W.BANASZAK DRAWN BY: D.W.BANASZAK

PROJ #: 25-1247-0021 SHEET C3.2



WILLIAMS CHARTER TOWNSHIP SANITARY SEWER & WATERMAIN EXANBURN, MI +75 4 STA. 0 VER +00

PROPOSED SANITARY SEV PLAN AND PROFILE STA. 0-

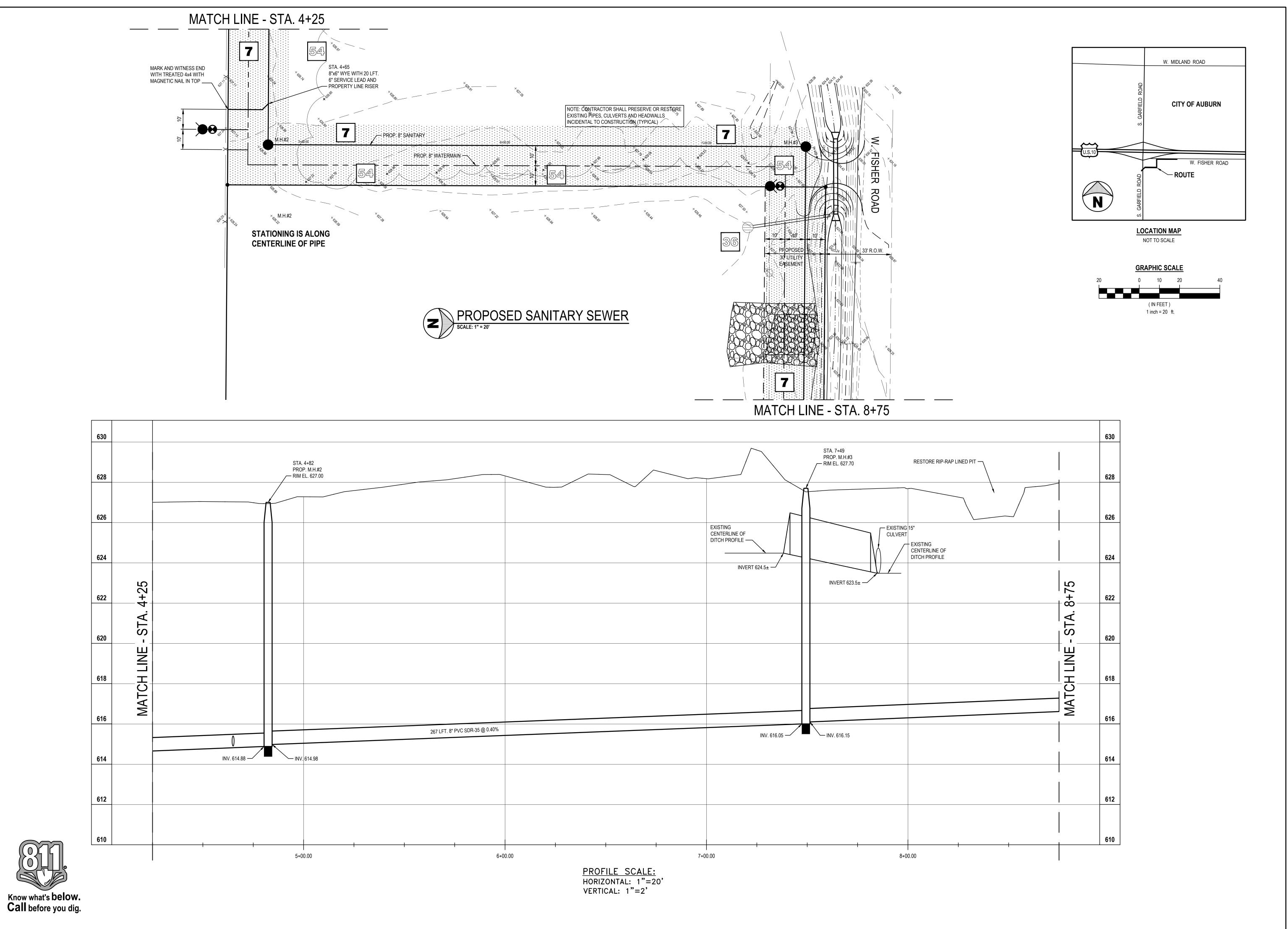
CHECKED BY: J. WHEELER

DESIGNED BY: D.W.BANASZAK

DRAWN BY: D.W.BANASZAK

PROJ #: 25-1247-0021

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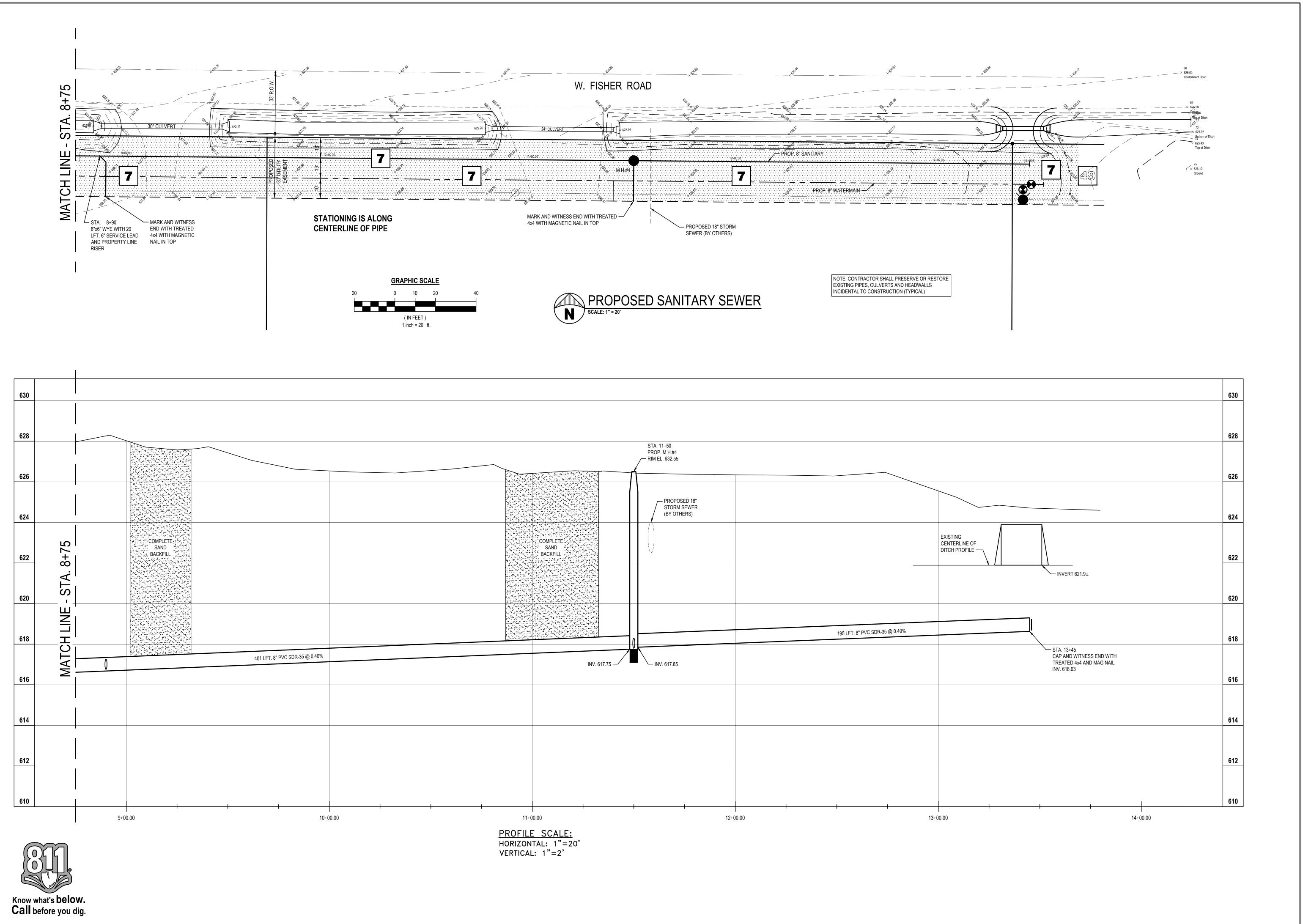
EXTENSION

WILLIAMS CHARTER TOWNSHIP SANITARY SEWER & WATERMAIN W. FISHER ROAD AUBURN, MI 8+75 STA. VER +75 PROPOSED SANITARY SEV PLAN AND PROFILE STA. 4

CHECKED BY: J. WHEELER DESIGNED BY: D.W.BANASZAK DRAWN BY: D.W.BANASZAK PROJ #: 25-1247-0021

SHEET

C4.1



WILLIAMS CHARTER TOWNSHIP
SANITARY SEWER & WATERMAIN EXTENSION
W. FISHER ROAD
AUBURN, MI STA NER +75⁻ PROPOSED SANITARY SEV PLAN AND PROFILE STA. 8⁻

CHECKED BY: J. WHEELER DESIGNED BY: D.W.BANASZAK DRAWN BY: D.W.BANASZAK PROJ #: 25-1247-0021

SHEET