

ALLEGAN COUNTY ROAD COMMISSION

12TH AVENUE CULVERT REPLACEMENTS 2,850 FEET & 6,100 FEET NORTH OF 130TH AVENUE HOPKINS/WAYLAND TOWNSHIP

UTILITY CONTACTS

ELECTRIC
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317-445-8814
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517-742-4020
ANASTASIA MILLISOR
amilisor@everstream.net

U.S. SIGNAL CORP FIBER
616-455-9840
NAME
EMAIL

MISS DIG 811

Board of County Road Commissioners
Of Allegan County

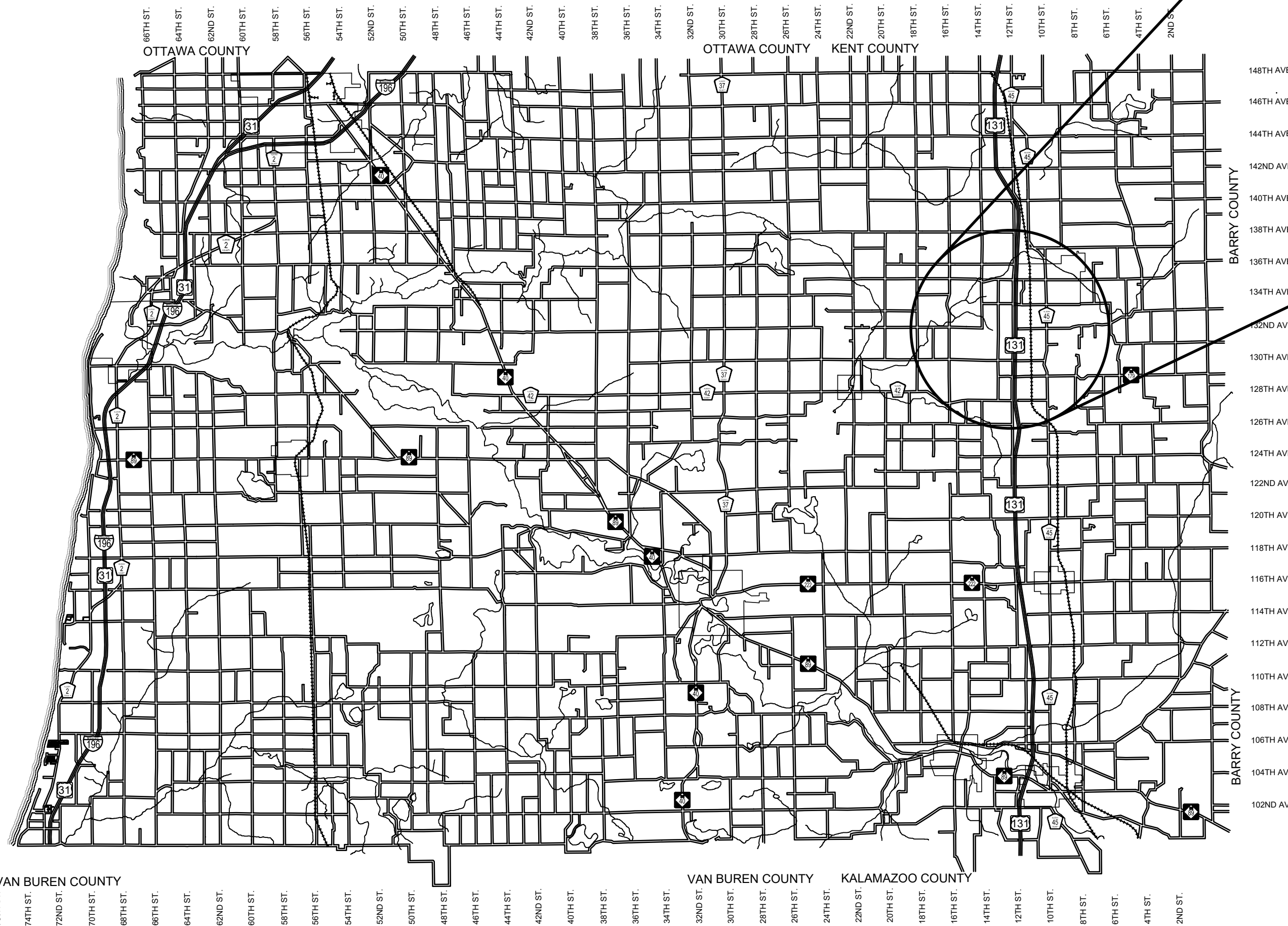
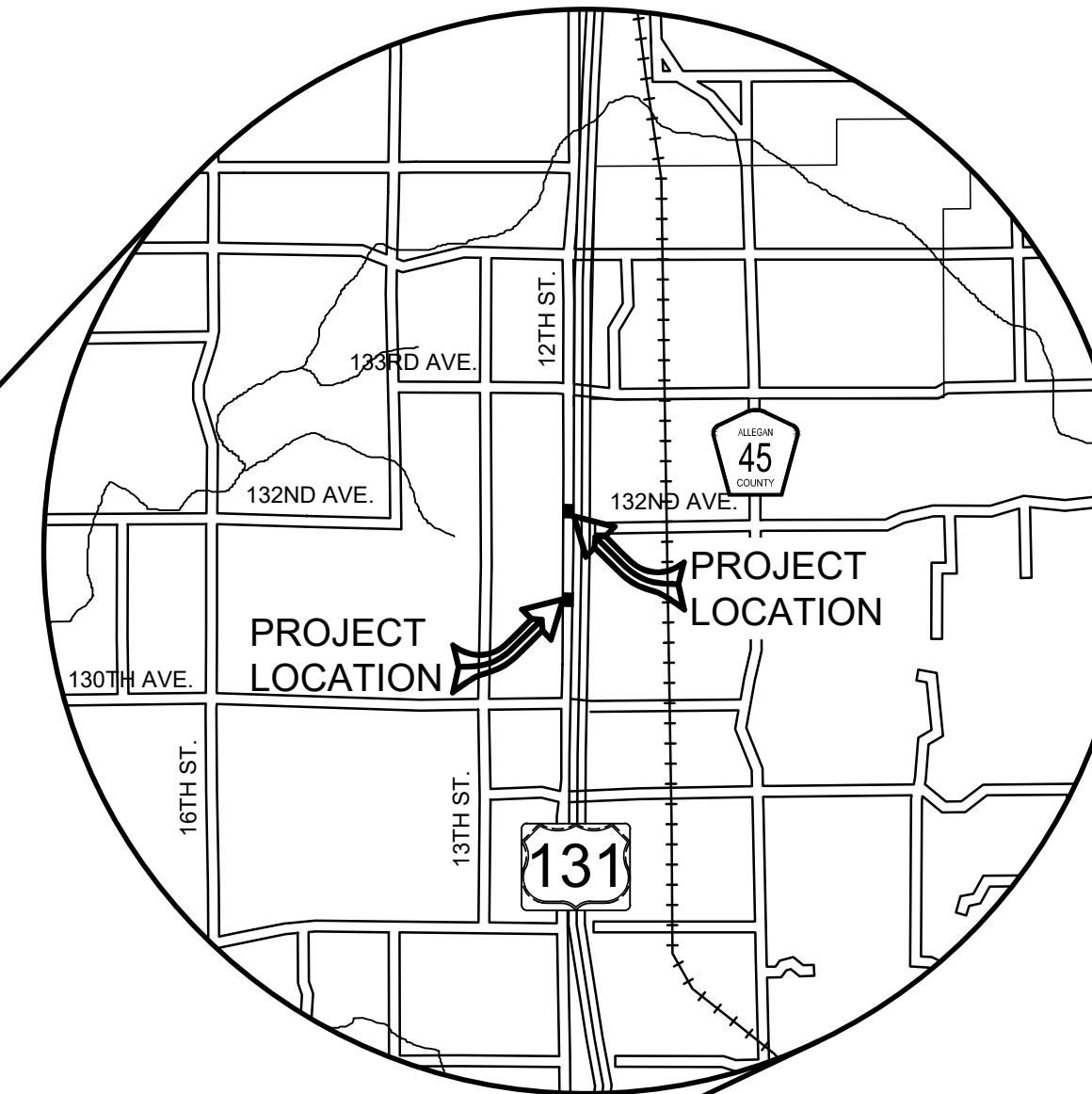
1308 LINCOLN ROAD
ALLEGAN, MICHIGAN 49010-9762
www.alleganroads.org FAX (269) 673-5922
TELEPHONE (269) 673-2184

EXCEPT WHERE OTHERWISE INDICATED ON THESE PLANS OR IN THE PROPOSAL AND SUPPLEMENTAL SPECIFICATIONS CONTAINED THEREIN, ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE 2020 MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION.

THE PLACING OF PAVEMENT MARKINGS AND TRAFFIC CONTROL SIGNS SHALL BE DONE IN ACCORDANCE WITH THE 2011 MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AS AMENDED.

THE IMPROVEMENTS COVERED BY THESE PLANS ARE IN ACCORDANCE WITH THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2011 EDITION, A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS.

THE CONTRACTOR SHALL DIAL MISS DIG @ 811 FOR PROTECTION OF UNDER GROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 174 OF 2013 A MINIMUM OF THREE FULL WORKING DAYS, 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 A PART OF THE "MISS DIG" ALERT SYSTEM.



ALLEGAN COUNTY, MICHIGAN
NOT TO SCALE

INDEX OF PLANS

- 1 - COVER SHEET
- 2 - COOCH DRAIN - TYPICAL SECTIONS, DETAILS, & NOTES
- 3 - COOCH DRAIN PLAN
- 4 - SELKIRK & SPRAGUE DRAIN - TYPICAL SECTIONS, DETAILS, & NOTES
- 5 - SELKIRK & SPRAGUE DRAIN PLAN

REVISIONS

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CONTRACT FOR ROAD IMPROVEMENTS

TWO CULVERT REPLACEMENTS INCLUDING CLEARING, GRADE ESTABLISHMENT, SAND SUBBASE, AGGREGATE BASE, HMA PAVING, GUARDRAIL RECONSTRUCTION AND RESTORATION ON 12TH STREET BETWEEN 130TH AVENUE AND 133RD AVENUE IN HOPKINS/WAYLAND TOWNSHIP, ALLEGAN COUNTY.

PREPARED UNDER THE SUPERVISION OF:



Rebekkah 2/2/24

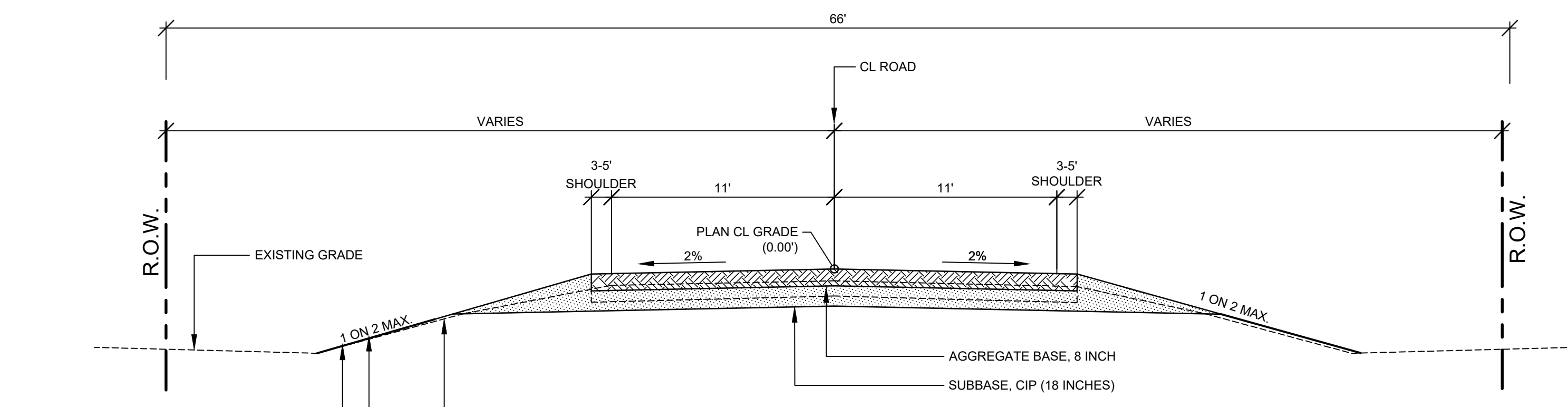
REBEKKAH K. AUSBURY
REGISTERED PROFESSIONAL ENGINEER
No. 6201067389

12TH STREET CULVERT REPLACEMENTS
HOPKINS/WAYLAND TOWNSHIP - BETWEEN 130TH AVE AND 133RD AVE

COVER SHEET

DRAWN BY: RKA
REVIEWED BY: RK
DATE: JANUARY 2024
SCALE: NONE

PH 300066 1



TYPICAL FILL SECTION
 APPLY TOPSOIL SURFACE, SALV, LM (3 INCHES); SEEDING, MIXTURE TUF (220#/ACRE); SEEDING MIXTURE CR (70 #/ACRE) IN NON LAWN AREAS; FERTILIZER, CHEMICAL NUTRIENT, CL A (176#/ACRE); MULCH (2 TONS/ACRE); AND MULCH ANCHORING TO ALL DISTURBED AREAS (TYP.) TO BE PAID AS SLOPE RESTORATION TYPE A. INSTALL MULCH BLANKETS ON ALL SLOPES GREATER THAN 1 ON 3 OR AS DIRECTED BY THE ENGINEER IN THE FIELD TO BE PAID AS SLOPE RESTORATION TYPE C.

STRIP TOPSOIL WITHIN 1 ON 1 INFLUENCE OF ROADWAY TO BE INCLUDED IN THE ITEM OF STATION GRADING (TYP.)

TYPICAL SECTION - 12TH STREET
 SCALE: NTS

PROJECT NOTES

THE "2020 STANDARD SPECIFICATIONS FOR CONSTRUCTION" AND "STANDARD PLANS" BY THE MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) ARE HEREBY INCORPORATED INTO THESE CONTRACT DOCUMENTS. COPIES OF THESE STANDARDS ARE AVAILABLE FOR INSPECTION AT THE OFFICE OF THE ENGINEER.

THE CONTRACTOR WILL BE RESPONSIBLE FOR CONTACTING THE ALLEGAN COUNTY ROAD COMMISSION TO NOTIFY THEM THAT WORK IS COMMENCING AT LEAST ONE WEEK PRIOR TO CONSTRUCTION. THE ALLEGAN COUNTY ROAD COMMISSION WILL SET UP THE NECESSARY DETOUR ROUTE. THE CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING THE BARRICADES.

THE CONTRACTOR SHOULD NOTE THAT STATION GRADING WILL INCLUDE THE REMOVAL OF FENCES, CULVERTS, BRUSH, TREES SMALLER THAN 6", CONCRETE FOUNDATIONS, GUARDRAIL, AND MISCELLANEOUS ITEMS AS REQUIRED AND WILL ALSO INCLUDE ALL EARTH EXCAVATION, EMBANKMENT, AND ALL OTHER OPERATIONS NECESSARY TO DEVELOP THE DESIRED CROSS SECTION. ALL TOPSOIL AND OTHER UNSUITABLE MATERIAL LOCATED BENEATH THE PROPOSED PAVEMENT SECTION WILL BE REMOVED TO THE SUBGRADE ELEVATION AS PART OF STATION GRADING. ALL TOPSOIL REMOVED MAY BE STOCKPILED AND REUSED AS TOPSOIL SURFACE, SALV, LM.

ALL FILL FOR THIS PROJECT MUST BE OBTAINED AND FURNISHED BY THE CONTRACTOR. ALL REQUIRED FILL SHALL BE SELECTED EXCAVATED MATERIAL FROM THE SITE APPROVED BY THE ENGINEER, OR MDOT CLASS II GRANULAR MATERIAL FROM BORROW. EXCESS FILL WILL BE REMOVED FROM SITE BY THE CONTRACTOR. NO BORROW OR SOIL REMOVAL ARRANGEMENTS HAVE BEEN PREARRANGED FOR THIS PROJECT AND WILL BE THE TOTAL RESPONSIBILITY OF THE CONTRACTOR.

THE ITEM OF SUBBASE, CIP WILL BE PAID FOR AT PLAN QUANTITY EXCEPT IN THE CASE OF A DESIGN CHANGE OR DEMONSTRATED ERROR.

ALL DISTURBED AREAS NOT TO BE PAVED WILL BE RESTORED WITH TOPSOIL SURFACE, SALV, LM (3 INCHES), MDOT SEED MIXTURE TUF (220#/ACRE); SEEDING MIXTURE CR (70 #/ACRE) IN NON LAWN AREAS; FERTILIZER, CHEMICAL NUTRIENT, CL A (176#/ACRE); AND MULCH AND MULCH ANCHORING (2 TON/ACRE). TO BE PAID AS SLOPE RESTORATION, TYPE A. SEE SESC PLAN FOR AREAS TO USE HIGH VELOCITY MULCH BLANKET, TO BE PAID AS SLOPE RESTORATION TYPE C.

ADEQUATE DUST CONTROL MEASURES WILL BE MAINTAINED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER IN THE FIELD, TO BE INCLUDED IN THE VARIOUS ITEMS OF WORK.

THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING EXISTING DRAINAGE PATTERNS, AND WILL RESOLVE ANY DRAINAGE PROBLEMS ON ADJACENT PROPERTIES WHICH MAY RESULT FROM THE CONTRACTOR'S ACTIVITIES.

DIMENSIONS TAKE PRECEDENCE OVER SCALE. CONTRACTOR TO VERIFY ALL DIMENSIONS IN FIELD.

CULVERT TO BE MANUFACTURED PER HL-93 LOADING REQUIREMENTS. SHOP DRAWINGS TO BE APPROVED PRIOR TO PRODUCTION AND INSTALLATION OF THE BOX CULVERT.

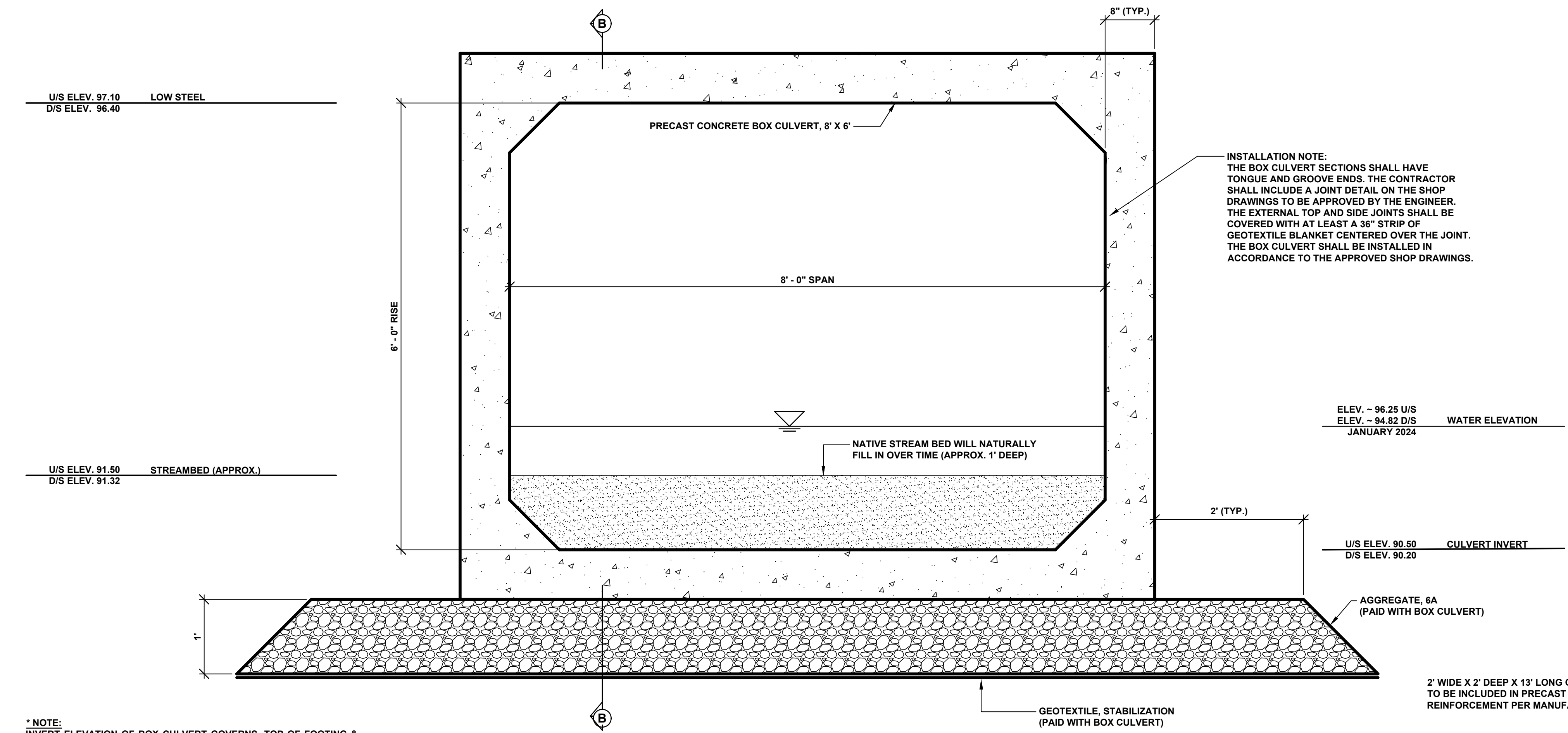
UTILITY NOTES

FOR PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 174 OF 2013, THE CONTRACTOR WILL CONTACT "MISS DIG" AT 811, A MINIMUM OF 72 HOURS, EXCLUDING SATURDAYS, SUNDAYS, AND HOLIDAYS, PRIOR TO BEGINNING EACH EXCAVATION IN AREAS WHERE PUBLIC UTILITIES HAVE NOT BEEN PREVIOUSLY LOCATED. MEMBERS WILL 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.

THE CONTRACTOR WILL LOCATE ALL ACTIVE UNDERGROUND UTILITIES PRIOR TO STARTING WORK AND WILL CONDUCT HIS OPERATIONS IN A MANNER AS TO ENSURE THAT THOSE UTILITIES NOT REQUIRING RELOCATION WILL NOT BE DISTURBED.

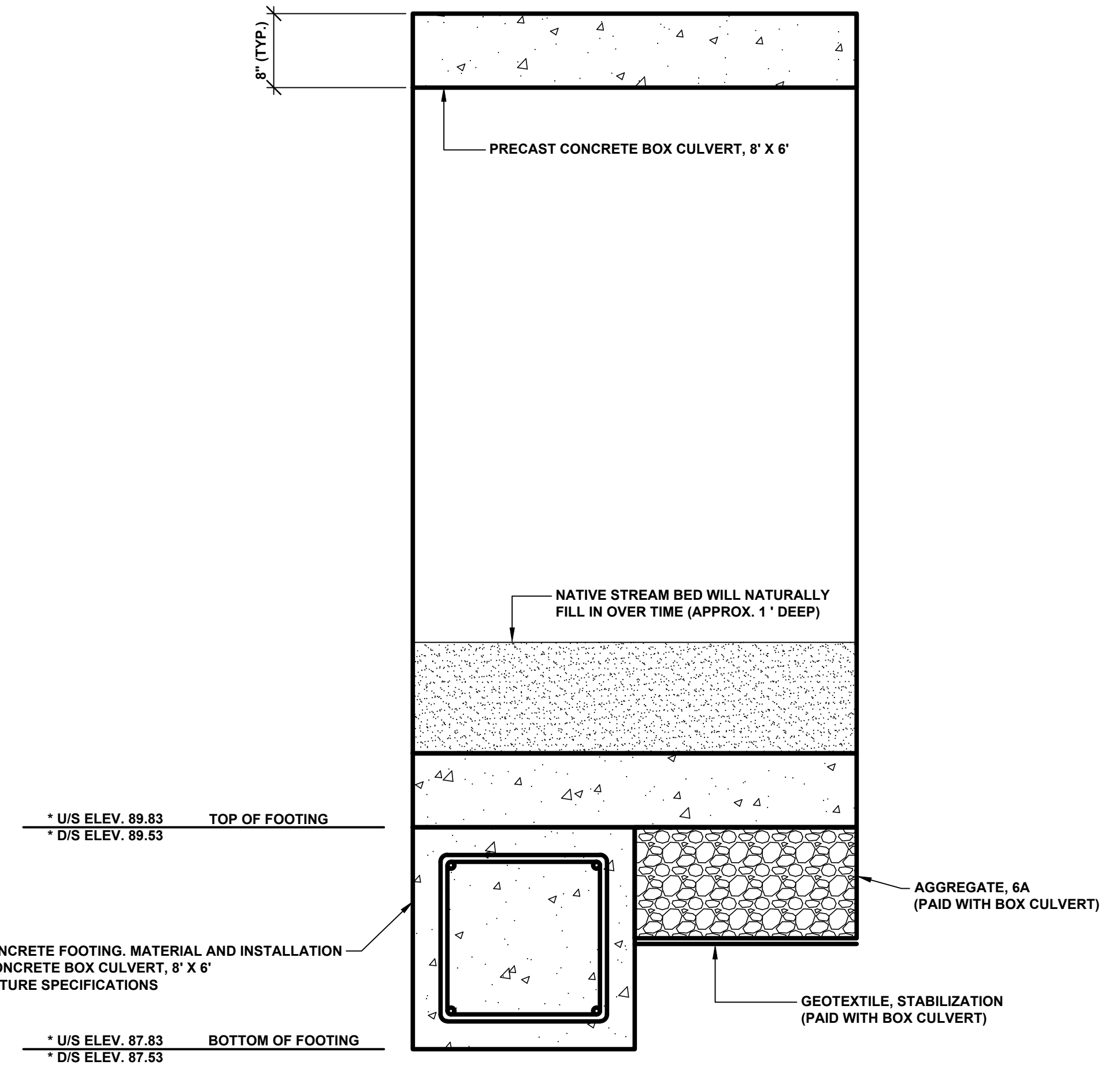
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TYPICAL BOX CULVERT SECTION - COOCH DRAIN

SCALE 1" = 1'



SECTION B-B

SCALE 1" = 1'

* NOTE:
 INVERT ELEVATION OF BOX CULVERT GOVERNS. TOP OF FOOTING & BOTTOM OF FOOTING ELEVATIONS MAY VARY BASED UPON THE MANUFACTURER'S CULVERT DESIGN. CONTRACTOR IS RESPONSIBLE FOR ADJUSTING THE FOOTING ACCORDINGLY.

12TH STREET CULVERT REPLACEMENTS
 HOPKINS/WAYLAND TOWNSHIP - 2,850 FEET NORTH OF 130TH AVENUE
 COOCH DRAIN - TYPICAL SECTIONS, DETAILS, & NOTES

DRAWN BY: RKA
 REVIEWED BY: RK
 DATE: JANUARY 2024
 SCALE: AS NOTED

EX. INLET ELEV. 91.67
 EX. OUTLET ELEV. 92.41
 PROP. INLET ELEV. 90.50 (BURIED ~1 FT)
 PROP. OUTLET ELEV. 90.20 (BURIED ~1 FT)

STAGING NOTES

- 1) INSTALL TEMPORARY EROSION CONTROL MEASURES.
- 2) PUT THE TEMPORARY CREEK DIVERSION OR BYPASS IN PLACE. IF A FILTER BAG IS USED, ENSURE BAG IS PLACED OUTSIDE OF STREAM.
- 3) REMOVE THE EXISTING CULVERT STRUCTURE.
- 4) INSTALL THE 8' X 6' PRECAST CONCRETE BOX CULVERT.
- 5) OPEN THE CHANNEL FROM THE DOWNSTREAM END AND ALLOW THE WATER TO EQUALIZE. OPEN THE UPSTREAM SIDE OF THE NEW CHANNEL AND REMOVE THE TEMPORARY DIVERSION OR BYPASS.
- 6) BACKFILL OVER THE PRECAST CONCRETE BOX.
- 7) INSTALL PERMANENT SOIL EROSION CONTROL MEASURES.
- 8) REMOVE TEMPORARY EROSION CONTROL MEASURES ONCE VEGETATION IS ESTABLISHED.

SOIL EROSION & SEDIMENTATION CONTROL NOTES

1. ALL CONSTRUCTION METHODS WILL BE DONE IN COMPLIANCE WITH THE MICHIGAN SOIL EROSION AND SEDIMENTATION CONTROL ACT. THE COUNTY ROAD COMMISSION WILL OBTAIN A NOTICE OF COVERAGE FROM EGLE PRIOR TO START OF CONSTRUCTION IF THE DISTURBANCE AREA OF THE PROJECT IS GREATER THAN FIVE ACRES. THE CONTRACTOR WILL BE RESPONSIBLE FOR COMPLYING WITH ALL REQUIREMENTS OF THE MICHIGAN DEPARTMENT OF TRANSPORTATION'S SESC MANUAL. EROSION CONTROL MEASURES SHOWN ON THE PLANS ARE THE MINIMUM REQUIREMENTS AND WILL NOT RELIEVE THE CONTRACTOR'S RESPONSIBILITY FOR PROVIDING ALL REQUIRED EROSION CONTROL MEASURES.
 2. AVOID UNNECESSARY DISTURBING OR REMOVING OF EXISTING VEGETATED TOPSOIL OR EARTH COVER. THESE COVER AREAS ACT AS SEDIMENT FILTERS.
 3. ALL TEMPORARY SOIL EROSION PROTECTION WILL REMAIN IN PLACE UNTIL REMOVAL IS REQUIRED FOR FINAL CLEAN UP AND APPROVAL.
 4. GEOTEXTILE SILT FENCE WILL BE INSTALLED AS REQUIRED WHEN CROSSING CREEKS OR WHEN ADJACENT TO WETLANDS OR SURFACE WATER BODIES TO PREVENT SILTATION AND ELSEWHERE AS DIRECTED BY THE ENGINEER. SEEDING AND/OR SODDING WILL BE INSTALLED ON CREEK BANKS IMMEDIATELY AFTER CONSTRUCTION TO PREVENT EROSION.
 5. MAINTENANCE, CLEANING, AND REMOVAL OF THE VARIOUS SEDIMENT CONTROL MEASURES WILL BE INCLUDED IN THE VARIOUS EROSION CONTROL ITEMS.
 6. SOIL TYPE LOCATIONS ARE APPROXIMATED FROM THE UNITED STATES DEPARTMENT OF AGRICULTURE'S WEB SOIL SURVEY MAPS. DETAILED PROPERTIES FOR EACH SOIL TYPE CAN BE FOUND ON THEIR WEBSITE: WEBSOILSURVEY.NRCS.USDA.GOV
 7. TEMPORARY EROSION CONTROL MEASURES WILL NOT BE MANDATORY IF STORMWATER IS DETERMINED TO BE TOPOGRAPHICALLY INCAPABLE OF LEAVING SITE.
 8. SLOPE STAKE LINES AS CALLED OUT IN THE PLAN SHEETS DEFINE THE EARTH CHANGE LIMITS FOR THIS PROJECT.
 9. ALLEGAN COUNTY ROAD COMMISSION ASSUMES RESPONSIBILITY FOR MAINTENANCE OF PERMANENT SOIL EROSION & SEDIMENTATION CONTROL MEASURES ONE YEAR AFTER FINAL PROJECT ACCEPTANCE AS DEFINED UNDER THE SOIL EROSION AND SEDIMENTATION CONTROL OPERATING PROCEDURES FOR THE ALLEGAN COUNTY ROAD COMMISSION.
- NUMBER IN CIRCLE REFERS TO NUMBERED DETAILS ON MDOT STANDARD PLAN R-96 SERIES. SOIL EROSION & SEDIMENTATION CONTROL MEASURES. "P" DENOTES PERMANENT MEASURE AND "T" DENOTES TEMPORARY MEASURE. SOIL EROSION CONTROL PLANS DENOTE MINIMUM EROSION MEASURES REQUIRED AS DESCRIBED BELOW.
- ALL DISTURBED AREAS NOT PAVED OR GRAVELED SHALL BE RESTORED UNDER THE PAY ITEM SLOPE RESTORATION TYPE A. THIS PAY ITEM INCLUDES PLACING MDOT SEEDING, MIXTURE TUF APPLIED AT A RATE OF 220 LB/ACRE, FERTILIZER, CHEMICAL NUTRIENT, CL A APPLIED AT A RATE OF 176 LB/ACRE; MULCH AT A RATE OF 2 TON/ACRE AND MULCH ANCHORING.
- TEMPORARY SEEDING WILL BE PLACED AT LOCATIONS DETERMINED BY THE ENGINEER IN THE FIELD AND WILL INCLUDE SEEDING MIXTURE, OR APPLIED AT A RATE OF 70 LB/ACRE AND MULCH INCLUDED IN SLOPE RESTORATION TYPE A.
- DUST CONTROL MAY BE REQUIRED ON THE SUBGRADE CONSTRUCTION AND WILL INCLUDE APPLYING FRESH WATER TO BE INCLUDED IN THE ITEM OF STATION GRADING. DUST CONTROL ON THE AGGREGATE BASE COURSE WILL BE ACCOMPLISHED BY APPLYING FRESH WATER (INCLUDED IN THE ITEM OF AGGREGATE BASE, _ INCH) AS DIRECTED BY THE PROJECT ENGINEER.
- INSTALL RIPRAP, PLAIN OR RIPRAP, HEAVY AS DIRECTED BY THE ENGINEER IN THE FIELD. THE RIPRAP, PLAIN AND RIPRAP, HEAVY PAY ITEMS WILL INCLUDE A GEOTEXTILE UNDERLAYMENT.
- SILT FENCE WILL BE INSTALLED AT CREEK CROSSINGS, ADJACENT TO ALL WETLANDS AND SURFACE WATERS, AND OTHER LOCATIONS AS DIRECTED BY THE ENGINEER. EACH SILT FENCE WILL BE INSTALLED GENERALLY ALONG THE SAME CONTOUR ELEVATION.
- CONTRACTOR WILL PROVIDE DOZER TRACKING PERPENDICULAR TO THE SLOPE TO REDUCE WATER AND WIND EROSION. THIS WILL BE PERFORMED AT LOCATIONS SHOWN OR AS DIRECTED BY THE ENGINEER IN THE FIELD. TO BE INCLUDED IN THE ITEM OF EMBANKMENT.
- HIGH VELOCITY MULCH BLANKETS WILL BE USED ON STEEP BANKS. PROVIDE MULCH BLANKET, HIGH VELOCITY CENTERED ON ALL DITCH BOTTOMS WITH A LONGITUDINAL GRADE OF 2.00% OR GREATER AND AT OTHER LOCATIONS AS DIRECTED BY THE ENGINEER IN THE FIELD. PAID AS SLOPE RESTORATION TYPE C.
- CHECK DAMS WILL BE INSTALLED AT THE LOCATIONS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER IN THE FIELD.

EXISTING 8 FT X 6 FT X 45 FT CMP CULVERT
 (TO BE REMOVED)
 PROPOSED PRECAST CONCRETE BOX CULVERT
 8 FT X 6 FT X 56 FT @ 0.5%

10 SYD - RIPRAP, HEAVY
 APPROX. 10' X 8' EACH SIDE OF OUTLET
 RIPRAP PLACED WITHIN
 STREAM SHALL NOT EXCEED
 STREAMBED ELEVATION

STREAM WIDTH = 6 FEET
 BANKFULL WIDTH = 8 FEET
 WATER LEVEL U/S = 96.25
 DATE OF OBSERVATION 01/08/24

CAUTION: UNDERGROUND
 COMMUNICATIONS UTILITIES

SOIL: KIBBIE FINE SANDY LOAM

SOIL: KIBBIE FINE SANDY LOAM

TIMING & SEQUENCE	WEEK 1			WEEK 2			WEEK 3											
ANTICIPATED START DATE:	DAY 1	DAY 2	DAY 3	DAY 4	DAY 5	DAY 6	DAY 7	DAY 8	DAY 9	DAY 10	DAY 11	DAY 12	DAY 13	DAY 14	DAY 15	DAY 16	DAY 17+	
INSTALL MAINTAIN TEMPORARY CONTROL MEASURES																		
SITE CLEARING																		
CULVERT INSTALLATIONS																		
ROADWAY/SLOPE RECONSTRUCTION																		
SLOPE RESTORATION/INSTALL PERMANENT CONTROL MEASURES																		
REMOVE TEMPORARY MEASURES																		

*SCHEDULE MAY BE ADJUSTED DEPENDING ON CONTRACTOR'S MEANS & METHODS

LEGEND

RIPRAP, HEAVY AS DIRECTED BY THE ENGINEER IN THE FIELD, PAID FOR AS RIPRAP, HEAVY BY THE SYD.

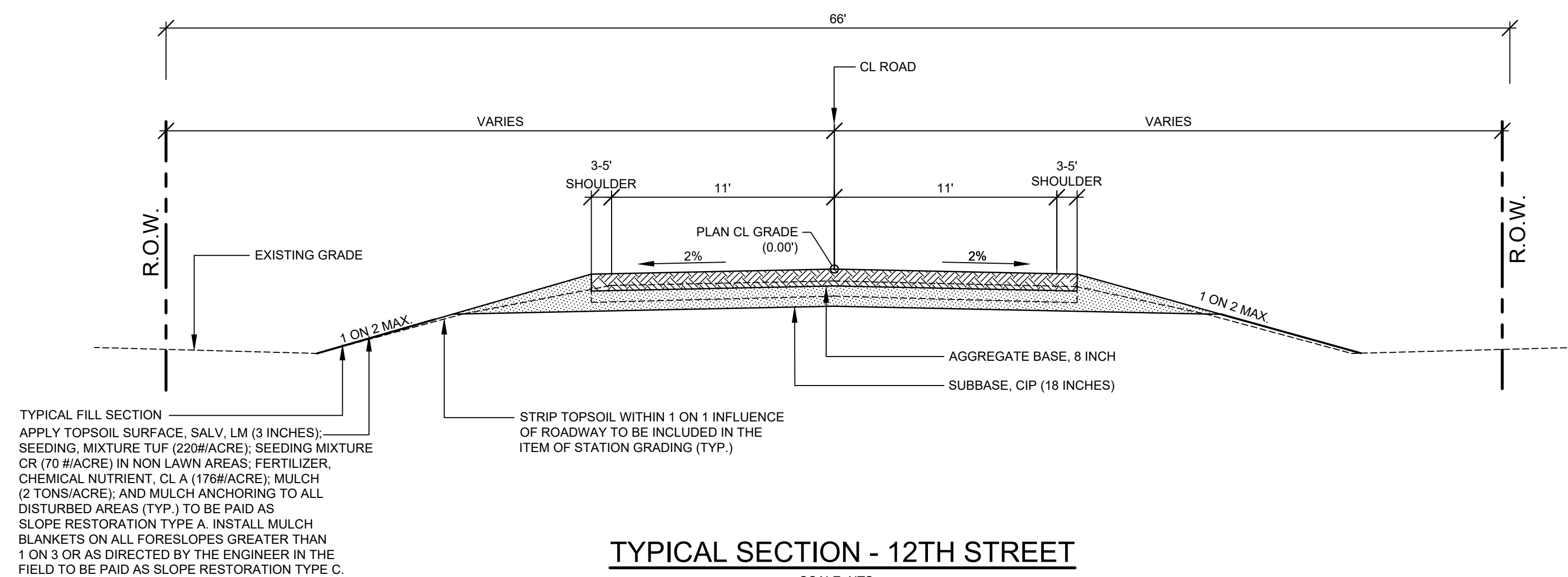
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REVISIONS	NO.	DATE	DESCRIPTION
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12TH STREET CULVERT REPLACEMENTS
 HOPKINS/WAYLAND TOWNSHIP - 2,850 FEET NORTH OF 130TH AVENUE
 COOCH DRAIN PLAN

DRAWN BY: RKA
 REVIEWED BY: RK
 DATE: JANUARY 2024
 SCALE: AS NOTED

PH 300066 3



TYPICAL FILL SECTION
 APPLY TOPSOIL SURFACE, SALV. LM (3 INCHES);
 SEEDING, MIXTURE TUF (220#/ACRE); SEEDING MIXTURE
 CR (70 #/ACRE) IN NON LAWN AREAS; FERTILIZER,
 CHEMICAL NUTRIENT, CL A (176#/ACRE); MULCH
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 DISTURBED AREAS (TYP.) TO BE PAID AS
 SLOPE RESTORATION TYPE A. INSTALL MULCH
 BLANKETS ON ALL FORESLOPES GREATER THAN
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 FIELD TO BE PAID AS SLOPE RESTORATION TYPE C.

STRIP TOPSOIL WITHIN 1 ON 1 INFLUENCE
 OF ROADWAY TO BE INCLUDED IN THE
 ITEM OF STATION GRADING (TYP.)

TYPICAL SECTION - 12TH STREET
 SCALE: NTS

PROJECT NOTES

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DIMENSIONS TAKE PRECEDENCE OVER SCALE. CONTRACTOR TO VERIFY ALL DIMENSIONS IN FIELD.

CULVERT TO BE MANUFACTURED PER HL-93 LOADING REQUIREMENTS. SHOP DRAWINGS TO BE APPROVED PRIOR TO PRODUCTION AND INSTALLATION OF THE BOX CULVERT.

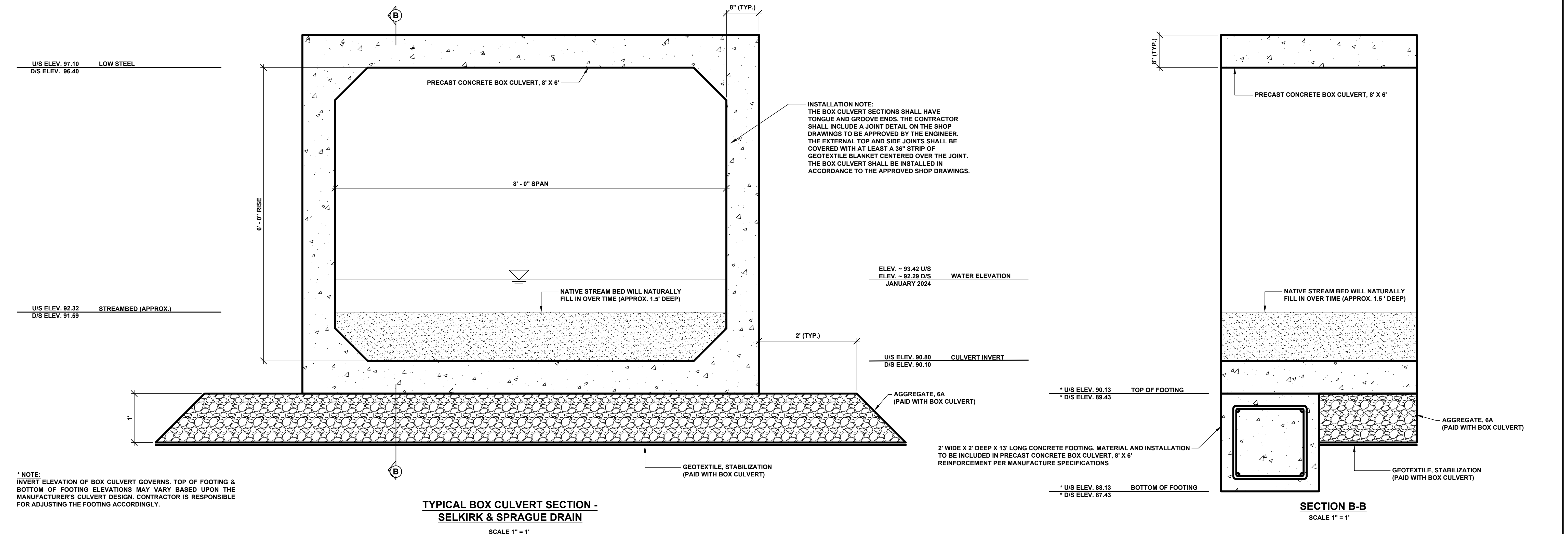
UTILITY NOTES

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INSTALLATION NOTE:
 THE BOX CULVERT SECTIONS SHALL HAVE
 TONGUE AND GROOVE ENDS. THE CONTRACTOR
 SHALL INCLUDE A JOINT DETAIL ON THE SHOP
 DRAWINGS TO BE APPROVED BY THE ENGINEER.
 THE EXTERNAL TOP AND SIDE JOINTS SHALL BE
 COVERED WITH AT LEAST A 36\"/>

* NOTE:
 INVERT ELEVATION OF BOX CULVERT GOVERNS. TOP OF FOOTING &
 BOTTOM OF FOOTING ELEVATIONS MAY VARY BASED UPON THE
 MANUFACTURER'S CULVERT DESIGN. CONTRACTOR IS RESPONSIBLE
 FOR ADJUSTING THE FOOTING ACCORDINGLY.

**TYPICAL BOX CULVERT SECTION -
 SELKIRK & SPRAGUE DRAIN**

SCALE 1" = 1'

SECTION B-B

SCALE 1" = 1'

12TH STREET CULVERT REPLACEMENTS
 HOPKINS/WAYLAND TOWNSHIP - 6,100 FEET NORTH OF 130TH AVENUE
 SELKIRK & SPRAGUE DRAIN - TYPICAL SECTIONS, DETAILS, & NOTES

DRAWN BY: RKA
 REVIEWED BY: RK
 DATE: JANUARY 2024
 SCALE: AS NOTED

EX. INLET ELEV. 92.84
 EX. OUTLET ELEV. 92.32
 PROP. INLET ELEV. 90.80 (BURIED ~1.5 FT)
 PROP. OUTLET ELEV. 90.10 (BURIED ~1.5 FT)

EXISTING 8 FT X 6 FT X 45 FT CMP CULVERT
 (TO BE REMOVED)
 PROPOSED PRECAST CONCRETE BOX CULVERT
 8 FT X 6 FT X 56 FT @ 1.3%

10 SYD - RIPRAP, HEAVY
 APPROX. 10' X 8' EACH SIDE OF OUTLET
 RIPRAP PLACED WITHIN
 STREAM SHALL NOT EXCEED
 STREAMBED ELEVATION

STREAM WIDTH = 5 FEET
 BANKFULL WIDTH = 8 FEET
 WATER LEVEL U/S = 93.42
 DATE OF OBSERVATION 01/08/24

CAUTION: UNDERGROUND
 COMMUNICATIONS UTILITIES

SOIL: PEWAMO SILT LOAM

STAGING NOTES

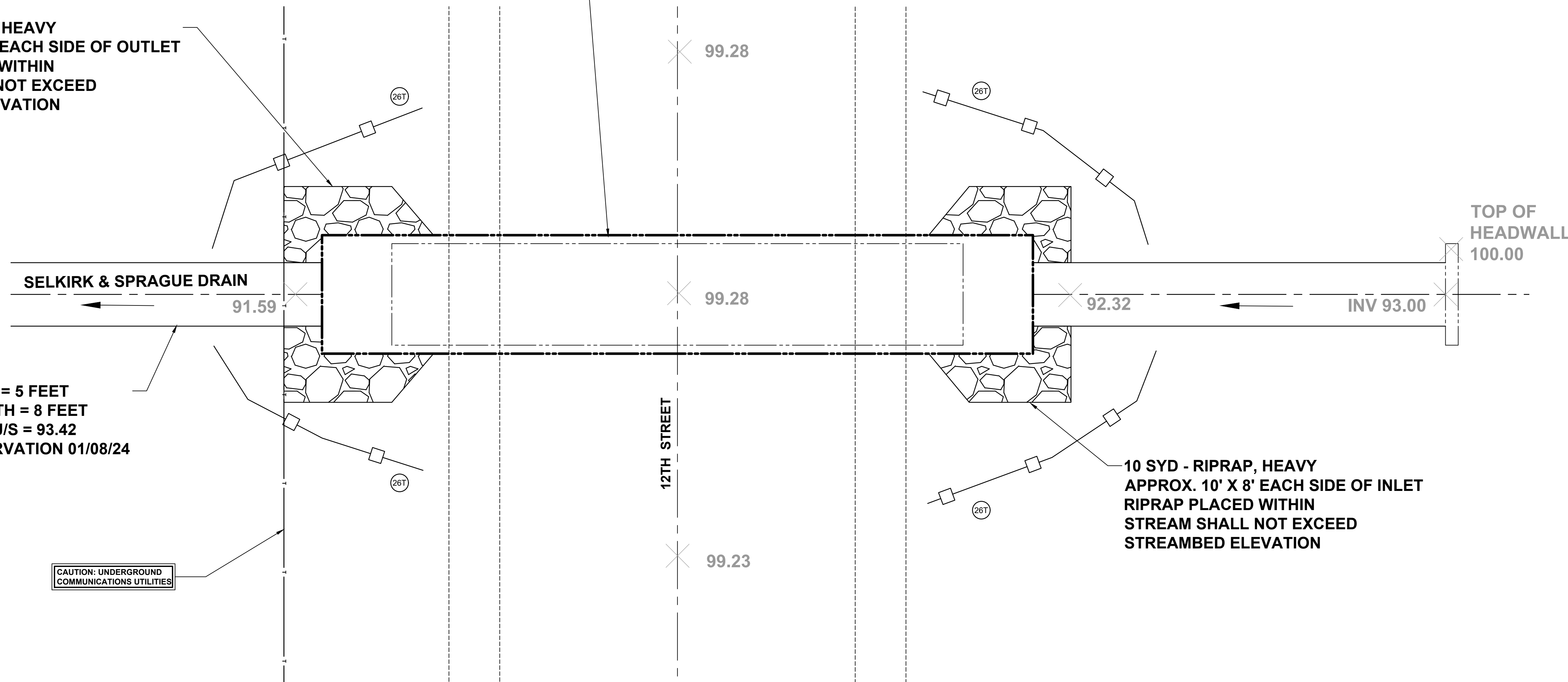
- 1) INSTALL TEMPORARY EROSION CONTROL MEASURES.
- 2) PUT THE TEMPORARY CREEK DIVERSION OR BYPASS IN PLACE. IF A FILTER BAG IS USED, ENSURE BAG IS PLACED OUTSIDE OF STREAM.
- 3) REMOVE THE EXISTING CULVERT STRUCTURE.
- 4) INSTALL THE 8' X 6' PRECAST CONCRETE BOX CULVERT.
- 5) OPEN THE CHANNEL FROM THE DOWNSTREAM END AND ALLOW THE WATER TO EQUALIZE. OPEN THE UPSTREAM SIDE OF THE NEW CHANNEL AND REMOVE THE TEMPORARY DIVERSION OR BYPASS.
- 6) BACKFILL OVER THE PRECAST CONCRETE BOX.
- 7) INSTALL PERMANENT SOIL EROSION CONTROL MEASURES.
- 8) REMOVE TEMPORARY EROSION CONTROL MEASURES ONCE VEGETATION IS ESTABLISHED.

SOIL EROSION & SEDIMENTATION CONTROL NOTES

1. ALL CONSTRUCTION METHODS WILL BE DONE IN COMPLIANCE WITH THE MICHIGAN SOIL EROSION AND SEDIMENTATION CONTROL ACT. THE COUNTY ROAD COMMISSION WILL OBTAIN A NOTICE OF COVERAGE FROM EGLE PRIOR TO START OF CONSTRUCTION IF THE DISTURBANCE AREA OF THE PROJECT IS GREATER THAN FIVE ACRES. THE CONTRACTOR WILL BE RESPONSIBLE FOR COMPLYING WITH ALL REQUIREMENTS OF THE MICHIGAN DEPARTMENT OF TRANSPORTATION'S SESC MANUAL. EROSION CONTROL MEASURES SHOWN ON THE PLANS ARE THE MINIMUM REQUIREMENTS AND WILL NOT RELIEVE THE CONTRACTOR'S RESPONSIBILITY FOR PROVIDING ALL REQUIRED EROSION CONTROL MEASURES.
 2. AVOID UNNECESSARY DISTURBING OR REMOVING OF EXISTING VEGETATED TOPSOIL OR EARTH COVER. THESE COVER AREAS ACT AS SEDIMENT FILTERS.
 3. ALL TEMPORARY SOIL EROSION PROTECTION WILL REMAIN IN PLACE UNTIL REMOVAL IS REQUIRED FOR FINAL CLEAN UP AND APPROVAL.
 4. GEOTEXTILE SILT FENCE WILL BE INSTALLED AS REQUIRED WHEN CROSSING CREEKS OR WHEN ADJACENT TO WETLANDS OR SURFACE WATER BODIES TO PREVENT SILTATION AND ELSEWHERE AS DIRECTED BY THE ENGINEER. SEEDING AND/OR SODDING WILL BE INSTALLED ON CREEK BANKS IMMEDIATELY AFTER CONSTRUCTION TO PREVENT EROSION.
 5. MAINTENANCE, CLEANING, AND REMOVAL OF THE VARIOUS SEDIMENT CONTROL MEASURES WILL BE INCLUDED IN THE VARIOUS EROSION CONTROL ITEMS.
 6. SOIL TYPE LOCATIONS ARE APPROXIMATED FROM THE UNITED STATES DEPARTMENT OF AGRICULTURE'S WEB SOIL SURVEY MAPS. DETAILED PROPERTIES FOR EACH SOIL TYPE CAN BE FOUND ON THEIR WEBSITE: WEBSOILSURVEY.NRCS.USDA.GOV
 7. TEMPORARY EROSION CONTROL MEASURES WILL NOT BE MANDATORY IF STORMWATER IS DETERMINED TO BE TOPOGRAPHICALLY INCAPABLE OF LEAVING SITE.
 8. SLOPE STAKE LINES AS CALLED OUT IN THE PLAN SHEETS DEFINE THE EARTH CHANGE LIMITS FOR THIS PROJECT.
 9. ALLEGAN COUNTY ROAD COMMISSION ASSUMES RESPONSIBILITY FOR MAINTENANCE OF PERMANENT SOIL EROSION & SEDIMENTATION CONTROL MEASURES ONE YEAR AFTER FINAL PROJECT ACCEPTANCE AS DEFINED UNDER THE SOIL EROSION AND SEDIMENTATION CONTROL OPERATING PROCEDURES FOR THE ALLEGAN COUNTY ROAD COMMISSION.
- NUMBER IN CIRCLE REFERS TO NUMBERED DETAILS ON MDOT STANDARD PLAN R-96 SERIES. SOIL EROSION & SEDIMENTATION CONTROL MEASURES. "P" DENOTES PERMANENT MEASURE AND "T" DENOTES TEMPORARY MEASURE. SOIL EROSION CONTROL PLANS DENOTE MINIMUM EROSION MEASURES REQUIRED AS DESCRIBED BELOW.
- ALL DISTURBED AREAS NOT PAVED OR GRAVELED SHALL BE RESTORED UNDER THE PAY ITEM SLOPE RESTORATION TYPE A. THIS PAY ITEM INCLUDES PLACING MDOT SEEDING, MIXTURE TUF APPLIED AT A RATE OF 220 LB/ACRE, FERTILIZER, CHEMICAL NUTRIENT, CL A APPLIED AT A RATE OF 176 LB/ACRE; MULCH AT A RATE OF 2 TON/ACRE AND MULCH ANCHORING.
- TEMPORARY SEEDING WILL BE PLACED AT LOCATIONS DETERMINED BY THE ENGINEER IN THE FIELD AND WILL INCLUDE SEEDING MIXTURE, OR APPLIED AT A RATE OF 70 LB/ACRE AND MULCH INCLUDED IN SLOPE RESTORATION TYPE A.
- DUST CONTROL MAY BE REQUIRED ON THE SUBGRADE CONSTRUCTION AND WILL INCLUDE APPLYING FRESH WATER TO BE INCLUDED IN THE ITEM OF STATION GRADING. DUST CONTROL ON THE AGGREGATE BASE COURSE WILL BE ACCOMPLISHED BY APPLYING FRESH WATER (INCLUDED IN THE ITEM OF AGGREGATE BASE, _ INCH) AS DIRECTED BY THE PROJECT ENGINEER.
- INSTALL RIPRAP, PLAIN OR RIPRAP, HEAVY AS DIRECTED BY THE ENGINEER IN THE FIELD. THE RIPRAP, PLAIN AND RIPRAP, HEAVY PAY ITEMS WILL INCLUDE A GEOTEXTILE UNDERLAYMENT.
- SILT FENCE WILL BE INSTALLED AT CREEK CROSSINGS, ADJACENT TO ALL WETLANDS AND SURFACE WATERS, AND OTHER LOCATIONS AS DIRECTED BY THE ENGINEER. EACH SILT FENCE WILL BE INSTALLED GENERALLY ALONG THE SAME CONTOUR ELEVATION.
- CONTRACTOR WILL PROVIDE DOZER TRACKING PERPENDICULAR TO THE SLOPE TO REDUCE WATER AND WIND EROSION. THIS WILL BE PERFORMED AT LOCATIONS SHOWN OR AS DIRECTED BY THE ENGINEER IN THE FIELD. TO BE INCLUDED IN THE ITEM OF EMBANKMENT.
- HIGH VELOCITY MULCH BLANKETS WILL BE USED ON STEEP BANKS. PROVIDE MULCH BLANKET, HIGH VELOCITY CENTERED ON ALL DITCH BOTTOMS WITH A LONGITUDINAL GRADE OF 2.00% OR GREATER AND AT OTHER LOCATIONS AS DIRECTED BY THE ENGINEER IN THE FIELD. PAID AS SLOPE RESTORATION TYPE C.
- CHECK DAMS WILL BE INSTALLED AT THE LOCATIONS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER IN THE FIELD.

TIMING & SEQUENCE	WEEK 1					WEEK 2					WEEK 3						
	DAY 1	DAY 2	DAY 3	DAY 4	DAY 5	DAY 6	DAY 7	DAY 8	DAY 9	DAY 10	DAY 11	DAY 12	DAY 13	DAY 14	DAY 15	DAY 16	DAY 17
ANTICIPATED START DATE: MARCH 1, 2024																	
INSTALL/MAINTAIN TEMPORARY CONTROL MEASURES																	
SITE CLEARING																	
CULVERT INSTALLATIONS																	
ROADWAY/SLOPE RECONSTRUCTION																	
SLOPE RESTORATION/INSTALL PERMANENT CONTROL MEASURES																	
REMOVE TEMPORARY MEASURES																	

*SCHEDULE MAY BE ADJUSTED DEPENDING ON CONTRACTOR'S MEANS & METHODS



SOIL: BLOUNT SILT LOAM

LEGEND

RIPRAP, HEAVY AS DIRECTED BY THE ENGINEER IN THE FIELD, PAID FOR AS RIPRAP, HEAVY BY THE SYD.

Board of County Road Commissioners
 Of Allegan County
 1308 LINCOLN ROAD
 ALLEGAN, MICHIGAN 49010-9762
 www.alleganroads.org FAX (269) 673-5922
 TELEPHONE (269) 673-2184

REVISIONS	NO.	DATE	DESCRIPTION
1			
2			
3			
4			
5			
6			
7			

12TH STREET CULVERT REPLACEMENTS
 HOPKINS/WAYLAND TOWNSHIP - 6,100 FEET NORTH OF 130TH AVENUE
 SELKIRK & SPRAGUE DRAIN PLAN

DRAWN BY: RKA
 REVIEWED BY: RK
 DATE: JANUARY 2024
 SCALE: AS NOTED

PH 300066 5