OTSEGO COUNTY & MICHIGAN DEPARTMENT OF NATURAL RESOURCES

IN COOPERATION WITH

MICHIGAN DEPARTMENT OF TRANSPORTATION & FEDERAL HIGHWAY ADMINISTRATION

PLAN AND PROFILE OF PROPOSED

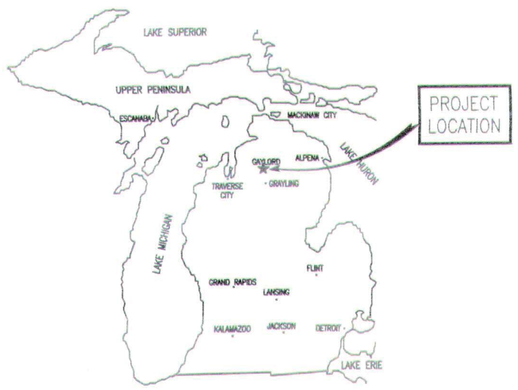
OTSEGO COUNTY IRON BELLE TRAIL

CONTROL SECTION NO. TAUL 69037

JOB NO. 133122A

FEDERAL GRANT TA2016-041

MNRTF GRANT TF16-0067



LOCATION MAP

NO SCALE

STANDARD PLAN LIST

WHERE THE FOLLOWING ITEMS ARE CALLED FOR ON THE PLANS, THEY ARE TO BE CONSTRUCTED ACCORDING TO THE STANDARD GIVEN BELOW THAT IS OPPOSITE FROM EACH ITEM, UNLESS OTHERWISE INDICATED BY THE ENGINEER.

SIDEWALK RAMP AND DETECTABLE WARNING DETAILS	R-28-J *
DRIVEWAY OPENINGS & APPROACHES, AND CONCRETE SIDEWALK	R-29-I
CONCRETE CURB AND CONCRETE CURB & GUTTER	R-30-G
BEDDING AND FILLING AROUND PIPE CULVERTS	R-82-D
UTILITY TRENCHES	R-83-C
CULVERT SLOPED END SECTION	R-95-F
SOIL EROSION & SEDIMENTATION CONTROL MEASURES	R-96-E
CHAIN LINK FENCE	R-98-B
SEEDING AND TREE PLANTING	R-100-H
WOVEN WIRE FENCE	R-101-B

* - INDICATES SPECIAL DETAIL

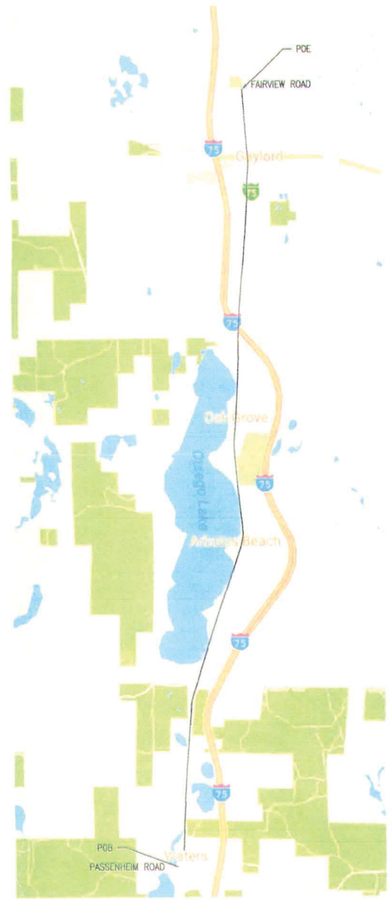
THE IMPROVEMENTS COVERED BY THESE PLANS ARE IN ACCORDANCE WITH THE AASHTO "GUIDE FOR THE DEVELOPMENT OF BICYCLE FACILITIES, 2012, FOURTH EDITION".

ALL PERMANENT SIGNING AND PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE 2011 MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, AS AMENDED.

TRAFFIC SHALL BE MAINTAINED IN ACCORDANCE WITH SECTION 812 OF THE 2012 MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, THE 2011 MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AS AMENDED, SUPPLEMENTAL SPECIFICATIONS, AND AS HEREIN SPECIFIED WITHIN THE PLANS.

IT IS UNDERSTOOD THAT THE CONTRACTOR SHALL PERFORM ALL WORK UNDER THIS CONTRACT IN ACCORDANCE WITH ALL APPLICABLE PROVISIONS, POLICIES, RULES AND STANDARDS OF THE MICHIGAN OCCUPATIONAL SAFETY AND HEALTH ACT (MIOSHA), BEING ACT 154 OF THE PUBLIC ACTS OF 2013 AND AS AMENDED.

EXCEPT WHERE OTHERWISE INDICATED ON THE PLANS OR IN THE PROPOSAL AND SUPPLEMENTAL SPECIFICATIONS CONTAINED THEREIN, ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF THE MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, 2012 EDITION, AND THE CURRENT SUPPLEMENTAL SPECIFICATIONS.



PROJECT MAP

SCALE: NONE

N W E S

Know what's below. Call before you dig.

PLAN SHEET INDEX

1	TITLE SHEET
2	TYPICAL CROSS SECTIONS
3	TYPICAL CROSS SECTIONS
4	TYPICAL CROSS SECTIONS
5	NOTE & DETAIL SHEET
6	PLAN & PROFILE - P.O.B. TO STA 26+00
7	PLAN & PROFILE - STA 26+00 TO STA 52+00
8	PLAN & PROFILE - STA 52+00 TO STA 78+00
9	PLAN & PROFILE - STA 78+00 TO STA 104+00
10	PLAN & PROFILE - STA 104+00 TO STA 130+00
11	PLAN & PROFILE - STA 130+00 TO STA 156+00
12	PLAN & PROFILE - STA 156+00 TO STA 182+00
13	PLAN & PROFILE - STA 182+00 TO STA 208+00
14	PLAN & PROFILE - STA 208+00 TO STA 234+00
15	PLAN & PROFILE - STA 234+00 TO STA 260+00
16	PLAN & PROFILE - STA 260+00 TO STA 286+00
17	PLAN & PROFILE - STA 286+00 TO STA 312+00
18	PLAN & PROFILE - STA 312+00 TO STA 338+00
19	PLAN & PROFILE - STA 338+00 TO STA 364+00
20	PLAN & PROFILE - STA 364+00 TO STA 390+00
21	PLAN & PROFILE - STA 390+00 TO STA 416+00
22	PLAN & PROFILE - STA 416+00 TO STA 442+00
23	PLAN & PROFILE - STA 442+00 TO STA 468+00
24	PLAN & PROFILE - STA 468+00 TO STA 494+00
25	PLAN & PROFILE - STA 494+00 TO STA 520+00
26	PLAN & PROFILE - STA 520+00 TO STA 546+00
27	PLAN & PROFILE - STA 546+00 TO STA 572+00
28	PLAN & PROFILE - STA 572+00 TO STA 599+00
29	PLAN & PROFILE - STA 599+00 TO STA 613+00
30	RAMP DETAILS 1
31	RAMP DETAILS 2
32	RAMP DETAILS 3
33	RAMP DETAILS 4
34	RAMP DETAILS 5
35	RAMP DETAILS 6
36	RAMP DETAILS 7
37	FAIRVIEW ROAD DETAILS

PROJECT LENGTH: APPROXIMATELY 11.5 MILES

CONTRACT FOR:
CONSTRUCTION OF OTSEGO COUNTY IRON BELLE TRAIL VIA 10 FOOT WIDE AGGREGATE PATH WITH UPDATED ROAD AND RAILROAD CROSSINGS, TRAIL SIGNAGE

MICHIGAN DEPARTMENT OF NATURAL RESOURCES APPROVAL

Paul Yauk, State Trails Coordinator — 3-8-18

OTSEGO COUNTY APPROVAL

Rachel Frisch, County Administrator — 3-9-18

PREPARED UNDER SUPERVISION OF

Lawrence M. Fox, P.E.
Registration No. 6021030967

STATE OF MICHIGAN — LAWRENCE M. FOX — ENGINEER — No. 34367 — REGISTERED PROFESSIONAL ENGINEER

725 Prudden Street
Lansing, Michigan 48906
517.371.1200

123 West Main Street, Suite 200
Gaylord, Michigan 49735
989.732.8131

211 E. Water Street
Kalamazoo, Michigan 49007
269.216.0222

648 Monroe Avenue NW, Suite 210
Grand Rapids, Michigan 49503
616.454.9414

1211 Ludington Street
Escanaba, Michigan 49829
906.233.9360

SHEET 1 OF 37

c2ae architecture • engineering

OTSEGO COUNTY IRON BELLE TRAIL
OTSEGO COUNTY, MI

TITLE SHEET

REVISIONS

SCALE AS SHOWN

PROJ # 170019

DATE: MARCH 1, 2018

SHEET 1

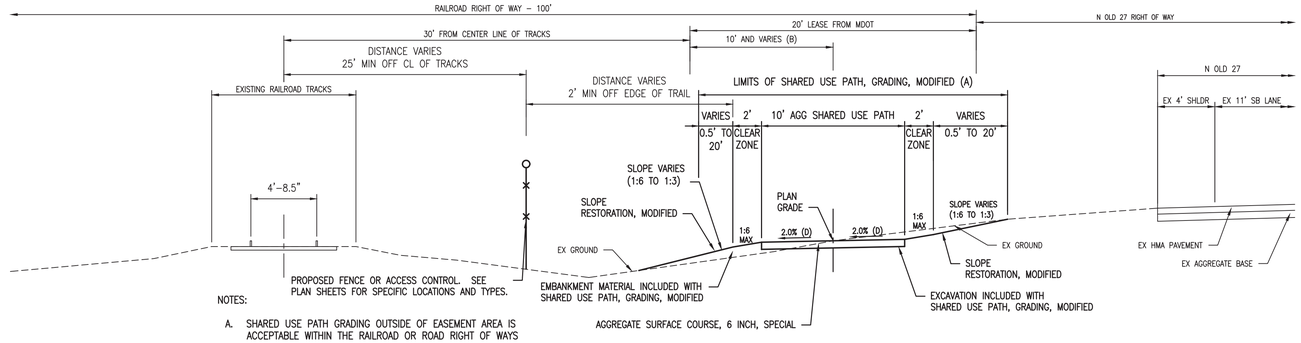
BID SET

HMA APPLICATION ESTIMATE

IDENT NO.	ITEM	RATE: LBS/SYD	PERFORMANCE GRADE	REMARKS
APPR	HMA APPROACH (LVSP)	VARIES	58-28	REFER TO PLANS
HP	HAND PATCHING (LVSP)	AS NEEDED	58-28	MAX. LIFT 3 INCHES
BC	HMA BOND COAT	0-0.10 GAL.	NA	FOR INFORMATION ONLY

* HMA APPROACH IS FOR DRIVE APPROACHES ONLY, SEE PLAN SHEETS. RATE IS 330 LBS/SYD PLACED IN TWO LIFTS, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

NOTE: THE TARGET AIR VOIDS FOR THIS PROJECT SHALL BE REGRESSED TO 3.0%.



NOTES:

A. SHARED USE PATH GRADING OUTSIDE OF EASEMENT AREA IS ACCEPTABLE WITHIN THE RAILROAD OR ROAD RIGHT OF WAYS

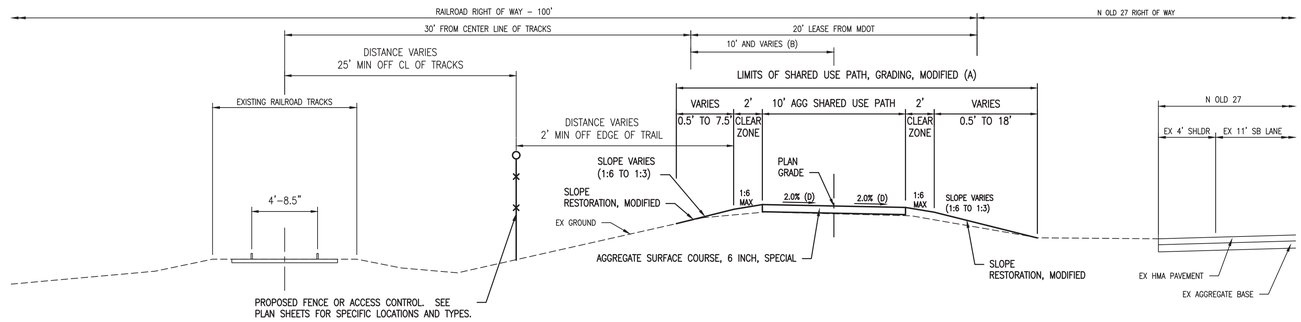
B. PATH ALIGNMENT IS TO BE CENTERED WITHIN LEASE AREA EXCEPT WHERE SHOWN ON PLANS

C. WHERE TRAIL GRADING/RESTORATION DOES NOT REACH EXISTING SNOWMOBILE TRAIL, EXISTING TRAIL IS TO BE ELIMINATED AND RESTORED BY SLOPE RESTORATION PAY ITEM

D. SLOPE DIRECTION MAY VARY AND MAY BE ADJUSTED BY ENGINEER IN FIELD

PROPOSED PATH TYPICAL CROSS SECTION

TO APPLY: STA 4+72 (POB) TO STA 50+00
STA 58+00 TO STA 306+00
STA 314+25 TO STA 316+15
STA 324+00 TO STA 388+57



NOTES:

A. SHARED USE PATH GRADING OUTSIDE OF EASEMENT AREA IS ACCEPTABLE WITHIN THE RAILROAD OR ROAD RIGHT OF WAYS

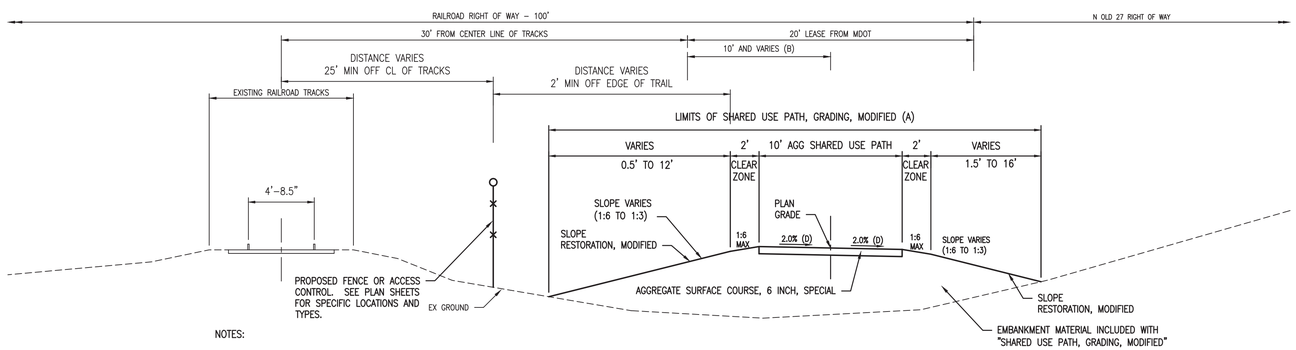
B. PATH ALIGNMENT IS TO BE CENTERED WITHIN LEASE AREA EXCEPT WHERE SHOWN ON PLANS

C. WHERE TRAIL GRADING/RESTORATION DOES NOT REACH EXISTING SNOWMOBILE TRAIL, EXISTING TRAIL IS TO BE ELIMINATED AND RESTORED BY SLOPE RESTORATION PAY ITEM

D. SLOPE DIRECTION MAY VARY AND MAY BE ADJUSTED BY ENGINEER IN FIELD

PROPOSED PATH TYPICAL CROSS SECTION

TO APPLY:
STA 50+00 TO STA 58+00



NOTES:

A. SHARED USE PATH GRADING OUTSIDE OF EASEMENT AREA IS ACCEPTABLE WITHIN THE RAILROAD OR ROAD RIGHT OF WAYS

B. PATH ALIGNMENT IS TO BE CENTERED WITHIN LEASE AREA EXCEPT WHERE SHOWN ON PLANS

C. WHERE TRAIL GRADING/RESTORATION DOES NOT REACH EXISTING SNOWMOBILE TRAIL, EXISTING TRAIL IS TO BE ELIMINATED AND RESTORED BY SLOPE RESTORATION PAY ITEM

D. SLOPE DIRECTION MAY VARY AND MAY BE ADJUSTED BY ENGINEER IN FIELD

PROPOSED PATH TYPICAL CROSS SECTION

TO APPLY:
STA 306+00 TO STA 316+15

WE RECYCLE

PLOTTED BY: POYNTER, AMANDA, 3/1/2018 1:22 PM
DGN FILE: P:\170019\Design\Roadway\Sheets\Typical Cross Sections.dwg - 2 TYPICAL CROSS SECTIONS
C2AE STANDARD STB

DESIGNED BY: -
CHECKED BY: -
APPROVED BY: -
DWGS MOD BY: -

c2ae architecture • engineering

OTSEGO COUNTY IRON BELLE TRAIL

OTSEGO COUNTY, MI

TYPICAL CROSS SECTIONS

REVISIONS

© 2018 C2AE
NOT TO BE REPRODUCED OR DISTRIBUTED WITHOUT PRIOR WRITTEN CONSENT FROM C2AE. ALL RIGHTS RESERVED.

SCALE: AS SHOWN

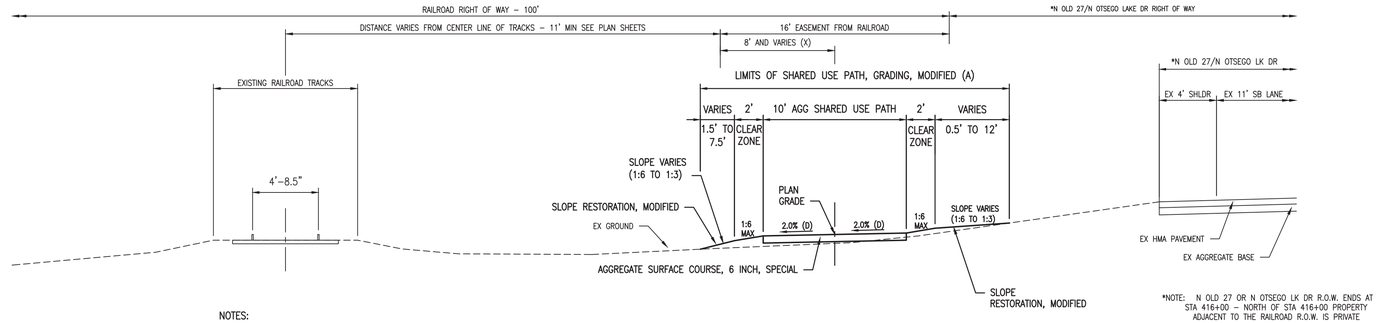
PROJ. #: 170019

DATE: MARCH 1, 2018

SHEET

2

BID SET



*NOTE: N OLD 27 OR N OTSEGO LK DR R.O.W. ENDS AT STA 416+00 – NORTH OF STA 416+00 PROPERTY ADJACENT TO THE RAILROAD R.O.W. IS PRIVATE

NOTES:

A. SHARED USE PATH GRADING OUTSIDE OF EASEMENT AREA IS ACCEPTABLE WITHIN THE RAILROAD OR ROAD RIGHT OF WAYS

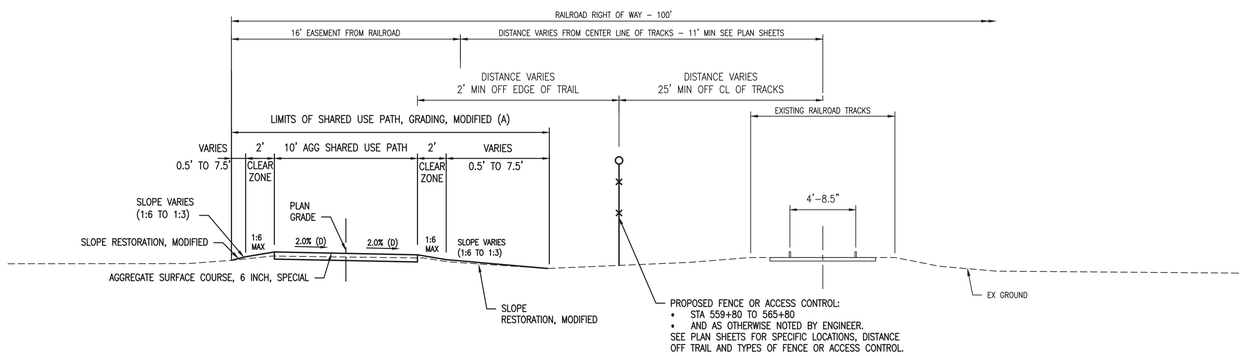
B. PATH ALIGNMENT IS TO BE CENTERED WITHIN EASEMENT AREA EXCEPT WHERE SHOWN ON PLANS

C. WHERE TRAIL GRADING/RESTORATION DOES NOT REACH EXISTING SNOWMOBILE TRAIL, EXISTING TRAIL IS TO BE ELIMINATED AND RESTORED BY SLOPE RESTORATION PAY ITEM

D. SLOPE DIRECTION MAY VARY AND MAY BE ADJUSTED BY ENGINEER IN FIELD

PROPOSED PATH TYPICAL CROSS SECTION

TO APPLY:
STA 388+57 TO STA 422+75
STA 426+00 TO STA 428+46
STA 544+96 TO STA 552+08



NOTES:

A. SHARED USE PATH GRADING OUTSIDE OF EASEMENT AREA IS ACCEPTABLE WITHIN THE RAILROAD OR ROAD RIGHT OF WAYS

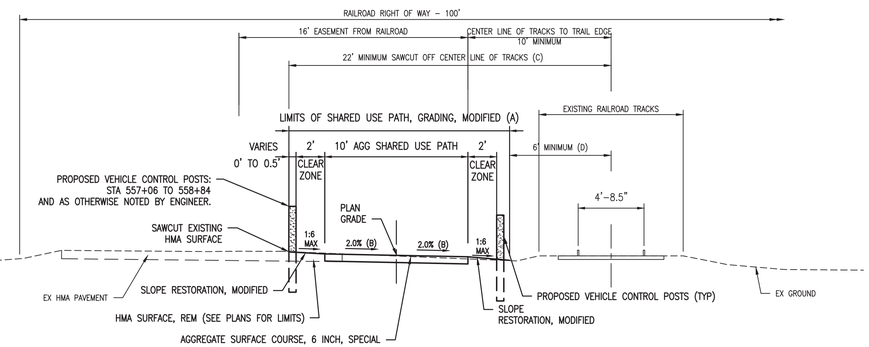
B. PATH ALIGNMENT IS TO BE CENTERED WITHIN EASEMENT AREA EXCEPT WHERE SHOWN ON PLANS

C. WHERE TRAIL GRADING/RESTORATION DOES NOT REACH EXISTING SNOWMOBILE TRAIL, EXISTING TRAIL IS TO BE ELIMINATED AND RESTORED BY SLOPE RESTORATION PAY ITEM

D. SLOPE DIRECTION MAY VARY AND MAY BE ADJUSTED BY ENGINEER IN FIELD

PROPOSED PATH TYPICAL CROSS SECTION

TO APPLY:
STA 428+46 TO STA 544+96
STA 552+08 TO STA 552+91
STA 559+00 TO 612+58 (POE)



NOTES:

A. SHARED USE PATH GRADING OUTSIDE OF EASEMENT AREA IS ACCEPTABLE WITHIN THE RAILROAD OR ROAD RIGHT OF WAYS

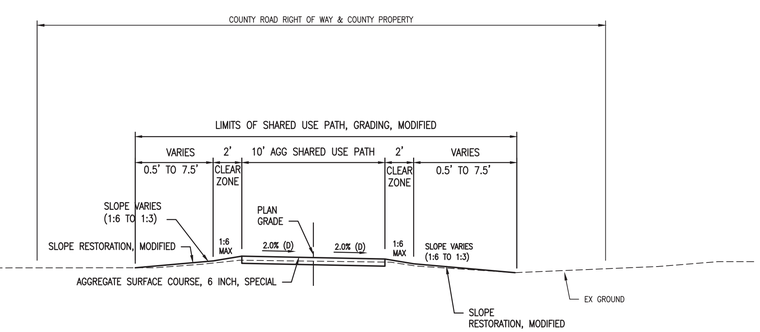
B. SLOPE DIRECTION MAY VARY AND MAY BE ADJUSTED BY ENGINEER IN FIELD

C. SAWCUT LOCATION SHALL BE PER THE PLANS AND AS DIRECTED BY THE ENGINEER. DISTANCE WILL VARY WHERE VEHICLE CONTROL POSTS ARE ALSO PROPOSED FOR THE WEST SIDE OF THE TRAIL.

D. GRADING OPERATIONS SHALL NOT BE CLOSER THAN 6' OFF THE CENTER LINE OF THE RAILROAD TRACKS.

PROPOSED PATH TYPICAL CROSS SECTION

TO APPLY:
STA 552+91 TO STA 559+00
(SECOND ST. TO MAIN ST./M–32)



NOTES:

A. SLOPE DIRECTION MAY VARY AND MAY BE ADJUSTED BY ENGINEER IN FIELD

PROPOSED PATH TYPICAL CROSS SECTION

TO APPLY:
PATH CONNECTOR TO SPORTSPLEX (SEE SHEET 25)

c2ae architecture • engineering

OTSEGO COUNTY IRON BELLE TRAIL

OTSEGO COUNTY, MI

TYPICAL CROSS SECTIONS

REVISIONS

© 2018 C2AE
NOT TO BE REPRODUCED OR DISTRIBUTED WITHOUT PRIOR WRITTEN CONSENT FROM C2AE
ALL RIGHTS RESERVED

SCALE: AS SHOWN

PROJ. #: 170019

DATE: MARCH 1, 2018

SHEET

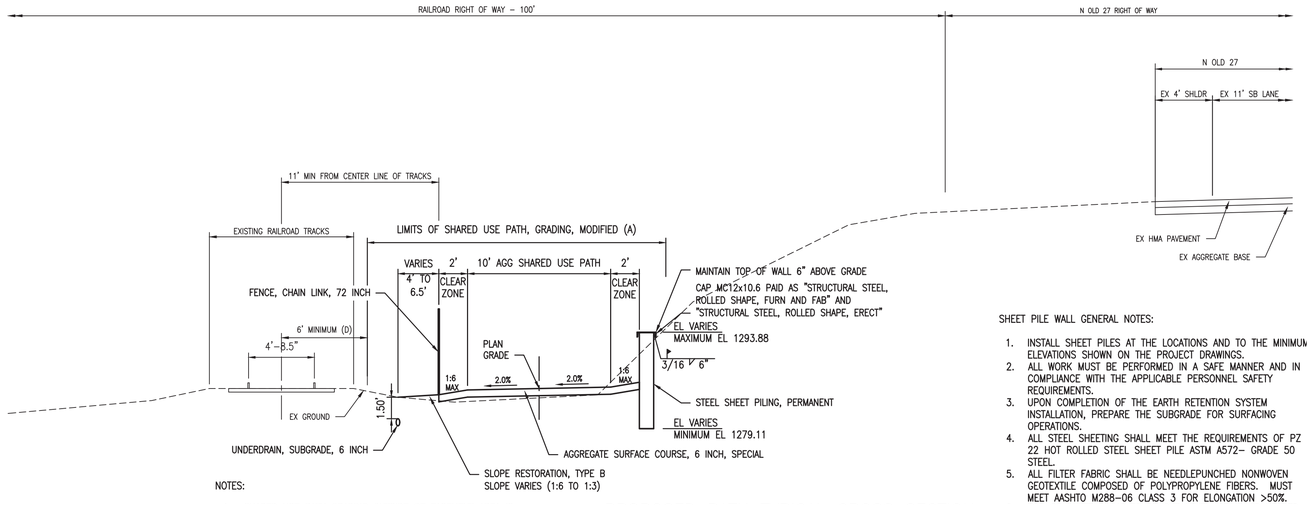
3

BID SET

PLOTTED BY: POYNTER, AMANDA, 3/7/2018 1:22 PM
DRAWING: J:\Otsego Co Parks\170019 IronBelle\Drawings\Sheets\Typical Cross Sections.dwg - 3 TYPICAL CROSS SECTIONS
C2AE STANDARD STB

DESIGNED BY: -
CHECKED BY: -
APPROVED BY: -
DWGS MODI BY: -

WE RECYCLE



NOTES:

A. SHARED USE PATH GRADING OUTSIDE OF EASEMENT AREA IS ACCEPTABLE WITHIN THE RAILROAD OR ROAD RIGHT OF WAYS

B. PATH ALIGNMENT IS TO BE NO CLOSER THAN 18 FEET FROM THE CENTER OF THE RAILROAD TRACKS

C. WHERE TRAIL GRADING/RESTORATION DOES NOT REACH EXISTING SNOWMOBILE TRAIL, EXISTING TRAIL IS TO BE ELIMINATED AND RESTORED BY SLOPE RESTORATION PAY ITEM

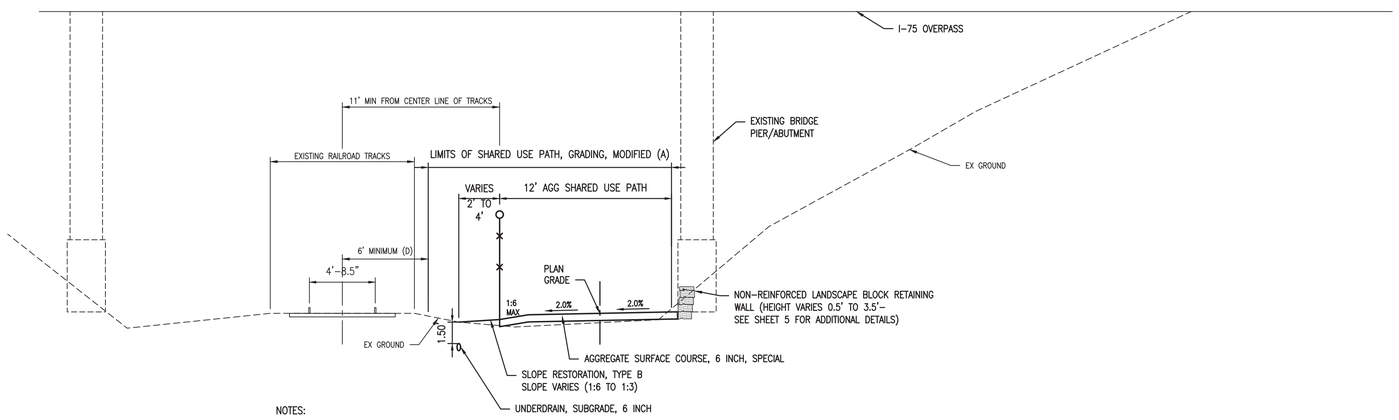
D. GRADING OPERATIONS SHALL NOT BE CLOSER THAN 6' OFF THE CENTER LINE OF THE RAILROAD TRACKS

PROPOSED PATH TYPICAL CROSS SECTION

TO APPLY:
STA 316+15 TO STA 324+00

SHEET PILE WALL GENERAL NOTES:

1. INSTALL SHEET PILES AT THE LOCATIONS AND TO THE MINIMUM ELEVATIONS SHOWN ON THE PROJECT DRAWINGS.
2. ALL WORK MUST BE PERFORMED IN A SAFE MANNER AND IN COMPLIANCE WITH THE APPLICABLE PERSONNEL SAFETY REQUIREMENTS.
3. UPON COMPLETION OF THE EARTH RETENTION SYSTEM INSTALLATION, PREPARE THE SUBGRADE FOR SURFACING OPERATIONS.
4. ALL STEEL SHEETING SHALL MEET THE REQUIREMENTS OF PZ 22 HOT ROLLED STEEL SHEET PILE ASTM A572– GRADE 50 STEEL.
5. ALL FILTER FABRIC SHALL BE NEEDLEPUNCHED NONWOVEN GEOTEXTILE COMPOSED OF POLYPROPYLENE FIBERS. MUST MEET AASHTO M288–06 CLASS 3 FOR ELONGATION >50%.
6. TOP OF SHEET PILING TO BE CUT LEVEL. GRIND AS NEEDED IN PREPARATION FOR WELDING OF CHANNEL.



NOTES:

A. SHARED USE PATH GRADING OUTSIDE OF EASEMENT AREA IS ACCEPTABLE WITHIN THE RAILROAD OR ROAD RIGHT OF WAYS

B. PATH ALIGNMENT IS TO BE NO CLOSER THAN 18 FEET FROM THE CENTER OF THE RAILROAD TRACKS

C. WHERE TRAIL GRADING/RESTORATION DOES NOT REACH EXISTING SNOWMOBILE TRAIL, EXISTING TRAIL IS TO BE ELIMINATED AND RESTORED BY SLOPE RESTORATION PAY ITEM

D. GRADING OPERATIONS SHALL NOT BE CLOSER THAN 6' OFF THE CENTER LINE OF THE RAILROAD TRACKS

PROPOSED PATH TYPICAL CROSS SECTION

TO APPLY:
STA 422+75 TO STA 426+00

c2ae architecture • engineering

OTSEGO COUNTY IRON BELLE TRAIL
OTSEGO COUNTY, MI

TYPICAL CROSS SECTIONS

REVISIONS

© 2018 C2AE
NOT TO BE REPRODUCED OR DISTRIBUTED WITHOUT PRIOR WRITTEN CONSENT FROM C2AE
ALL RIGHTS RESERVED

SCALE: AS SHOWN
PROJ. #: 170019
DATE: MARCH 1, 2018
SHEET
4

BID SET

WE RECYCLE

PLOTTED BY: POYNTER, AMANDA 3/7/2018 1:22 PM
DWG NAME: C:\PW_WORK\dpoynter\d0035262\Typical Cross Sections.dwg -4 TYPICAL CROSS SECTIONS
C2AE STANDARD.STB

DESIGNED BY: -
CHECKED BY: -
APPROVED BY: -
DWG'S MOD BY: -

GENERAL PLAN NOTES

1. UNDERGROUND UTILITIES
FOR PROTECTION OF UNDERGROUND UTILITIES, AND IN CONFORMANCE WITH PUBLIC ACT 174, 2013, THE CONTRACTOR SHALL CALL TOLL FREE 1-811-482-7171 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. ALL "MISS DIG" PARTICIPATING MEMBERS WILL BE THUS ROUTINELY NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR FROM NOTIFYING UTILITY OWNERS WHO MAY NOT BE A PART OF THE "MISS DIG" ALERT SYSTEM.

2. EXISTING UTILITIES
EXISTING UTILITY LINES, INCLUDING BUT NOT LIMITED TO GAS LINES, TELEPHONE LINES, WATER MAIN, CABLE TV, ELECTRIC, DATA LINES, STORM SEWER, SANITARY SEWER AND OTHER UNDERGROUND UTILITIES MAY BE SHOWN IN PLAN VIEW OF THE CONSTRUCTION DRAWINGS ONLY, AND LOCATIONS ARE TO BE CONSIDERED INCOMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING UTILITIES DURING THE CONSTRUCTION OF THIS PROJECT.

3. MONUMENT BOXES
ALL GOVERNMENT CORNERS AND PROPERTY IRONS SHALL BE PRESERVED, WHETHER SHOWN OR NOT. WHERE NECESSARY, MONUMENT BOXES SHALL BE REPLACED, ADJUSTED, OR PLACED. PAYMENT, WHEN APPLICABLE, WILL BE BY THE "MONUMENT PRESERVATION", "MONUMENT BOX", OR "MONUMENT BOX ADJUST" PAY ITEM. ANY CORNERS OR IRONS DAMAGED DURING CONSTRUCTION SHALL BE REPLACED AND PAID FOR BY THE CONTRACTOR.

4. RIGHT-OF-WAY AND PROPERTY LINES
THE LOCATION OF RIGHT-OF-WAY LINES SHOWN ON THE PLAN DRAWINGS ARE APPROXIMATE ONLY. ALL PROPERTY IRONS SHALL BE PROTECTED. ANY PROPERTY IRONS DISTURBED BY CONSTRUCTION, WHETHER SHOWN ON THE DRAWING OR NOT, SHALL BE RESET BY A REGISTERED SURVEYOR AT THE CONTRACTORS EXPENSE.

5. SAW CUTTING HMA AND CONCRETE SURFACES
SAW CUTTING HMA AND CONCRETE SURFACES TO THE LIMITS OF RECONSTRUCTION OR AS DIRECTED BY THE ENGINEER SHALL BE INCLUDED WITH PAYMENT FOR "HMA SURFACE, REM", "PAVT, REM" OR "SIDEWALK, REM" PAY ITEMS AS APPLICABLE INCLUDING SAW CUTTING DRIVEWAYS AT THE REPLACEMENT LIMITS. IF A PAVEMENT EDGE IS DAMAGED SUBSEQUENT TO SAW CUTTING, THE EDGE SHALL BE RECUT AS DIRECTED BY THE ENGINEER. SAW CUTTING SHALL BE FULL DEPTH OF THE PAVEMENT BEING SAWED.

6. SOIL EROSION AND SEDIMENTATION CONTROL
PROVISIONS SHALL BE MADE FOR THE CONTROL OF SOIL EROSION ON SHOULDERS AND SLOPES BY MEANS OF SEEDING OR OTHER ACCEPTABLE MEANS AS PART OF THIS CONTRACT. SILT FENCE SHALL BE PLACED AS NOTED ON THE PLANS AND/OR AT LOCATIONS AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL FULLY COMPLY WITH THE REQUIREMENTS OF PART 91 OF P.A. 451 OF 1994.

7. TRAFFIC CONTROL
THE CONTRACTOR SHALL ERECT AND MAINTAIN THE NECESSARY CONSTRUCTION SIGNING THROUGHOUT THE DURATION OF THE PROJECT ALONG THE CONSTRUCTION ROUTE AND ALL INTERSECTING ROADS. PLACEMENT OF PERMANENT AND TEMPORARY TRAFFIC CONTROL ITEMS SHALL BE DONE IN ACCORDANCE WITH THE 2011 EDITION OF THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, AS AMENDED AND M.D.O.T. GUIDELINES. ALL SIGNAGE SHALL BE REVIEWED AND APPROVED BY THE ENGINEER. THE CONTRACTOR WILL BE REQUIRED TO ADJUST THE CONSTRUCTION SIGNING THROUGHOUT THE PROJECT, AS REQUIRED BY THE CONSTRUCTION. ALL COSTS SHALL BE INCLUDED IN THE "MINOR TRAF DEVICES" LUMP SUM PAY ITEM. THE CONTRACTOR SHALL SUBMIT A MAINTAINING TRAFFIC PLAN TO THE ENGINEER FOR APPROVAL. REFER TO THE MAINTAINING TRAFFIC SPECIAL PROVISION IN THE PROPOSAL.

8. MAINTAIN ACCESS TO RESIDENTIAL AND COMMERCIAL DRIVES, TRAILS, ETC.
ACCESS TO ALL RESIDENTIAL AND COMMERCIAL DRIVES AND INTERSECTING TRAILS SHALL BE MAINTAINED BY THE CONTRACTOR WITH THE USE OF SALVAGED OR OFF-SITE GRAVEL. MAINTAIN ACCESS FOR MAIL DELIVERY AT ALL TIMES. ALL COSTS ASSOCIATED WITH THE MAINTENANCE OF DRIVES OR TRAILS SHALL BE INCLUDED WITH THE "SHARED USE PATH, GRADING, MODIFIED" PAY ITEM.

9. REMOVAL LIMITS
ESTIMATED REMOVAL LIMITS ARE SHOWN ON THE DRAWINGS. THE CONTRACTOR SHALL USE METHODS TO LIMIT CONSTRUCTION DISTURBANCE TO THE LIMITS SHOWN. DISTURBANCE OUTSIDE OF THE LIMITS SHOWN ON THE DRAWING SHALL BE RESTORED AT THE CONTRACTOR'S EXPENSE, UNLESS OTHERWISE APPROVED BY THE ENGINEER. THE ENGINEER RESERVES THE RIGHT TO FIELD ADJUST THE PATH ALIGNMENT TO MINIMIZE THE DISTURBANCE WHERE APPLICABLE.

10. TREE REMOVAL
ALL TREE REMOVALS SHALL BE MARKED BY THE CONTRACTOR AND VERIFIED BY THE ENGINEER PRIOR TO REMOVAL. PAYMENT FOR ALL TREES/BRUSH/SHRUB REMOVALS AND CLEARING SHALL BE INCLUDED IN THE "SHARED USE PATH, GRADING, MODIFIED" PAY ITEM.

11. EXISTING STRUCTURES
UNLESS SPECIFICALLY NOTED FOR REMOVAL ON THE CONSTRUCTION PLANS, ALL DRIVES, TREES, FENCES, SIGNS AND OTHER APPURTENANCES SHALL BE PROTECTED. ALL SUCH ITEMS DAMAGED DURING THE COURSE OF CONSTRUCTION SHALL BE REPAIRED OR REPLACED, THE COSTS OF WHICH SHALL BE BORNE BY THE CONTRACTOR. EXISTING SIGNS (TRAIL OR ROADWAY) THAT MUST BE REMOVED FOR CONSTRUCTION, WILL BE PAID FOR ON A PER EACH BASIS AS "SIGN, TYPE III, REM" FOR EACH SIGN POST THAT IS REMOVED, REGARDLESS OF THE NUMBER OF SIGNS ON THE POST. SIGN REMOVALS ARE NOT CALLED OUT SPECIFICALLY ON THE PLANS. AN ALLOWANCE IS INCLUDED IN MISCELLANEOUS QUANTITIES.

12. UTILITY SUPPORT
THE CONTRACTOR SHALL SUPPORT AND PROTECT ALL UTILITIES AND STRUCTURES ALONG THE PROJECT IN COMPLIANCE WITH THE UTILITY OWNER'S REQUIREMENTS. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR COORDINATING DIRECTLY WITH THE UTILITY COMPANY.

13. RESTORATION
THE GRADE SHALL BE RESTORED EQUAL TO ITS PRE-CONSTRUCTION CONDITION OR BETTER. THE SHARED USE PATH SECTION SHALL BE IN ACCORDANCE WITH THE TYPICAL CROSS SECTIONS. IMPACTED EXISTING DRIVES, CROSS STREETS, ETC. SHALL BE RESTORED IN KIND, AS SHOWN ON THE PLANS. ALL OTHER DISTURBED AREAS SHALL BE RESTORED IN ACCORDANCE WITH THE SPECIAL PROVISION FOR "SLOPE RESTORATION, MODIFIED"

14. CULVERT MATERIALS
ALL CULVERT EXTENSIONS AND END SECTIONS ADDED TO EXISTING CULVERTS AND/OR CULVERT EXTENSIONS SHALL MATCH THE MATERIAL OF THE EXISTING CULVERT.

15. MDOT COORDINATION
AS THE WORK OF THIS PROJECT WILL INCLUDE CONSTRUCTION WITHIN THE RIGHT OF WAYS OF TWO MDOT TRUNKLINES (I-75 AND M-32), COORDINATION OF WORK, TRAFFIC CONTROL, LANE CLOSURES AND OTHER OPERATIONS SHALL BE SUBJECT TO MDOT APPROVAL. MDOT RIGHT OF WAY PERMITS ARE INCLUDED IN THE PROPOSAL.

16. EARTHWORK
ALL EARTHWORK ITEMS ON THIS PROJECT, INCLUDING EXCAVATION AND EMBANKMENT ARE INCLUDED IN "SHARED USE PATH, GRADING, MODIFIED" AND SHALL NOT BE PAID FOR SEPARATELY.

17. ACCESS CONTROL
VARIOUS FORMS OF ACCESS CONTROL (FENCING, BOULDERS, WOOD POSTS), TO DISCOURAGE AND/OR PREVENT TRESPASS ON THE RAILROAD TRACKS, ARE INCLUDED AND CALLED OUT IN THE PLANS. THE PROPOSED LOCATION AND QUANTITIES OF THESE ITEMS ARE TO BE CONSIDERED ESTIMATES ONLY, AND THE ENGINEER SHALL DETERMINE THE EXACT LOCATION AND TYPE OF ACCESS CONTROL FEATURES DURING CONSTRUCTION BASED ON FIELD CONDITIONS AND BUDGET.

18. CRITICAL UTILITY
EXISTING HIGH PRESSURE GAS MAIN IS PRESENT WITHIN THE LIMITS OF THIS PROJECT. THE CONTRACTOR SHALL PROVIDE A MINIMUM OF TWO WEEKS NOTICE TO DTE ENERGY, MR. GARY WARMBIER, (989) 370-5368 FOR ANY EXCAVATION OVER DTE HP GAS MAINS. DTE ENERGY WILL HAVE A REPRESENTATIVE ON SITE DURING EXCAVATION WORK IN THE VICINITY OF THEIR HP GAS MAIN.

GENERAL PLAN NOTES

19. TRAIL ALIGNMENT & PROFILE FIELD ADJUSTMENT
THE INTENT OF THE TRIAL DESIGN IS TO PROVIDE A REQUIRED MINIMUM 2 FT CLEAR ZONE DISTANCE FROM EXISTING POWER POLES, RISER BOXES, ETC. MINOR ADJUSTMENTS MAY BE REQUIRED DURING CONSTRUCTION TO MAINTAIN THE INTENT OF THE DESIGN. THE VERTICAL PROFILE MAY BE ADJUSTED IN THE FIELD WITH APPROVAL BY THE ENGINEER, WHERE IT CAN BE SHOWN THAT SAID ADJUSTMENT WILL BETTER ACCOMMODATE FIELD CONDITIONS. IN ALL CASES, THE VERTICAL PROFILE MUST LIMIT RUNNING SLOPES TO 5% OR LESS IN ORDER TO ENSURE THE TRAIL MEETS ADA REQUIREMENTS. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING 5% MAXIMUM SLOPES.

20. SLOPE RESTORATION, MODIFIED
THE PAY ITEM "SLOPE RESTORATION, MODIFIED" SHALL BE PAID ON A PER STATION BASIS, AND SHALL INCLUDE RESTORATION OF EXISTING TRAIL, EVEN WHEN THE ALIGNMENT OF THE NEW TRAIL DOES NOT IMPACT THE EXISTING TRAIL LOCATION. THE INTENT IS TO OBLITERATE THE EXISTING TRAIL. REFER TO SPECIAL PROVISION FOR SLOPE RESTORATION, MODIFIED.

21. REGULATORY TRAIL SIGNS
ALL REGULATORY TRAIL SIGNS SHALL BE PLACED ALONG THE RIGHT SIDE OF THE TRAIL, AS SHOWN, UNLESS OTHERWISE DIRECTED BY THE ENGINEER, AND SHALL BE INSTALLED SUCH THAT THE NEAREST EDGE OF THE SIGN IS OFFSET A MINIMUM OF 2 FEET TO THE EDGE OF THE AGGREGATE SURFACE OF THE TRAIL. ALL REGULATORY SIGNS SHALL BE INSTALLED TO PROVIDE A DISTANCE OF 5 FEET BETWEEN THE BOTTOM OF THE SIGN AND THE SURFACE OF THE TRAIL, UNLESS OTHERWISE DIRECTED BY THE ENGINEER. THE LOCATIONS OF ALL REGULATORY TRAIL SIGNS SHALL BE STAKED BY THE CONTRACTOR AND CHECKED BY THE ENGINEER. THE CONTRACTOR SHALL NOT INSTALL ANY SIGN POSTS WITHOUT PRIOR NOTIFICATION AND MARKING FROM THE MISS DIG SYSTEM.

22. NO ORV SIGNS
A SIGN WITH A PROHIBITIVE CIRCLE AND DIAGONAL SLASH FOR NON-ROAD APPLICATIONS, WITH A TYPE RS-095 ALL-TERRAIN VEHICLE SHALL BE PLACED ON THE BACK SIDE OF ALL TRAIL STOP SIGNS AT INTERSECTIONS, UNLESS OTHERWISE DIRECTED BY THE ENGINEER. THE SIGN SHALL BE 18"x18".

23. RAILROAD RESTRICTIONS
A. ALL TRAIL CONSTRUCTION AND RELATED GRADING MUST MAINTAIN POSITIVE DRAINAGE AWAY FROM TRACKS AND BALLAST.
B. ALL CONSTRUCTION EQUIPMENT AND MATERIALS MUST BE KEPT OFF THE TRACKS AND BALLAST.
C. CONTRACTOR SHALL BE REQUIRED TO USE THE TRAIL ITSELF AS THE "HAUL ROAD" DURING CONSTRUCTION, UNLESS OTHERWISE APPROVED BY THE ENGINEER. CONSTRUCTION EQUIPMENT WILL NOT BE PERMITTED FREE ACCESS THROUGHOUT THE RAILROAD RIGHT OF WAY.
D. REFER TO COORDINATION INFORMATION AND SPECIAL PROVISIONS IN THE PROPOSAL FOR TRAIN TRAFFIC INFORMATION.
E. CONTRACTOR SHALL BE AWARE OF THE POSSIBILITY OF DELAYS DURING CONSTRUCTION DUE TO TRAIN MOVEMENTS. CONTRACTOR COORDINATION WITH LAKE STATE RAILWAY COMPANY WILL BE REQUIRED.
F. CONTRACTOR SHALL BE RESPONSIBLE FOR RAILROAD INSURANCE & BOND REQUIREMENTS NOTED IN THE PROPOSAL AND OBTAINING APPROVAL FROM THE MDOT OFFICE OF RAIL TO USE MDOT CONTROLLED FREIGHT RAILROAD PROPERTY (MDOT 0772).

24. MISCELLANEOUS CULVERTS
TWO SIZES OF CULVERTS AND END SECTIONS HAVE BEEN INCLUDED IN MISCELLANEOUS QUANTITIES FOR USE IN THE PROJECT, IF REQUIRED DURING CONSTRUCTION. THE CONTRACTOR SHALL WORK WITH THE ENGINEER TO DETERMINE WHERE CULVERTS MAY BE WARRANTED AND WHAT SIZE AND LENGTH IS APPROPRIATE.

25. RETAINING WALL PAY QUANTITIES
THE QUANTITIES INCLUDED IN THE PROPOSAL FOR STEEL SHEET PILING, PERMANENT AND BLOCK WALL, LANDSCAPE, NONREINF SHALL BE THE PAY QUANTITIES, UNLESS OTHERWISE APPROVED BY THE ENGINEER. THE CONTRACTOR WILL NOT BE PAID FOR ADDITIONAL AREA OF RETAINING WALL ITEMS FOR THEIR CONVENIENCE OR EASE OF CONSTRUCTION.

MISCELLANEOUS QUANTITIES

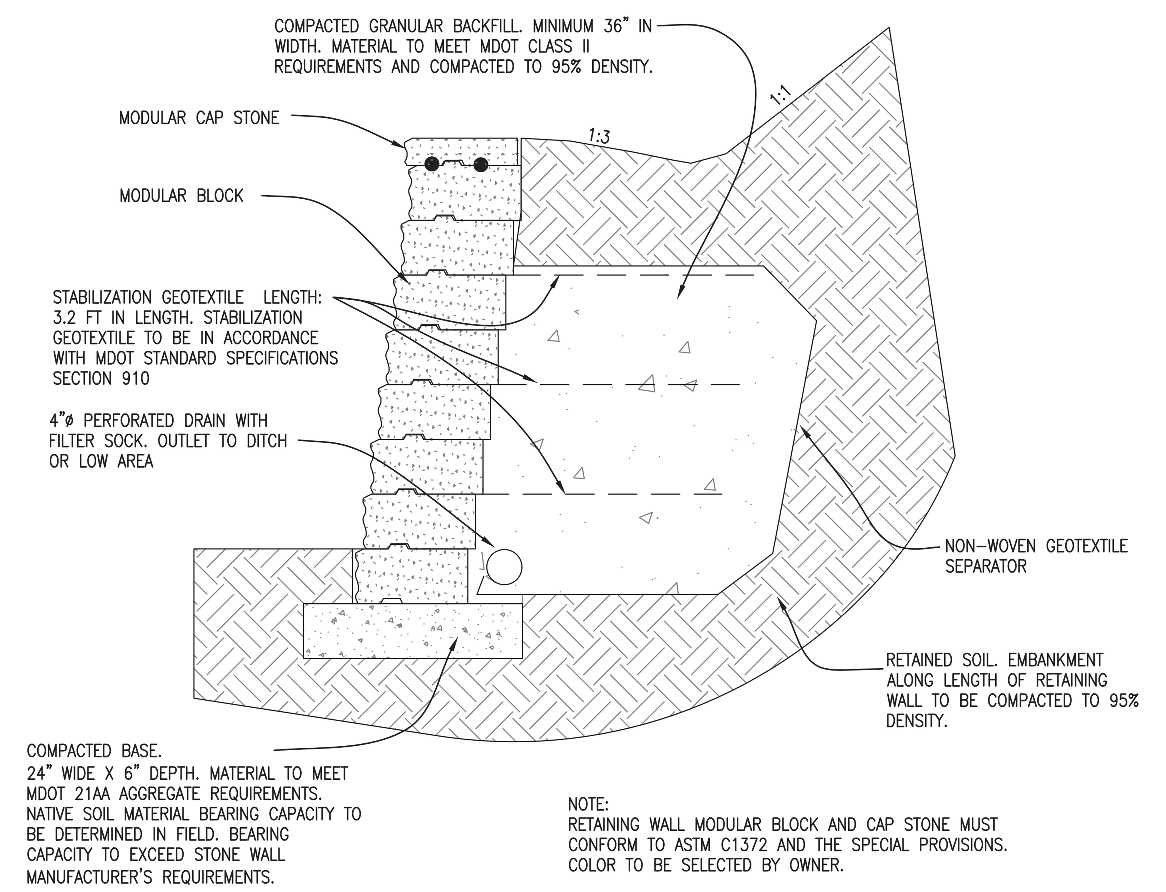
THE FOLLOWING ITEMS OF WORK SHALL BE DONE AS THEY APPLY THROUGHOUT THE PROJECT. THESE ITEMS ARE NOT DETAILED OR INCLUDED ON THE PLAN OR PROFILE SHEETS.

1	LSUM	Mobilization, Max	200	Ea	Channelizing Device, 42 inch, Furn
53	Syd	Pavt, Rem	200	Ea	Channelizing Device, 42 inch, Oper
100	Cyd	Non Haz Contaminated Material Handling and Disposal, LM	4	Ea	Lighted Arrow, Type C, Furn
500	Cyd	Subgrade Undercutting, Type II	4	Ea	Lighted Arrow, Type C, Oper
150	Cyd	Maintenance Gravel, LM	1	LSUM	Minor Traf Devices
150	Syd	Geotextile Stabilization	100	Ea	Plastic Drum, High Intensity, Furn
4	Ea	Culv End Sect, 12 inch	100	Ea	Plastic Drum, High Intensity, Oper
2	Ea	Culv End Sect, 15 inch	2100	Sft	Sign, Type B, Temp, Prismatic, Furn
150	Ft	Culv, Cl A, 12 inch	2100	Sft	Sign, Type B, Temp, Prismatic, Oper
150	Ft	Culv, Cl A, 15 inch	600	Sft	Sign, Type B, Temp, Prismatic, Special, Furn
100	Syd	HMA Surface, Rem	600	Sft	Sign, Type B, Temp, Prismatic, Special, Oper
15	Ton	Hand Patching	1	LSUM	Traf Regulator Control
20	Ton	HMA Approach	6	Ea	Pedestrian Type II Barricade, Temp
900	Ft	Fence, Woven Wire with Steel Post	50	Ton	Riprap, Heavy
225	Ft	Post Steel, 3 lb	4	Ea	Bench
35	Ea	Sign, Type III, Erect, Salv	6500	Syd	Mulch Blanket, High Velocity
100	Ea	Sign, Type III, Rem	15000	Dlr	Railroad Protection at Grade Crossing
75	Sft	Sign, Type IIIA			
115	Sft	Sign, Type IIIB			
12	Ea	Trail Sign Post and Installation			
70	Ea	Barricade, Type III, High Intensity, Double Sided, Lighted, Furn			
70	Ea	Barricade, Type III, High Intensity, Double Sided, Lighted, Oper			

SOIL EROSION CONTROL QUANTITIES

THE FOLLOWING ITEMS OF WORK SHALL BE DONE AS THEY APPLY THROUGHOUT THE PROJECT. THESE ITEMS ARE NOT DETAILED OR INCLUDED ON THE PLAN AND ARE AT THE DISCRETION OF THE FIELD ENGINEER.

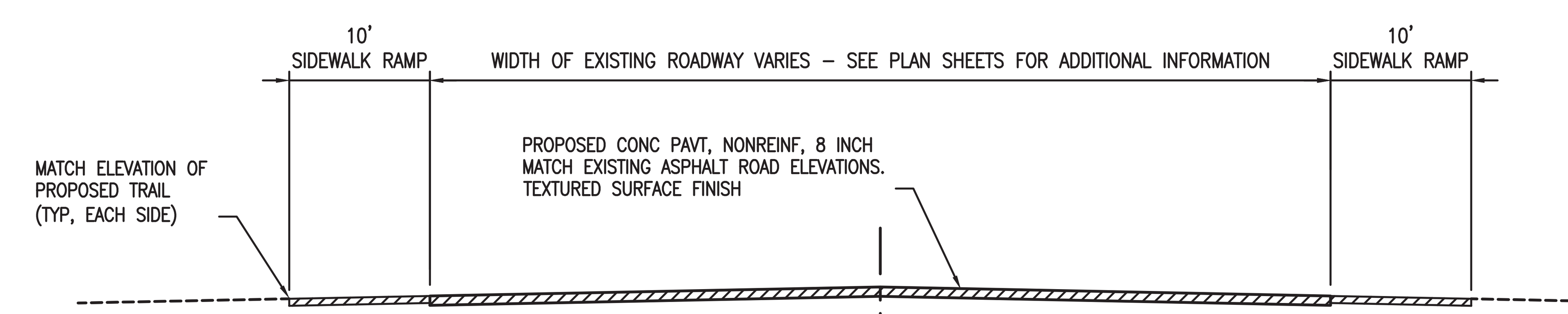
50	Ft	Erosion Control, Check Dam, Stone
4000	Ft	Erosion Control, Silt Fence



NOTE:
RETAINING WALL MODULAR BLOCK AND CAP STONE MUST CONFORM TO ASTM C1372 AND THE SPECIAL PROVISIONS. COLOR TO BE SELECTED BY OWNER.

NON-REINFORCED LANDSCAPE BLOCK RETAINING WALL DETAIL.

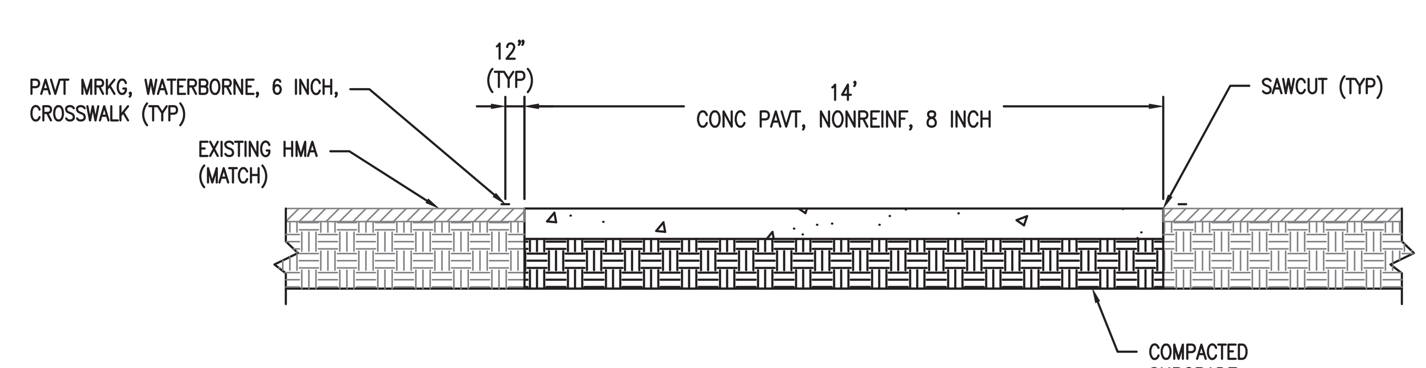
NO SCALE



CONCRETE CROSSWALK ELEVATION

NOT TO SCALE

NOTES:
1. PRIOR TO REMOVAL, EXISTING ASPHALT IS TO BE SAWCUT AT REMOVAL LIMITS.
2. EXISTING ASPHALT REMOVAL TO BE PAID AS HMA SURFACE, REM.
3. EXCAVATION AND GRADING FOR CONCRETE CROSS WALK TO BE INCLUDED IN PAYMENT FOR SHARED USE PATH, GRADING, MODIFIED.
4. CONCRETE CROSSWALK IS TO BE 14' WIDE.
5. CONTRACTION JOINTS ARE TO BE SAWCUT AT LOCATIONS SPECIFIED BY THE ENGINEER.



TYPICAL CONCRETE SECTION

NOT TO SCALE

PUBLIC UTILITIES

THE EXISTING UTILITIES LISTED BELOW AND SHOWN ON THESE PLANS REPRESENT THE BEST INFORMATION AVAILABLE. THIS INFORMATION DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO BE SATISFIED AS TO ITS ACCURACY AND THE LOCATION OF EXISTING UTILITIES.

NAME OF OWNER	UTILITY TYPE
CHARTER COMMUNICATIONS CONTACT: MR. GERALD STENBERG PH: (231) 463-1920	CABLE
DTE ENERGY CONTACT: MR. GARY WARMBIER PH: (989) 370-5368	GAS (TRANSMISSION OPERATIONS)
DTE ENERGY CONTACT: MR. JACOB GROBBEL PH: (313) 235-9068	GAS (TRANSMISSION ENGINEER)
DTE ENERGY CONTACT: MR. MATT LOGAN PH: (231) 258-3785	GAS (DISTRIBUTION)
CONSUMERS ENERGY CONTACT: MR. CURTIS HANSEN PH: (231) 449-8201	ELECTRIC
GREAT LAKES ENERGY CONTACT: MR. STEVE ERWIN PH: (231) 487-1320	ELECTRIC
FRONTIER COMMUNICATIONS CONTACT: MR. CHUCK HARDIN PH: (989) 350-2837	COMMUNICATION
WINN TELECOM CONTACT: MR. MIKE FITZPATRICK PH: (989) 953-9879	COMMUNICATION
ANR PIPELINE/TRANSCANADA CONTACT: MS. KAREN MACEJEWSKI PH: (800) 562-8931	GAS/OIL
MERIT NETWORK/WESTERN TELECOM CONTACT: MS. LISA VANDERMOLEN PH: (616) 836-0644 CONTACT: RICK PH: (616) 377-9073	FIBER OPTIC
FIELD TECH SERVICES (PAXTON RESOURCES, WARD LAKE ENERGY, RIVERSIDE ENERGY) CONTACT: MR. NICK NICHOLS PH: (989) 619-7047	GAS/OIL
OTSEGO COUNTY ROAD COMMISSION CONTACT: MR. TOM DEANS PH: (989) 732-5202	COUNTY ROADS
CITY OF GAYLORD CONTACT: MR. ED THOLL PH: (989) 350-2957	CITY STREETS, WATER & SEWERS
LAKE STATE RAILWAY COMPANY CONTACT: MR. MARK PENNELL PH: (989) 393-9820	BURIED SIGNAL LINES, ETC.

PLAN LEGEND

REMOVAL LEGEND

Item	Symbol
REMOVING PAVEMENT	(crosshatch)
COLD MILLING HMA SUFACE	(hatch)
HMA BASE CRUSHING AND SHAPING	(x pattern)
REMOVING	R
ABANDONING	A
SAVE	S
BULKHEAD	B
CLEARING	C
ADJUST	ADJ
RECONSTRUCT	REC
RELOCATE-BY OTHERS	REL-B/O
RELOCATE	REL

EXISTING LEGEND

Symbol	Item
— — —	EXIST. R.O.W.
—T—	EXIST. TELEPHONE
—E—	EXIST. UNDERGROUND ELECTRIC
—OE—	EXIST. OVERHEAD ELECTRIC
—×—×—	EXIST. FENCE LINE
—G—	EXIST. GAS LINE
—685—	EXIST. MAJOR CONTOUR
—684—	EXIST. MINOR CONTOUR
	EXIST. DITCH
	EXIST. CONIFEROUS TREE
	EXIST. DECIDUOUS TREE
	EXIST. UTILITY POLE
	EXIST. TELEPHONE PEDESTAL
T	EXIST. TELEPHONE MH
	EXIST. MONUMENT
	EXIST. SURVEY POINT
	EXIST. GAS VALVE
	EXIST. SIGN
	EXIST. POST
	EXIST. MAILBOX
SB#3	SOIL BORING

c2ae architecture • engineering

OTSEGO COUNTY IRON BELLE TRAIL

OTSEGO COUNTY, MI

NOTE SHEET

REVISIONS

-
-
-
-
-
-
-
-
-
-
-
-
-
-
-
-
-
-
-
-

© 2018 C2AE.
NOT TO BE REPRODUCED OR DISTRIBUTED WITHOUT PRIOR WRITTEN CONSENT FROM C2AE. ALL RIGHTS RESERVED.

SCALE: AS SHOWN

PROJ. #: 170019

DATE: MARCH 1, 2018

SHEET

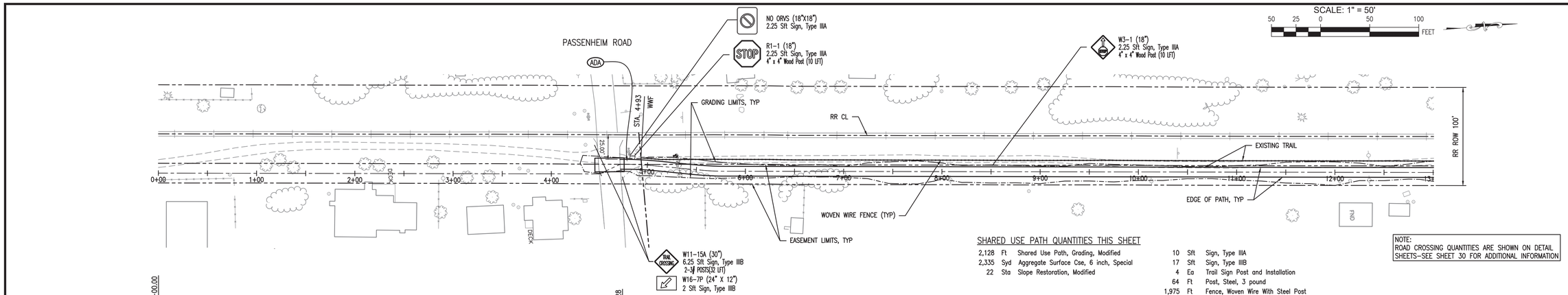
5

BID SET

WE RECYCLE

PLOTTED BY: POYNTER, AMANDA 3/1/2018 1:22 PM
O:\2017\170019_OtsegoCty_Trail\Drawings\Sheets\170019_NotesDetails.dwg - 5 NOTE SHEET
C2AE.STANDARD.STB

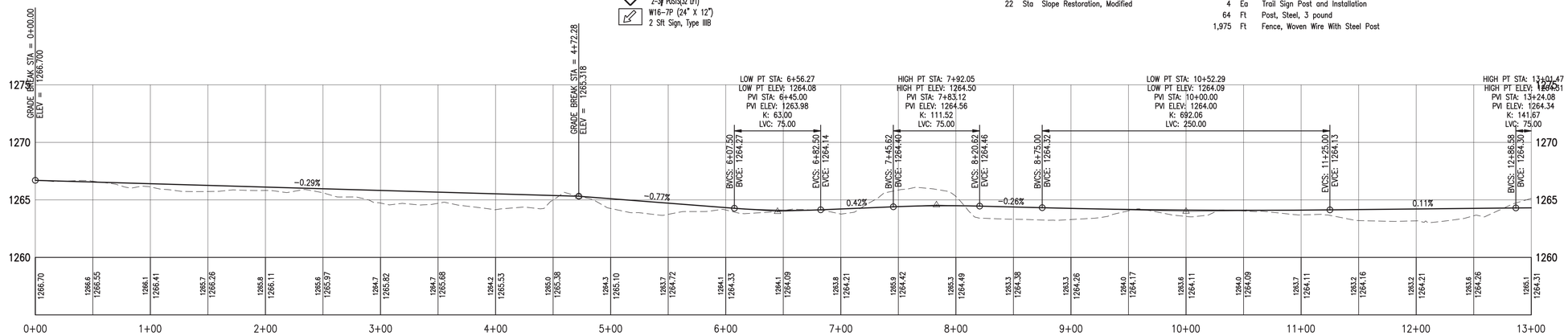
DESIGNED BY: - | APPROVED BY: -
CHECKED BY: - | DWG'S MOD BY: -

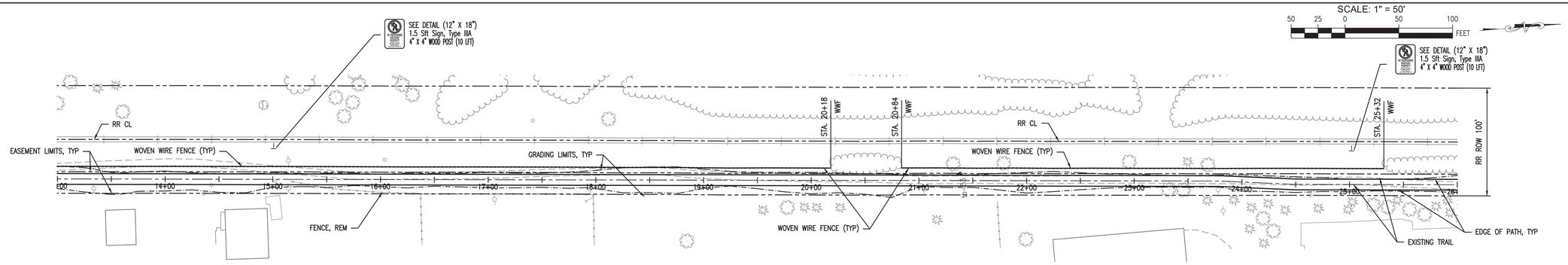


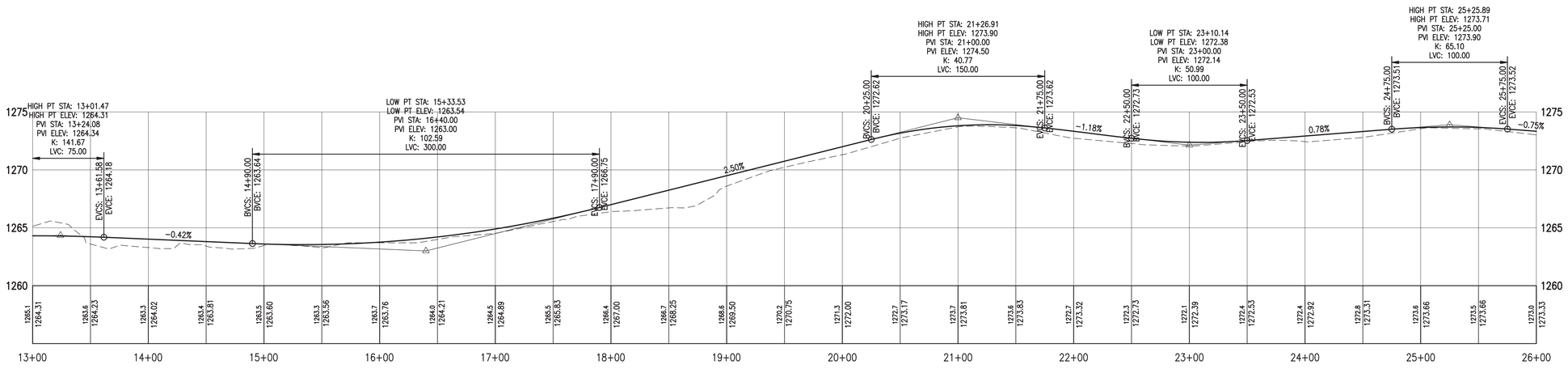
SHARED USE PATH QUANTITIES THIS SHEET

2,128	Ft	Shared Use Path, Grading, Modified	10	Sft	Sign, Type IIIA
2,335	Syd	Aggregate Surface Cse, 6 inch, Special	17	Sft	Sign, Type IIIB
22	Sta	Slope Restoration, Modified	4	Ea	Trail Sign Post and Installation
			64	Ft	Post, Steel, 3 pound
			1,975	Ft	Fence, Woven Wire With Steel Post

NOTE:
ROAD CROSSING QUANTITIES ARE SHOWN ON DETAIL SHEETS–SEE SHEET 30 FOR ADDITIONAL INFORMATION







c2ae architecture • engineering

OTSEGO COUNTY IRON BELLE TRAIL

OTSEGO COUNTY, MI

PLAN AND PROFILE
POB TO STA 26+00

REVISIONS

© 2018 C2AE
NOT TO BE REPRODUCED OR
DISTRIBUTED WITHOUT PRIOR
WRITTEN CONSENT FROM C2AE
ALL RIGHTS RESERVED

SCALE: AS SHOWN

PROJ. #: 170019

DATE: MARCH 1, 2018

SHEET

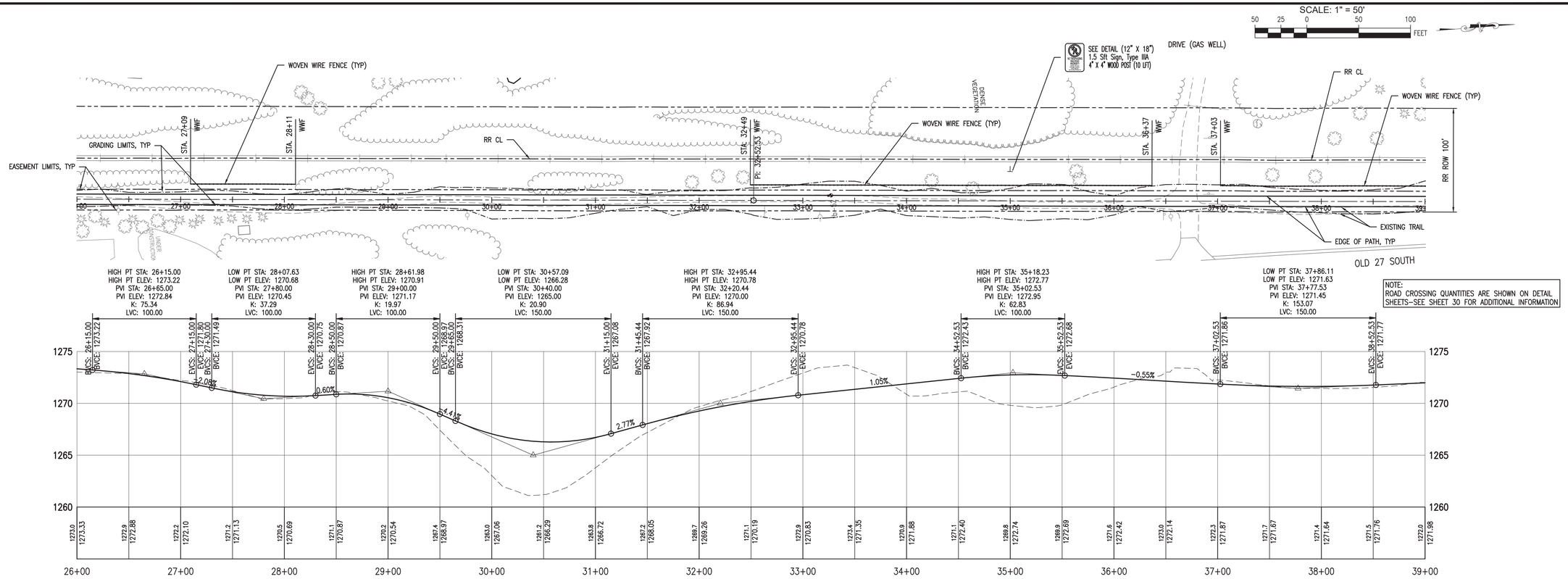
6

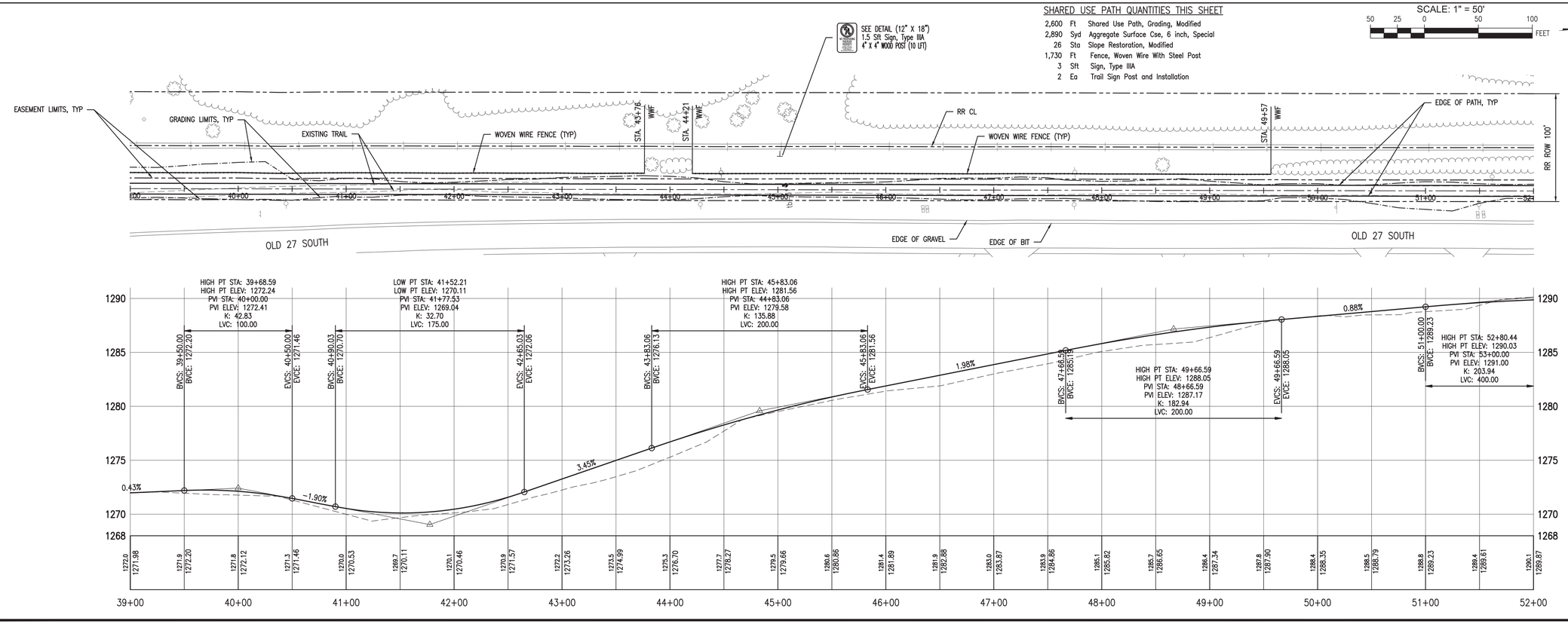
BID SET

DESIGNED BY: -
CHECKED BY: -
APPROVED BY: -
DWGS MOD BY: -

PLOTTED BY: POYNTER, AMANDA 3/7/2018 1:23 PM
C:\Users\POYNTER\AppData\Local\Temp\AcPublish\Drawings\Sheets\Plan and Profile STA 104+00 to 130+00.dwg - 6 PLAN AND PROFILE POB TO STA 26+00
C2AE STANDARD.STB

WE RECYCLE





SHARED USE PATH QUANTITIES THIS SHEET

2,600	Ft	Shared Use Path, Grading, Modified
2,890	Syd	Aggregate Surface Cse, 6 inch, Special
26	Sta	Slope Restoration, Modified
1,730	Ft	Fence, Woven Wire With Steel Post
3	Sft	Sign, Type IIIA
2	Ea	Trail Sign Post and Installation

c2ae architecture • engineering

OTSEGO COUNTY IRON BELLE TRAIL

OTSEGO COUNTY, MI

PLAN AND PROFILE
STA 26+00 TO 52+00

REVISIONS

© 2018 C2AE
NOT TO BE REPRODUCED OR
DISTRIBUTED WITHOUT PRIOR
WRITTEN CONSENT FROM C2AE
ALL RIGHTS RESERVED

SCALE: AS SHOWN

PROJ. #: 170019

DATE: MARCH 1, 2018

SHEET

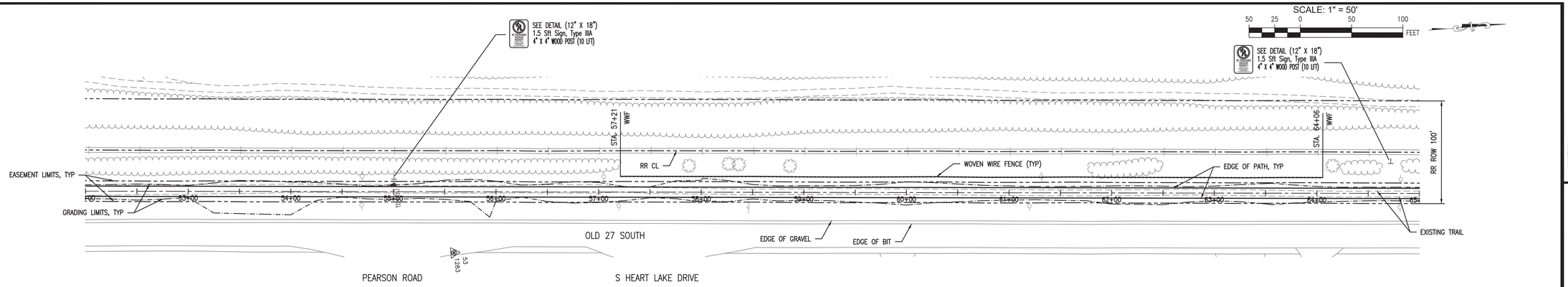
7

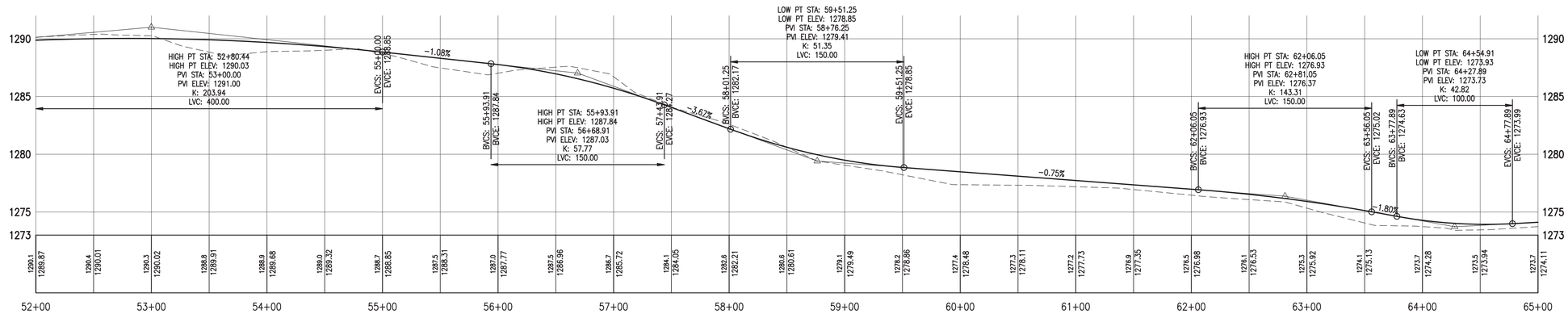
BID SET

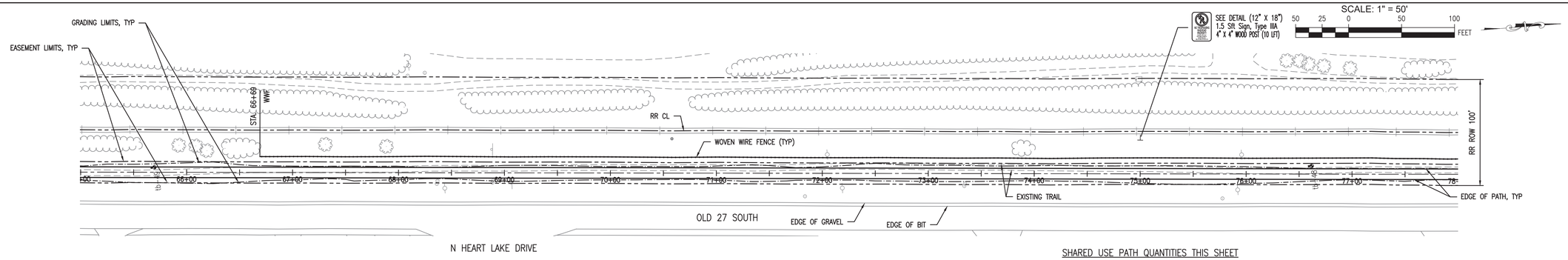
PLOTTED BY: POYNTER, AMANDA 3/7/2018 1:24 PM
DWG NAME: J:\170019_Otsego County Iron Belle\Design\Sheets\Plan and Profile STA 104+00 to 130+00.dwg - 7 PLAN AND PROFILE STA 26+00 TO 52+00
C2AE STANDARD.STB

DESIGNED BY: -
CHECKED BY: -
APPROVED BY: -
DWGS MOD BY: -

WE RECYCLE

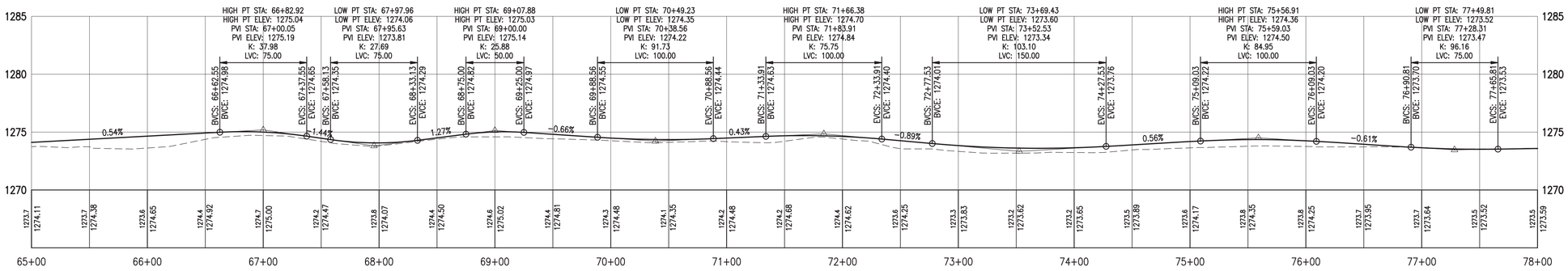






SHARED USE PATH QUANTITIES THIS SHEET

2,600	Ft	Shared Use Path, Grading, Modified
2,890	Syd	Aggregate Surface Cse, 6 inch, Special
26	Sta	Slope Restoration, Modified
1,820	Ft	Fence, Woven Wire With Steel Post
5	Sft	Sign, Type IIIA
3	Ea	Trail Sign Post and Installation



OTSEGO COUNTY IRON BELLE TRAIL
OTSEGO COUNTY, MI

PLAN AND PROFILE
STA 52+00 TO 78+00

REVISIONS

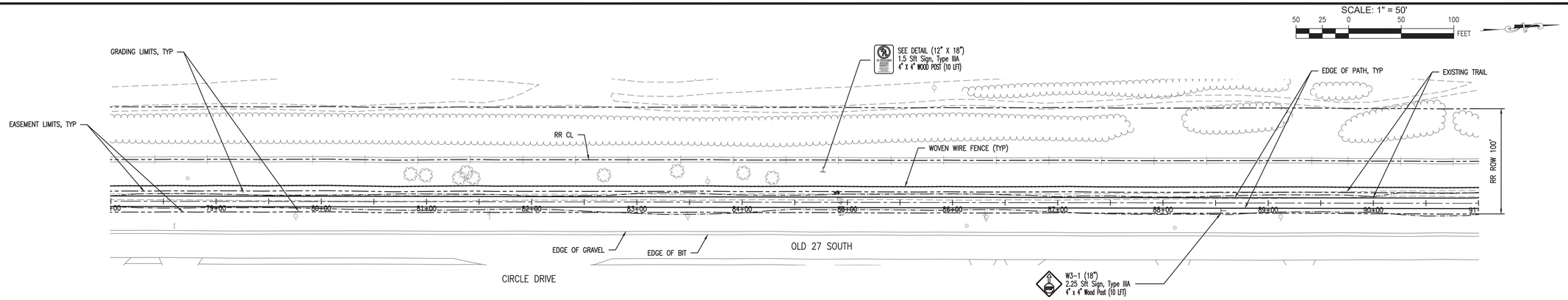
© 2018 C2AE
NOT TO BE REPRODUCED OR
DISTRIBUTED WITHOUT PRIOR
WRITTEN CONSENT FROM C2AE
ALL RIGHTS RESERVED.

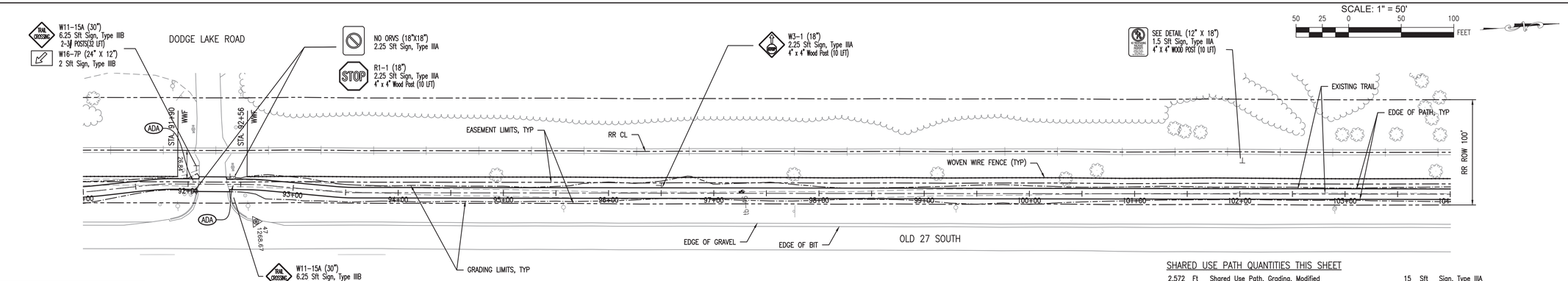
SCALE: AS SHOWN
PROJ. #: 170019
DATE: MARCH 1, 2018
SHEET
8

BID SET

PLOTTED BY: POYNTER, AMANDA 3/7/2018 1:25 PM
DWG: P:\170019_Otsego County Iron Belle Trail\Design\Sheets\Plan and Profile STA 52+00 to 130+00.dwg - 8 PLAN AND PROFILE STA 52+00 TO 78+00
C2AE STANDARD STB

DESIGNED BY: -
CHECKED BY: -
APPROVED BY: -
DWGS MOD BY: -

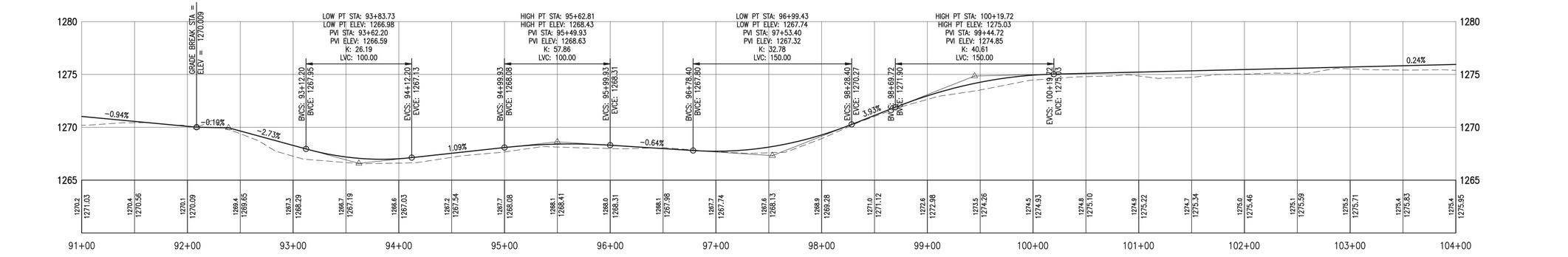




NOTE:
ROAD CROSSING QUANTITIES ARE SHOWN ON DETAIL SHEETS–SEE SHEET 30 FOR ADDITIONAL INFORMATION

SHARED USE PATH QUANTITIES THIS SHEET

2,572	Ft	Shared Use Path, Grading, Modified
2,832	Syd	Aggregate Surface Cse, 6 inch, Special
26	Sta	Slope Restoration, Modified
15	Sft	Sign, Type IIIA
17	Sft	Sign, Type IIIB
64	Ft	Post, Steel, 3 pound
5	Ea	Trail Sign Post and Installation
2,555	Ft	Fence, Woven Wire With Steel Post



c2ae architecture • engineering

OTSEGO COUNTY IRON BELLE TRAIL
OTSEGO COUNTY, MI

PLAN AND PROFILE
STA 78+00 TO 104+00

REVISIONS

© 2018 C2AE
NOT TO BE REPRODUCED OR DISTRIBUTED WITHOUT PRIOR WRITTEN CONSENT FROM C2AE. ALL RIGHTS RESERVED.

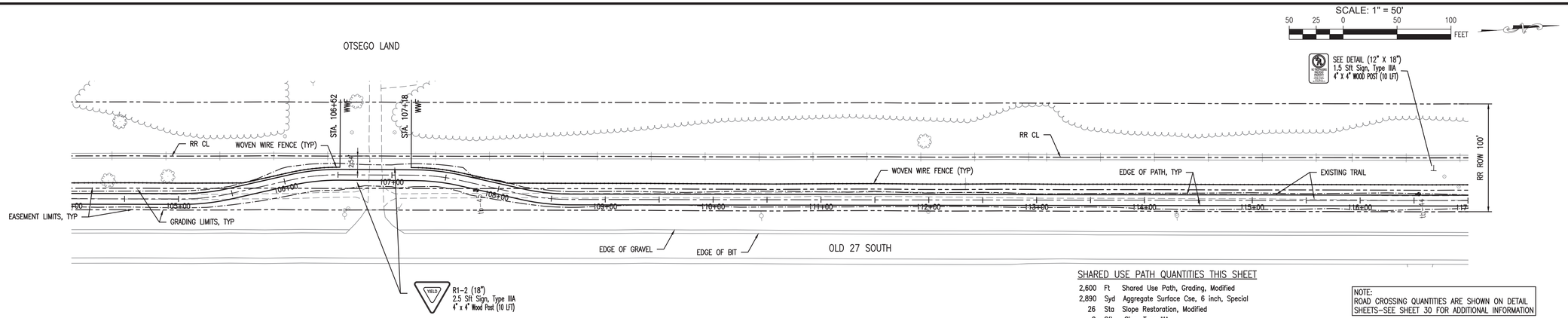
SCALE: AS SHOWN
PROJ. #: 170019
DATE: MARCH 1, 2018
SHEET
9

BID SET

WE RECYCLE

PLOTTED BY: POYNTER, AMANDA 3/1/2018 1:26 PM
O:\2017\170019_OtsegoCty_TrailDrawings\Sheets\Plan and Profile STA 104+00 to 130+00.dwg - 9 PLAN AND PROFILE STA 78+00 TO 104+00
C2AE STANDARD.STB

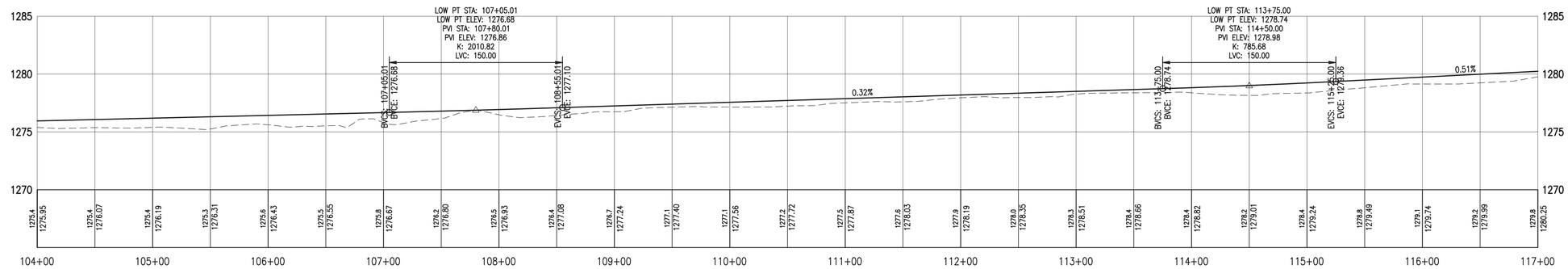
DESIGNED BY: -
CHECKED BY: -
APPROVED BY: -
DWG'S MOD BY: -

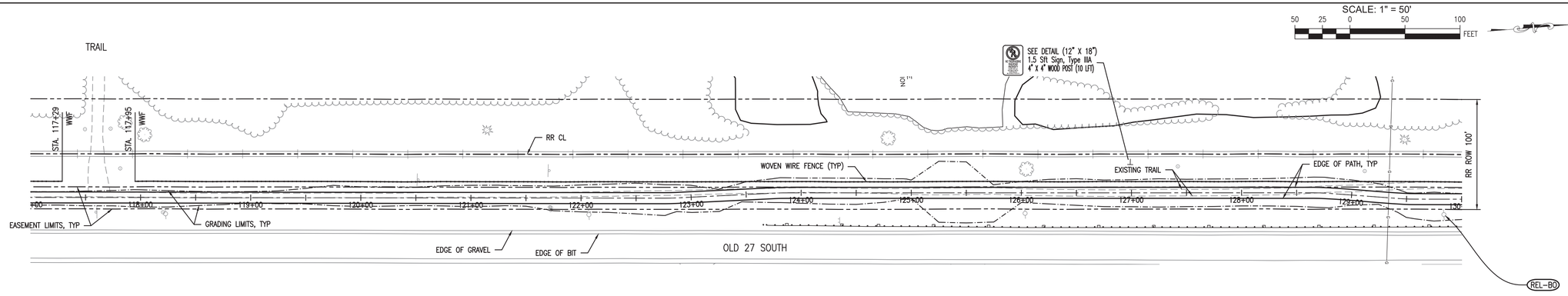


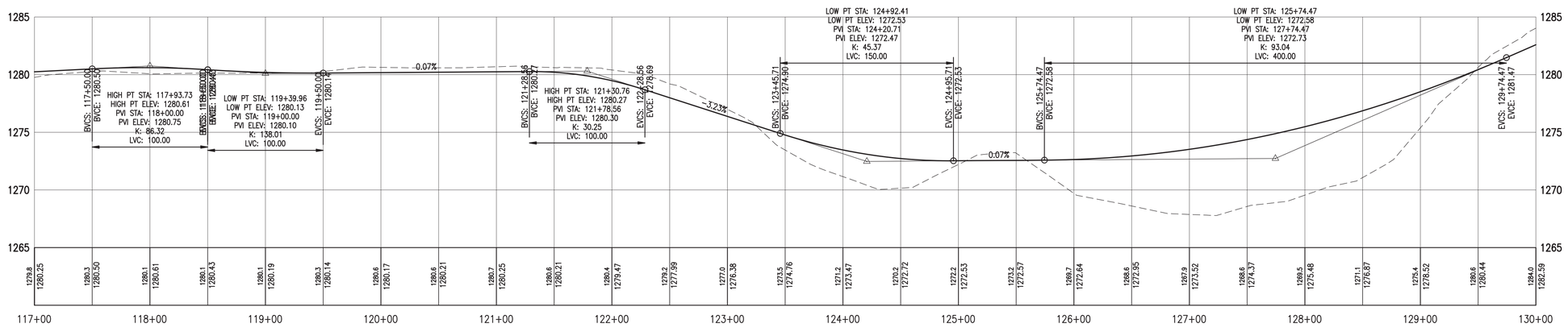
SHARED USE PATH QUANTITIES THIS SHEET

2,600	Ft	Shared Use Path, Grading, Modified
2,890	Syd	Aggregate Surface Cse, 6 inch, Special
26	Sta	Slope Restoration, Modified
8	Sft	Sign, Type IIIA
4	Ea	Trail Sign Post and Installation
2,550	Ft	Fence, Woven Wire With Steel Post

NOTE:
ROAD CROSSING QUANTITIES ARE SHOWN ON DETAIL SHEETS–SEE SHEET 30 FOR ADDITIONAL INFORMATION







c2ae architecture • engineering

OTSEGO COUNTY IRON BELLE TRAIL

OTSEGO COUNTY, MI

PLAN AND PROFILE
STA 104+00 TO 130+00

REVISIONS

© 2018 C2AE
NOT TO BE REPRODUCED OR DISTRIBUTED WITHOUT PRIOR WRITTEN CONSENT FROM C2AE.
ALL RIGHTS RESERVED.

SCALE: AS SHOWN

PROJ. #: 170019

DATE: MARCH 1, 2018

SHEET

10

BID SET

WE RECYCLE

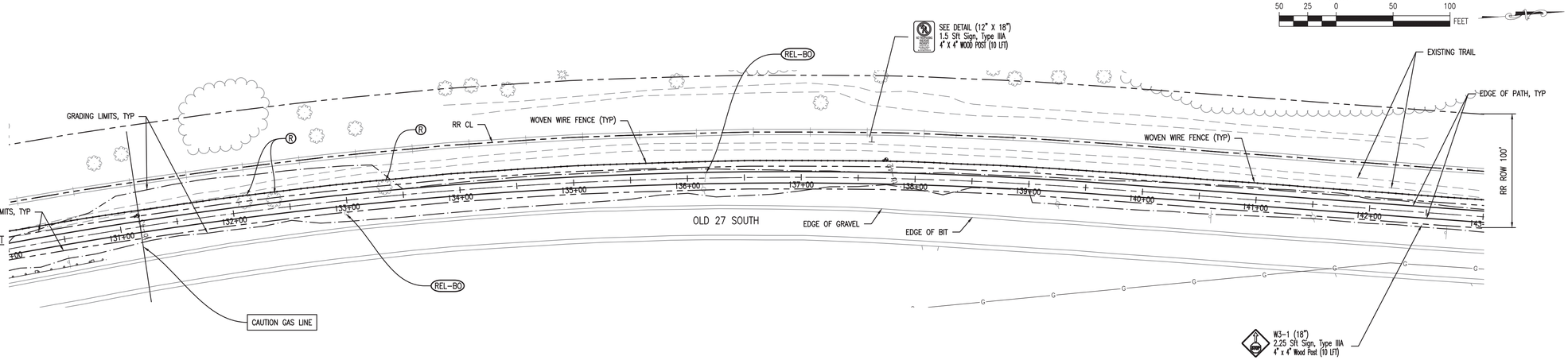
PLOTTED BY: POYNTER, AMANDA 3/1/2018 1:27 PM
O:\2017\170019_OtsegoCty_TrailDrawings\Sheets\Plan and Profile STA 104+00 to 130+00.dwg - 10 PLAN AND PROFILE STA 104+00 TO 130+00
C2AE STANDARD.STB

DESIGNED BY: -
CHECKED BY: -
APPROVED BY: -
DWG'S MOD BY: -

WE RECYCLE

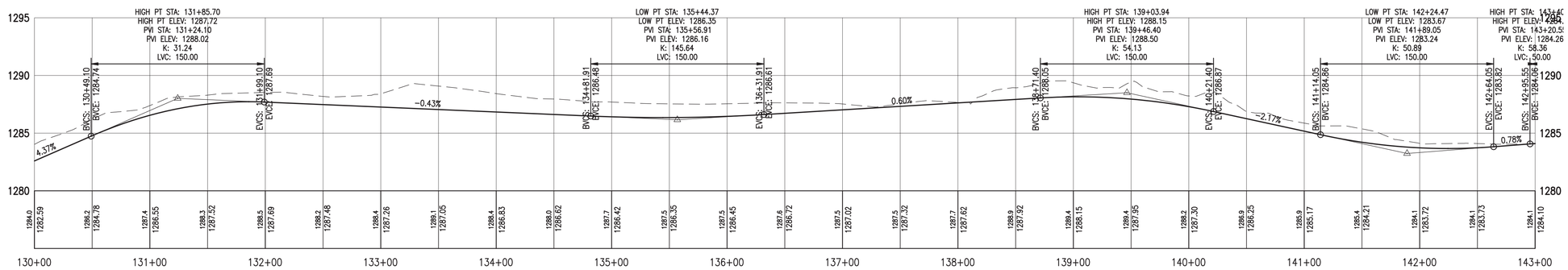
SCALE: 1" = 50'

50 25 0 50 100 FEET



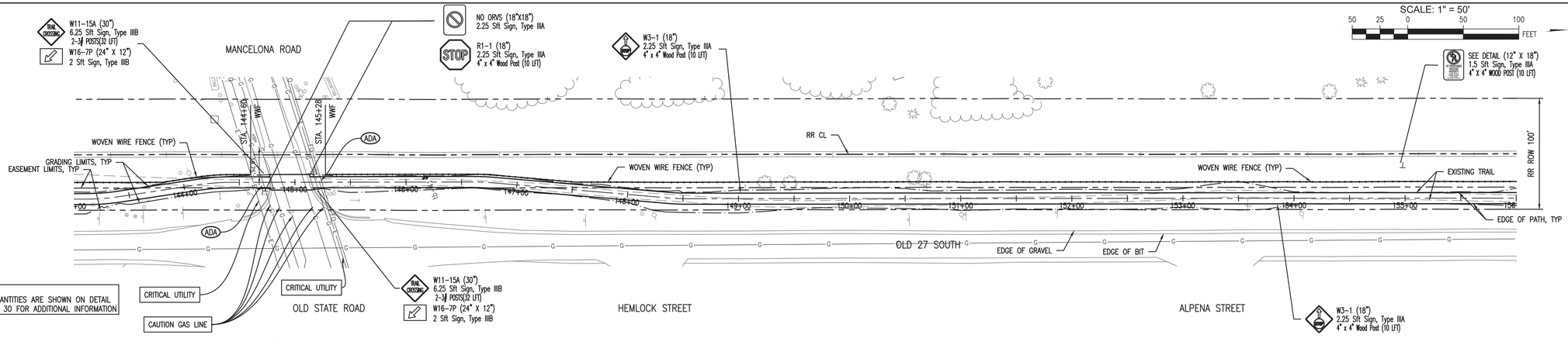
SHARED USE PATH QUANTITIES THIS SHEET

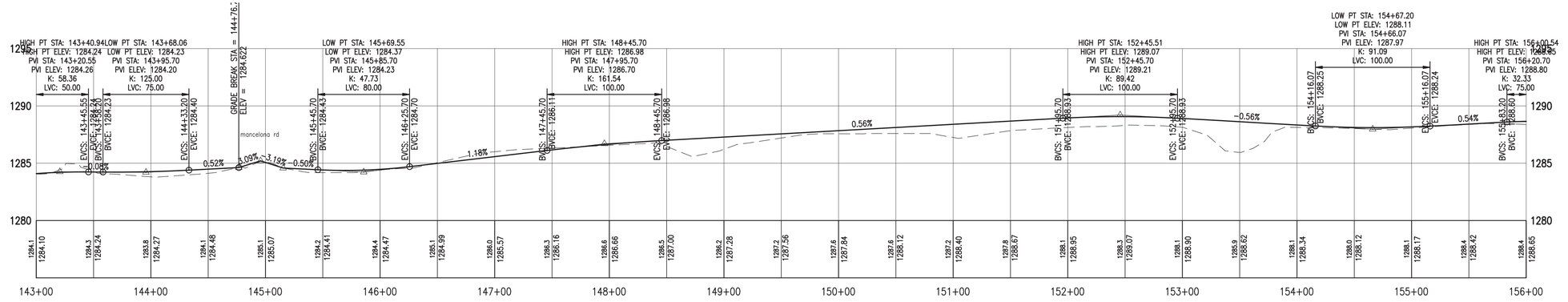
2,562	Ft	Shared Use Path, Grading, Modified
2,822	Syd	Aggregate Surface Cse, 6 inch, Special
26	Sta	Slope Restoration, Modified
20	Sft	Sign, Type IIIA
17	Sft	Sign, Type IIIB
7	Ea	Trail Sign Post and Installation
64	Ft	Post, Steel, 3lb
2,545	Ft	Fence, Woven Wire With Steel Post



SCALE: 1" = 50'

50 25 0 50 100 FEET





c2ae architecture • engineering

OTSEGO COUNTY IRON BELLE TRAIL

OTSEGO COUNTY, MI

PLAN AND PROFILE
STA 130+00 TO156+00

REVISIONS

© 2018 C2AE
NOT TO BE REPRODUCED OR
DISTRIBUTED WITHOUT PRIOR
WRITTEN CONSENT FROM C2AE
ALL RIGHTS RESERVED

SCALE: AS SHOWN

PROJ. #: 170019

DATE: MARCH 1, 2018

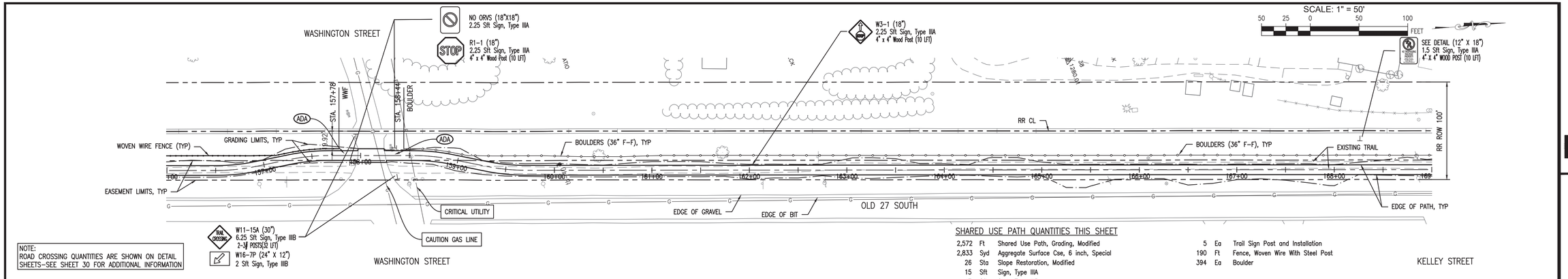
SHEET

11

BID SET

PLOTTED BY: POYNTER, AMANDA 3/12/2018 1:28 PM
DWG: J:\Projects\170019_Otsego Co Iron Belle Trail\Design\Sheets\Plan and Profile STA 130+00 to 260+00.dwg - 11 PLAN AND PROFILE STA 130+00 TO156+00
C2AE STANDARD.STB

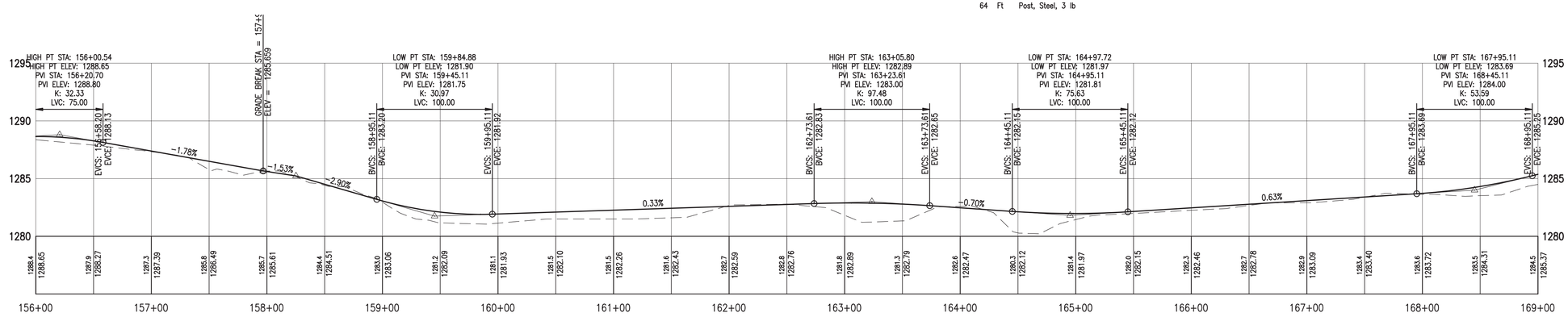
DESIGNED BY: -
CHECKED BY: -
APPROVED BY: -
DWGS MOD BY: -

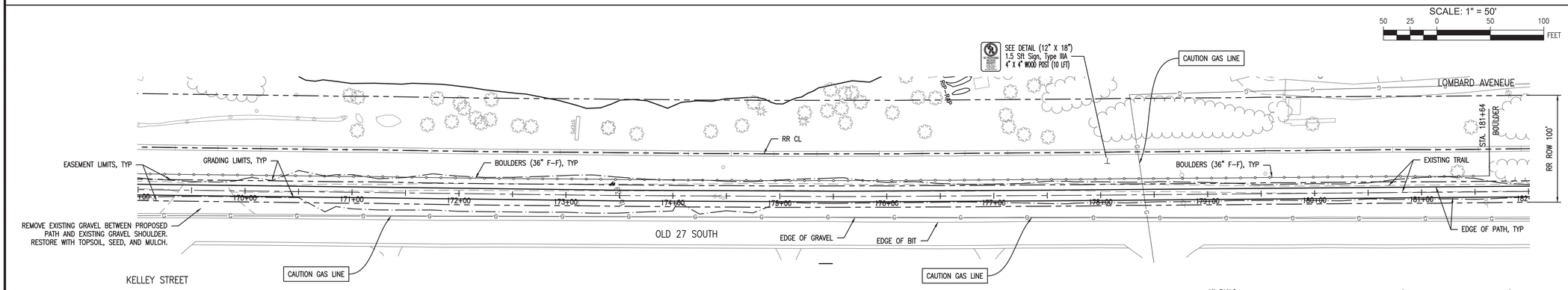


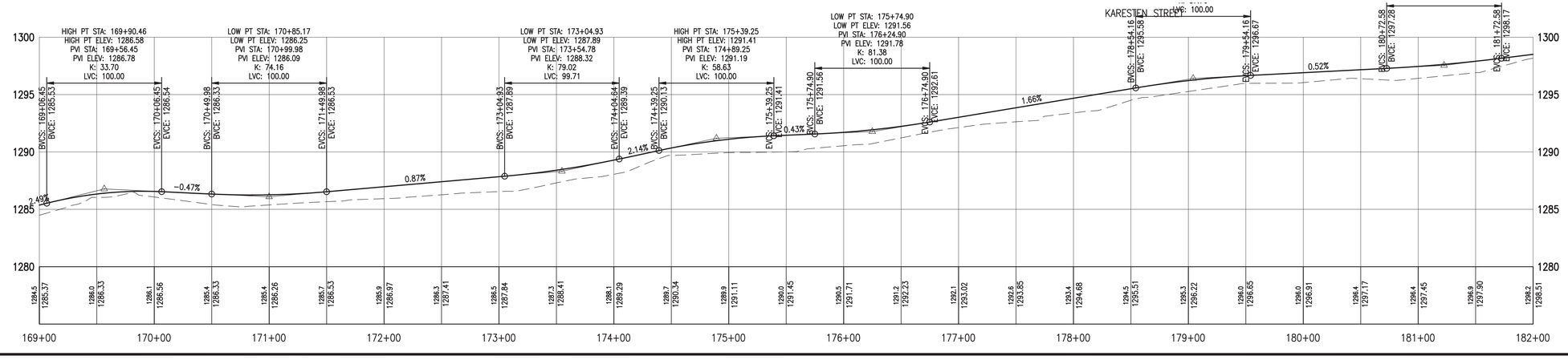
NOTE:
ROAD CROSSING QUANTITIES ARE SHOWN ON DETAIL SHEETS–SEE SHEET 30 FOR ADDITIONAL INFORMATION

SHARED USE PATH QUANTITIES THIS SHEET

2,572	Ft	Shared Use Path, Grading, Modified
2,833	Syd	Aggregate Surface Cse, 6 inch, Special
26	Sta	Slope Restoration, Modified
15	Sft	Sign, Type IIIA
17	Sft	Sign, Type IIIB
64	Ft	Post, Steel, 3 lb
5	Ea	Trail Sign Post and Installation
190	Ft	Fence, Woven Wire With Steel Post
394	Ea	Boulder







c2ae architecture • engineering

OTSEGO COUNTY IRON BELLE TRAIL

OTSEGO COUNTY, MI

PLAN AND PROFILE
STA 156+00 TO 182+00

REVISIONS

© 2018 C2AE
NOT TO BE REPRODUCED OR USED FOR OTHER PURPOSES WITHOUT WRITTEN CONSENT FROM C2AE
ALL RIGHTS RESERVED

SCALE: AS SHOWN

PROJ. #: 170019

DATE: MARCH 1, 2018

SHEET

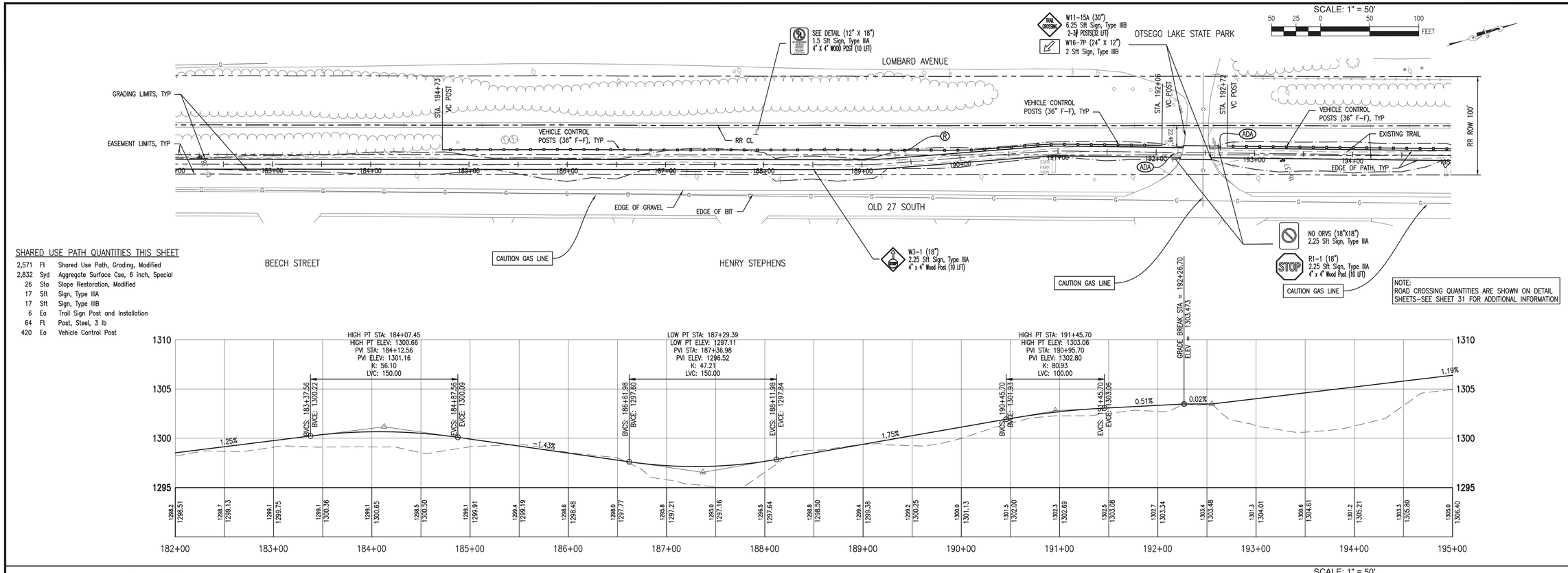
12

BID SET

PLOTTED BY: POYNTER, AMANDA 3/12/2018 1:29 PM
CAD FILE: S:\Transportation\170019_IronBelleRange\Sheets\Plan and Profile STA 234+00 to 260+00.dwg - 12 PLAN AND PROFILE STA 156+00 TO 182+00
C2AE STANDARDS.STB

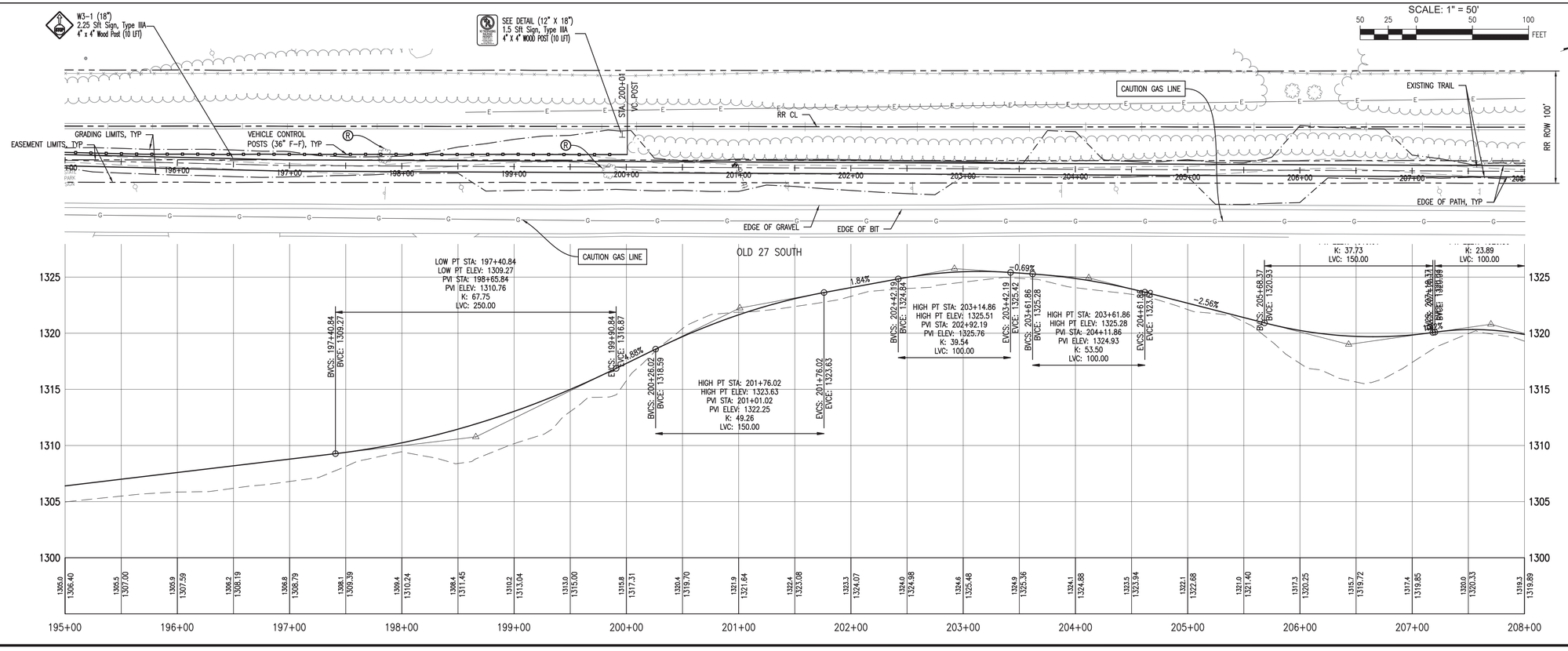
DESIGNED BY: -
CHECKED BY: -
APPROVED BY: -
DWGS MOD BY: -

WE RECYCLE



SHARED USE PATH QUANTITIES THIS SHEET

2,571	Ft	Shared Use Path, Grading, Modified
2,832	Syd	Aggregate Surface Cse, 6 inch, Special
26	Sta	Slope Restoration, Modified
17	Sft	Sign, Type IIIA
17	Sft	Sign, Type IIIB
6	Ea	Trail Sign Post and Installation
64	Ft	Post, Steel, 3 lb
420	Ea	Vehicle Control Post



OTSEGO COUNTY IRON BELLE TRAIL

OTSEGO COUNTY, MI

PLAN AND PROFILE
STA 182+00 TO 208+00

REVISIONS

© 2018 C2AE
NOT TO BE REPRODUCED OR
DISTRIBUTED WITHOUT PRIOR
WRITTEN CONSENT FROM C2AE
ALL RIGHTS RESERVED

SCALE: AS SHOWN

PROJ. #: 170019

DATE: MARCH 1, 2018

SHEET

13

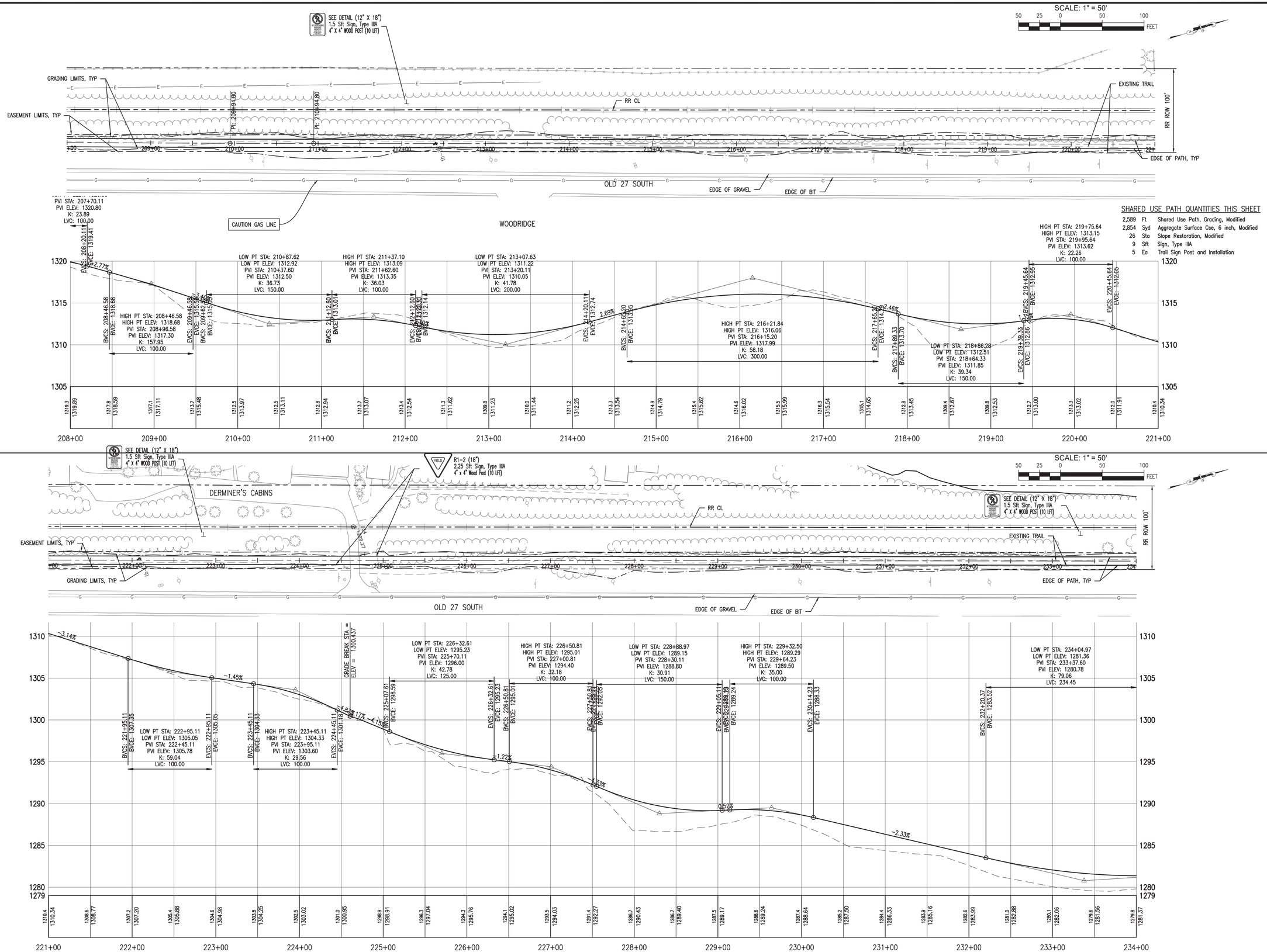
BID SET

c2ae architecture • engineering

WE RECYCLE

PLOTTED BY: POYNTER, AMANDA 3/7/2018 1:29 PM
C:\PWWORK\dms33\d0820127\Iron_Belle_Design\Sheets\Plan and Profile STA 234+00 to 260+00.dwg - 13 PLAN AND PROFILE STA 182+00 TO 208+00
C2AE STANDARDS.STB

DESIGNED BY: -
CHECKED BY: -
APPROVED BY: -
DWGS MOD BY: -



SHARED USE PATH QUANTITIES THIS SHEET

2,589	Ft	Shared Use Path, Grading, Modified
2,854	Syd	Aggregate Surface Cse, 6 inch, Modified
26	Sta	Slope Restoration, Modified
9	Sft	Sign, Type IIIA
5	Ea	Trail Sign Post and Installation

c2ae architecture • engineering

OTSEGO COUNTY IRON BELLE TRAIL

OTSEGO COUNTY, MI

PLAN AND PROFILE
STA 208+00 TO 234+00

REVISIONS

© 2018 C2AE
NOT TO BE REPRODUCED OR DISTRIBUTED WITHOUT PRIOR WRITTEN CONSENT FROM C2AE
ALL RIGHTS RESERVED

SCALE: AS SHOWN

PROJ. #: 170019

DATE: MARCH 1, 2018

SHEET

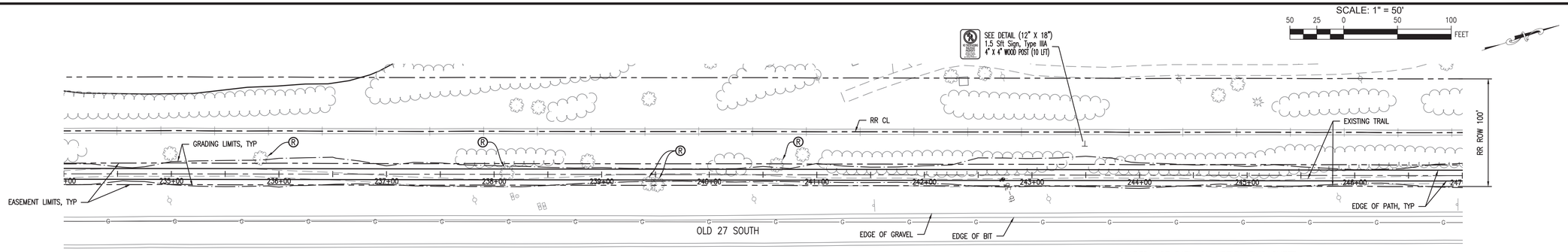
14

BID SET

PLOTTED BY: POYNTER, AMANDA 3/12/2018 1:30 PM
DWG: O:\Otsego County\170019_Belle Bangor Grand Haven\Plan and Profile STA 234+00 to 350+00.dwg - 14 PLAN AND PROFILE STA 208+00 TO 234+00
C2AE STANDARD.STB

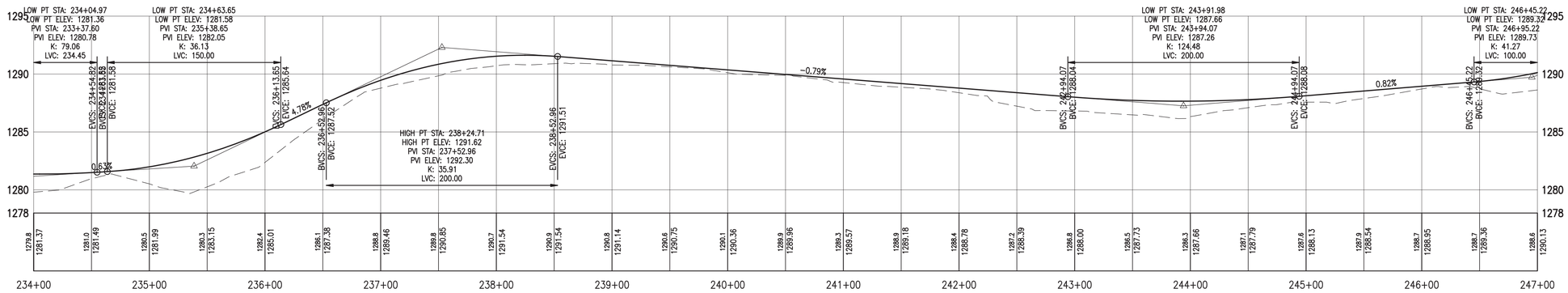
DESIGNED BY: -
CHECKED BY: -
APPROVED BY: -
DWGS MOD BY: -

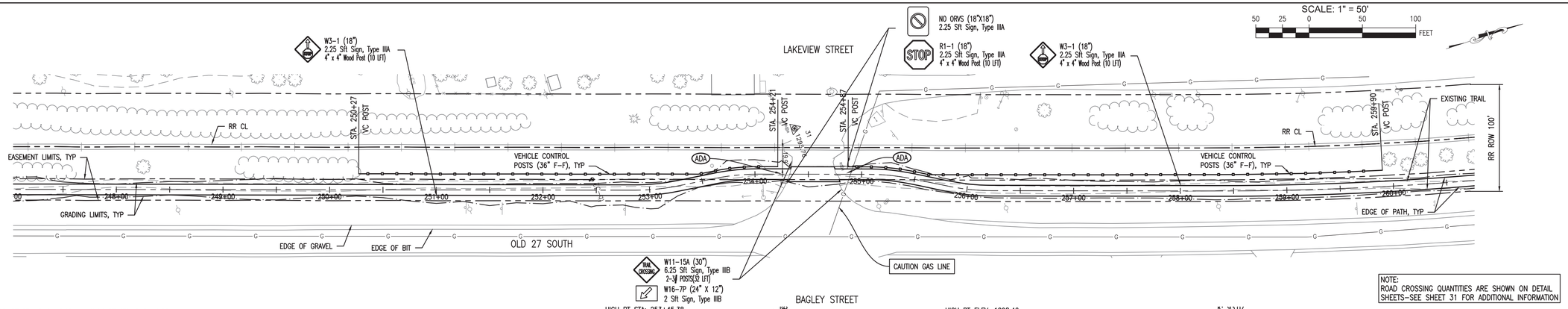
WE RECYCLE



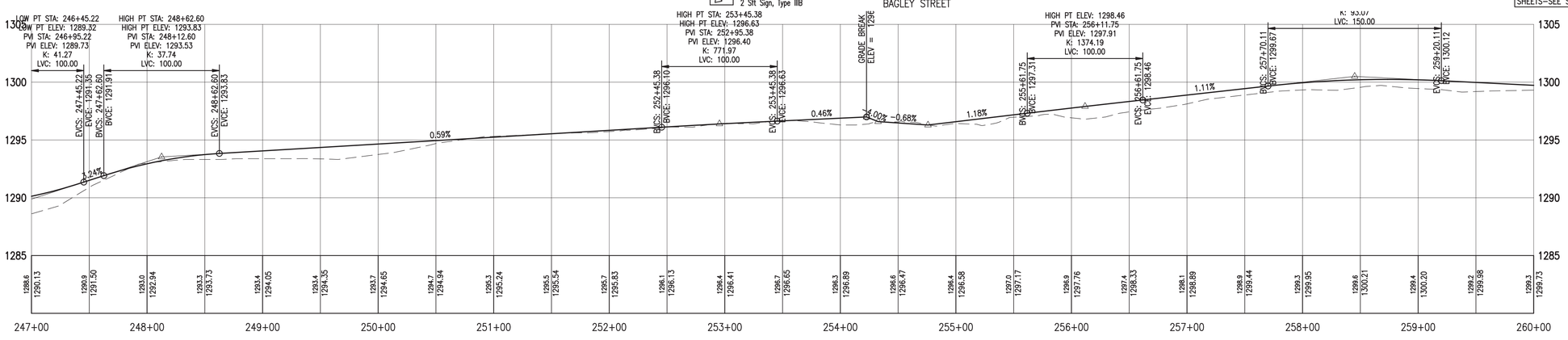
SHARED USE PATH QUANTITIES THIS SHEET

2,557	Ft	Shared Use Path, Grading, Modified	64	Ft	Post, Steel, 3 lb
2,815	Syd	Aggregate Surface Cse, 6 inch, Special	260	Ea	Vehicle Control Post
26	Sta	Slope Restoration, Modified			
16	Sft	Sign, Type IIIA			
5	Ea	Trail Sign Post and Installation			
17	Sft	Sign, Type IIIB			





NOTE:
ROAD CROSSING QUANTITIES ARE SHOWN ON DETAIL SHEETS–SEE SHEET 31 FOR ADDITIONAL INFORMATION



SCALE: 1" = 50'

PLOTTED BY: POYNTER, AMANDA 3/12/2018 1:31 PM
DWG NAME: C:\PWWORK\dms25\d0820449\Sheets\Plan and Profile STA 234+00 to 260+00.dwg - 15 PLAN AND PROFILE STA 234+00 TO 260+00
C2AE STANDARD.STB

DESIGNED BY: -
CHECKED BY: -
APPROVED BY: -
DWGS MOD BY: -

c2ae architecture • engineering

OTSEGO COUNTY IRON BELLE TRAIL

OTSEGO COUNTY, MI

PLAN AND PROFILE
STA 234+00 TO 260+00

REVISIONS

© 2018 C2AE
NOT TO BE REPRODUCED OR
DISTRIBUTED WITHOUT PRIOR
WRITTEN CONSENT FROM C2AE
ALL RIGHTS RESERVED

SCALE: AS SHOWN

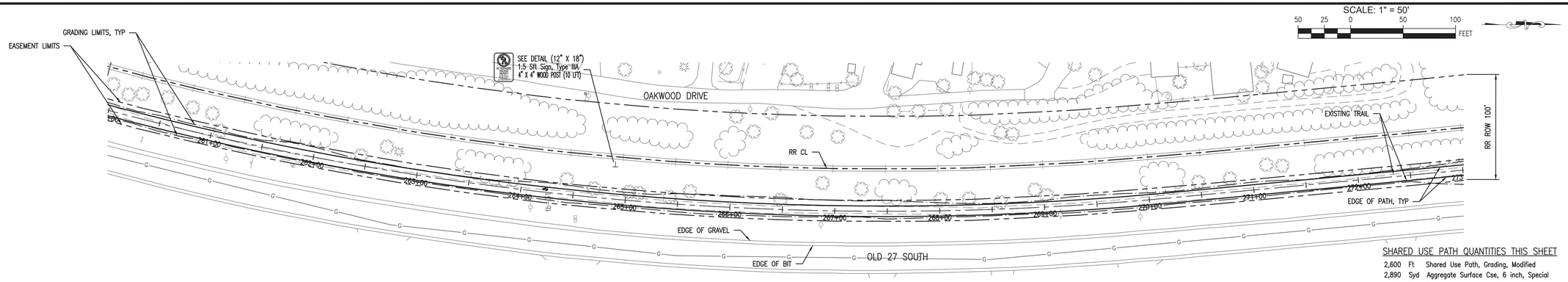
PROJ. #: 170019

DATE: MARCH 1, 2018

SHEET

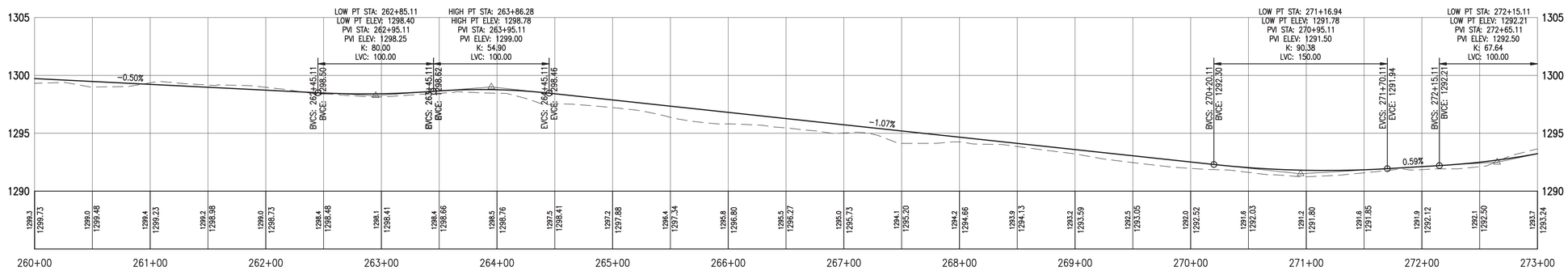
15

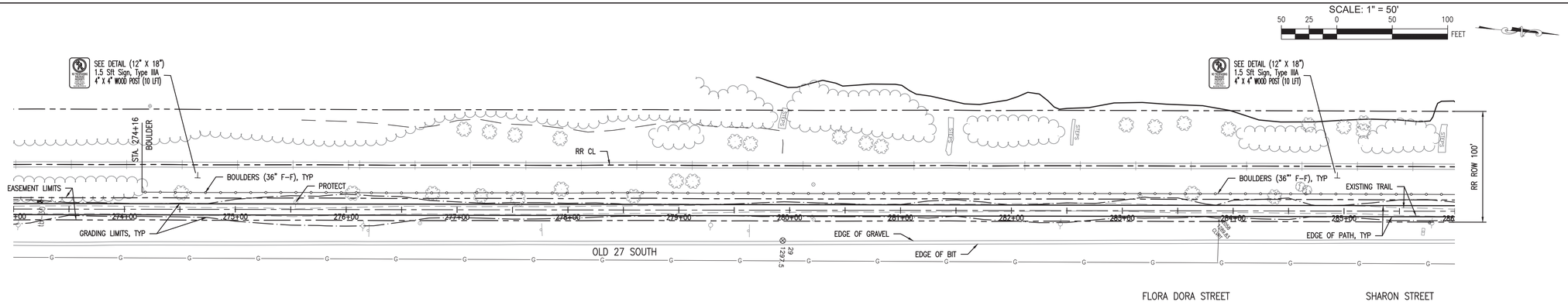
BID SET

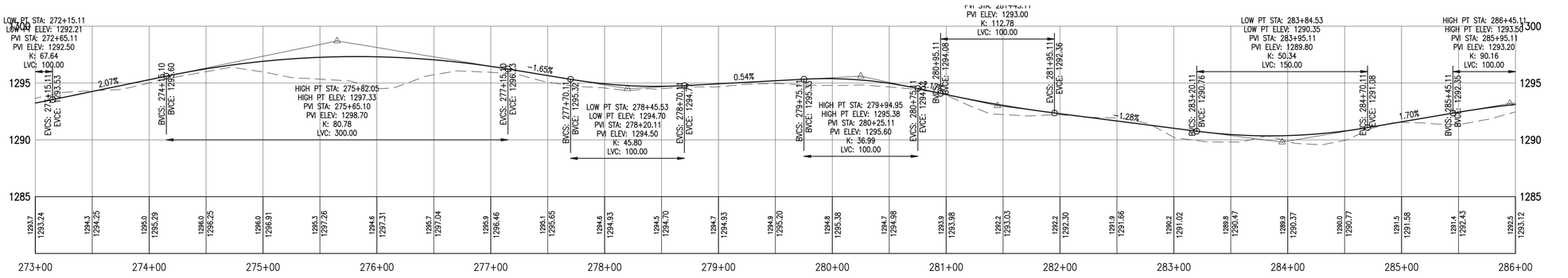


SHARED USE PATH QUANTITIES THIS SHEET

2,600	Ft	Shared Use Path, Grading, Modified
2,890	Syd	Aggregate Surface Cse, 6 inch, Special
26	Sta	Slope Restoration, Modified
198	Ea	Boulder
5	Sft	Sign, Type IIIA
3	Ea	Trail Sign Post and Installation







c2ae architecture • engineering

OTSEGO COUNTY IRON BELLE TRAIL

OTSEGO COUNTY, MI

PLAN AND PROFILE
STA 260+00 TO 286+00

REVISIONS

© 2018 C2AE
NOT TO BE REPRODUCED OR
DISTRIBUTED WITHOUT PRIOR
WRITTEN CONSENT FROM C2AE
ALL RIGHTS RESERVED

SCALE: AS SHOWN

PROJ. #: 170019

DATE: MARCH 1, 2018

SHEET

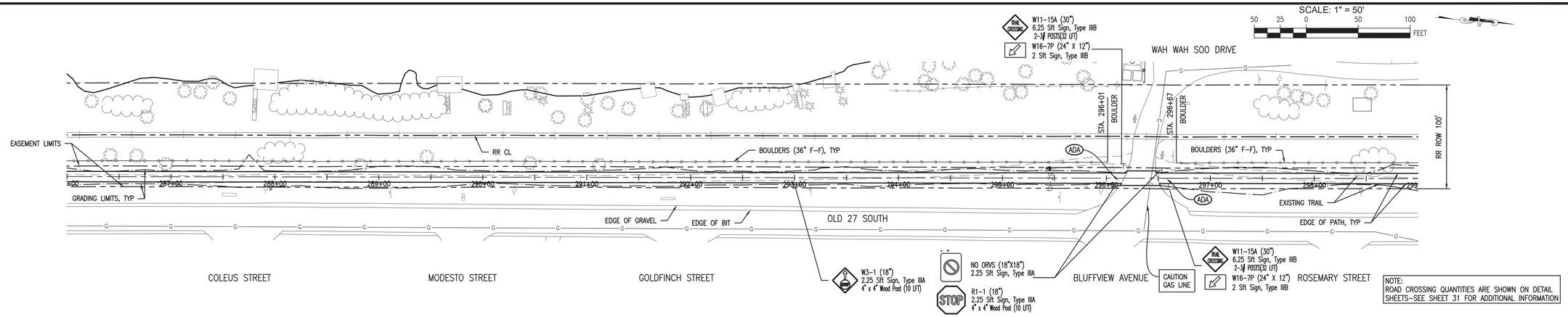
16

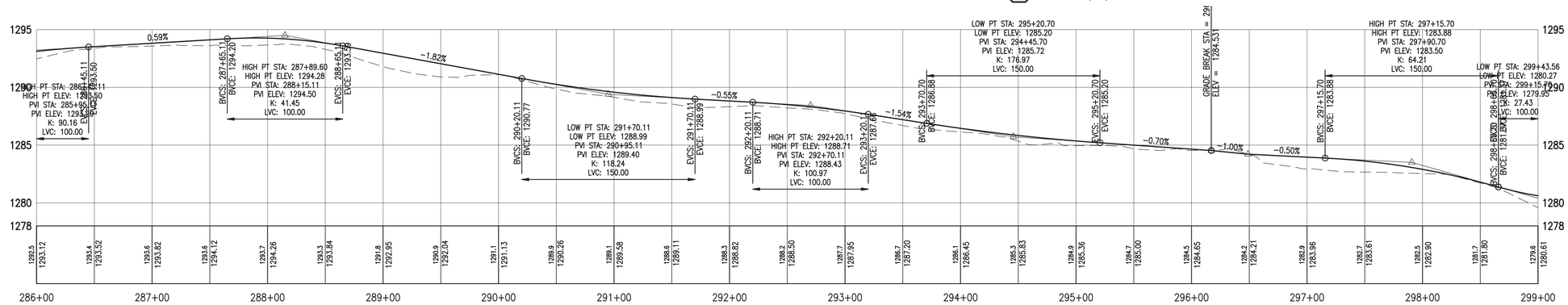
BID SET

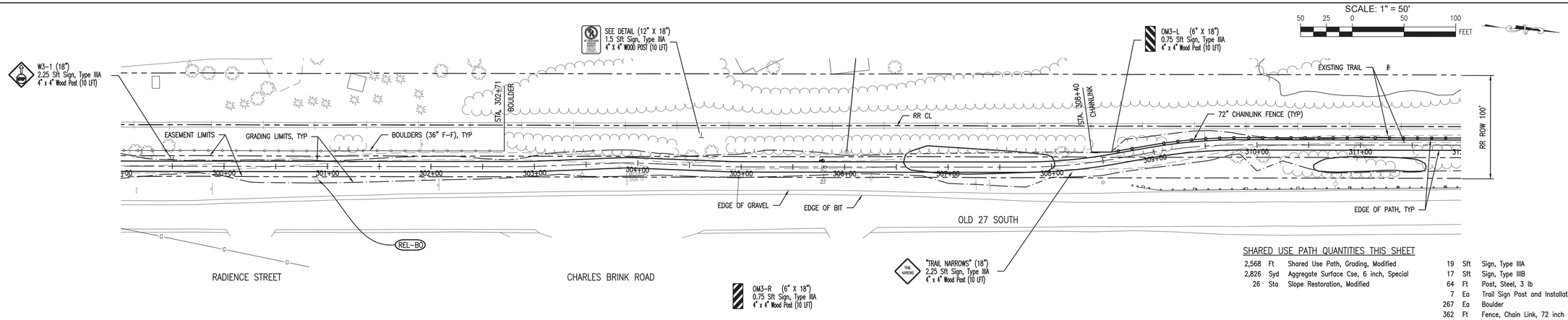
DESIGNED BY: -
CHECKED BY: -
APPROVED BY: -
DWGS MOD BY: -

PLOTTED BY: POYNTER, AMANDA 3/12/2018 1:32 PM
C:\Users\poynter\AppData\Local\Temp\AcPublish_8180\drawings\Sheets\Plan and Profile STA 384+00 to 390+00.dwg - 16 PLAN AND PROFILE STA 260+00 TO 289+00
C2AE STANDARD.STB

WE RECYCLE

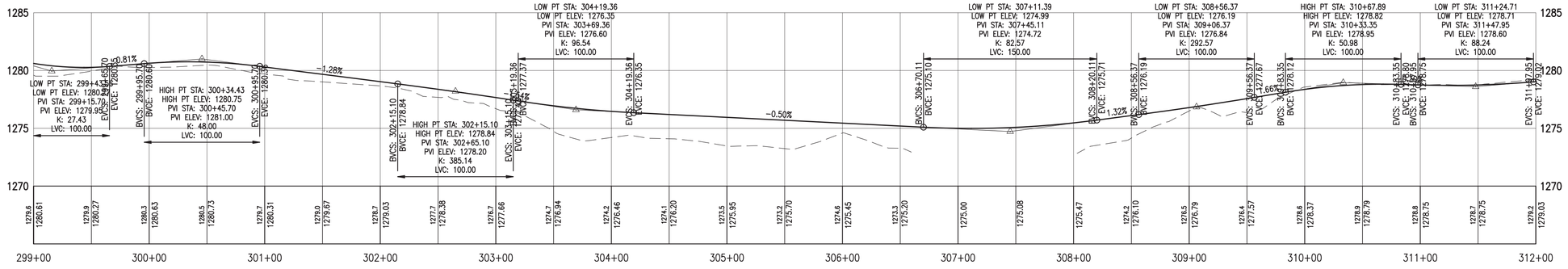






SHARED USE PATH QUANTITIES THIS SHEET

2,568	Ft	Shared Use Path, Grading, Modified	19	Sft	Sign, Type IIIA
2,826	Syd	Aggregate Surface Cse, 6 inch, Special	17	Sft	Sign, Type IIIB
26	Sta	Slope Restoration, Modified	64	Ft	Post, Steel, 3 lb
			7	Ea	Trail Sign Post and Installation
			267	Ea	Boulder
			362	Ft	Fence, Chain Link, 72 inch



PLOTTED BY: POYNITER, AMANDA 3/7/2018 1:33 PM
DWG: P:\170019_OTSEGO_IRON BELLE TRAIL\Design\Sheets\Plan and Profile STA 286+00 to 390+00.dwg - 17 PLAN AND PROFILE STA 286+00 TO 312+00
C2AE STANDARDS.STB

DESIGNED BY: -
CHECKED BY: -
APPROVED BY: -
DWGS MOD BY: -

WE RECYCLE

c2ae architecture • engineering

OTSEGO COUNTY IRON BELLE TRAIL

OTSEGO COUNTY, MI

PLAN AND PROFILE
STA 286+00 TO 312+00

REVISIONS

© 2018 C2AE
NOT TO BE REPRODUCED OR TRANSMITTED WITHOUT PRIOR WRITTEN CONSENT FROM C2AE
ALL RIGHTS RESERVED

SCALE: AS SHOWN

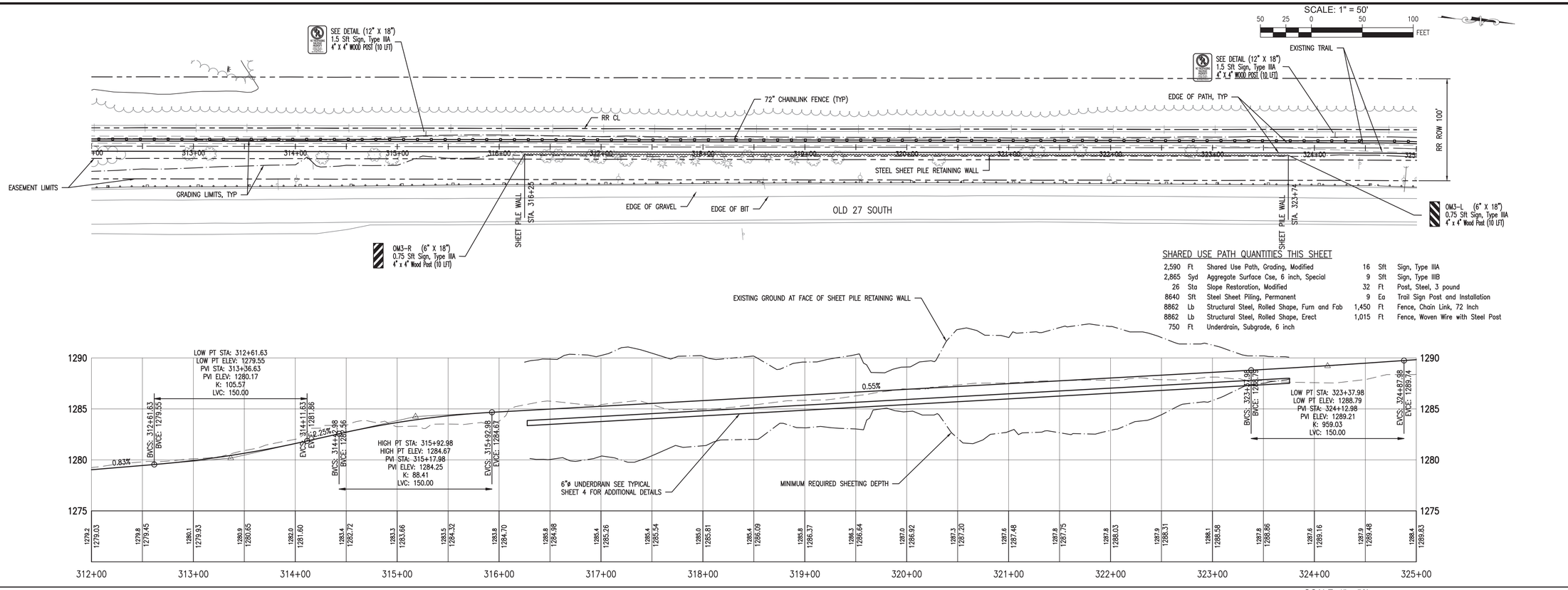
PROJ. #: 170019

DATE: MARCH 1, 2018

SHEET

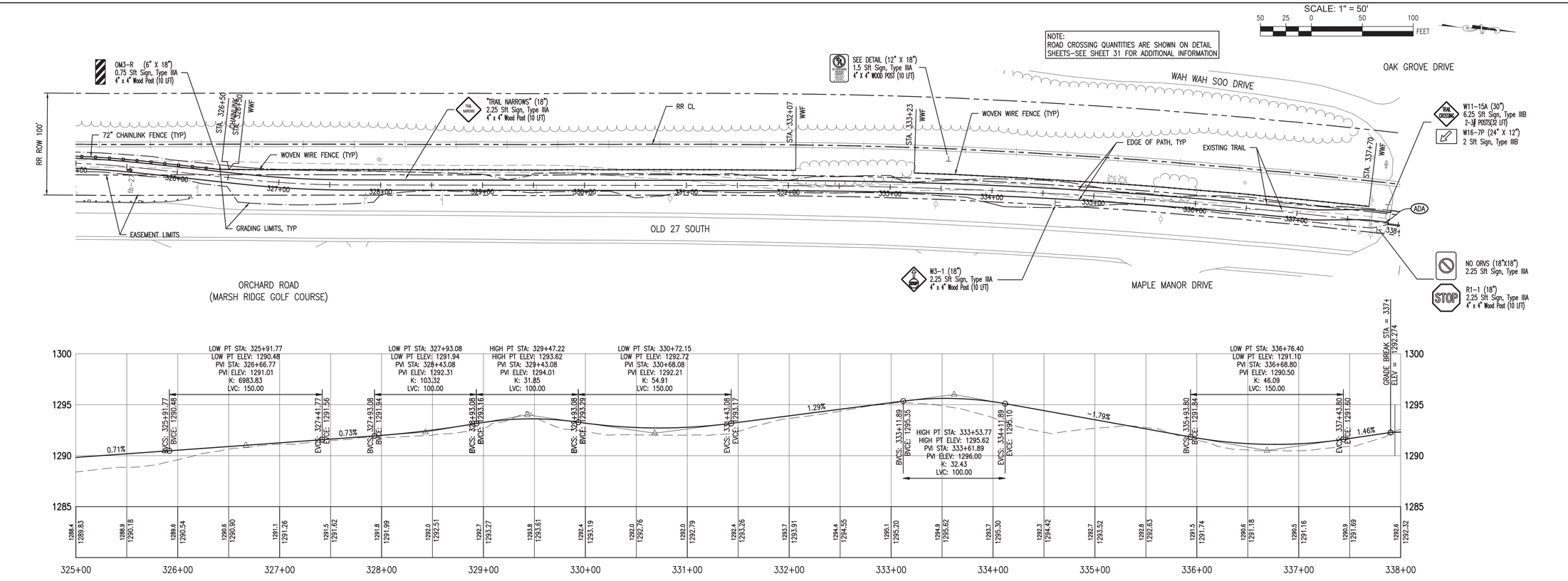
17

BID SET



SHARED USE PATH QUANTITIES THIS SHEET

2,590	Ft	Shared Use Path, Grading, Modified	16	Sft	Sign, Type IIIA
2,865	Syd	Aggregate Surface Cse, 6 inch, Special	9	Sft	Sign, Type IIIB
26	Sta	Slope Restoration, Modified	32	Ft	Post, Steel, 3 pound
8640	Sft	Steel Sheet Piling, Permanent	9	Ea	Trail Sign Post and Installation
8862	Lb	Structural Steel, Rolled Shape, Furn and Fab	1,450	Ft	Fence, Chain Link, 72 Inch
8862	Lb	Structural Steel, Rolled Shape, Erect	1,015	Ft	Fence, Woven Wire with Steel Post
750	Ft	Underdrain, Subgrade, 6 inch			



OTSEGO COUNTY IRON BELLE TRAIL

OTSEGO COUNTY, MI

PLAN AND PROFILE
STA 312+00 TO 338+00

REVISIONS

© 2018 C2AE
NOT TO BE REPRODUCED OR
DISTRIBUTED WITHOUT PRIOR
WRITTEN CONSENT FROM C2AE
ALL RIGHTS RESERVED

SCALE: AS SHOWN

PROJ. #: 170019

DATE: MARCH 1, 2018

SHEET

18

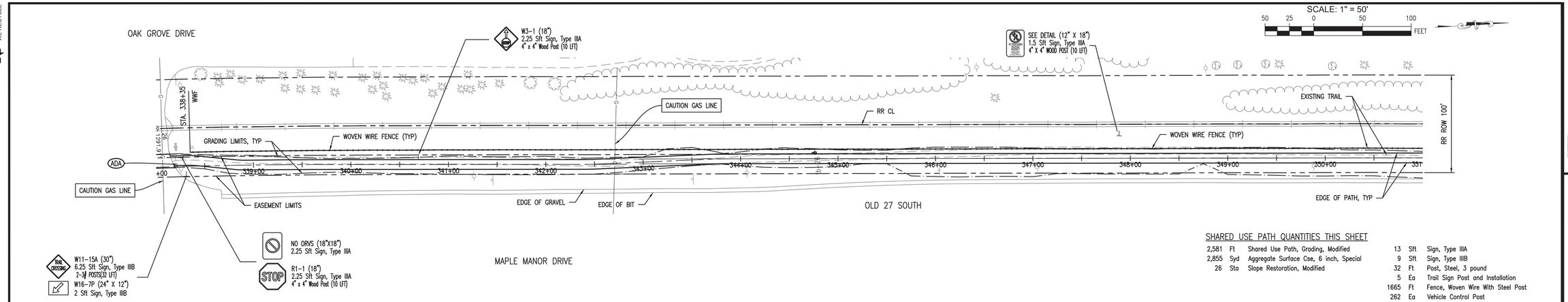
BID SET

c2ae architecture • engineering

WE RECYCLE

PLOTTED BY: POYNTER, AMANDA 3/7/2018 1:34 PM
C:\Users\amanda.poynter\AppData\Local\Temp\AcPublish_3160\Drawings\Sheets\Plan and Profile STA 3+00 to 390+00.dwg - 18 PLAN AND PROFILE STA 312+00 TO 338+00
C2AE STANDARDS.STB

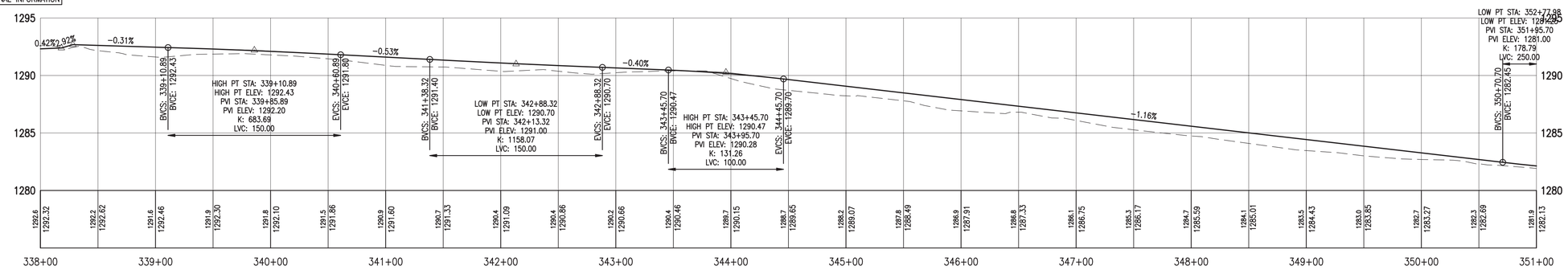
DESIGNED BY: -
CHECKED BY: -
APPROVED BY: -
DWGS MOD BY: -

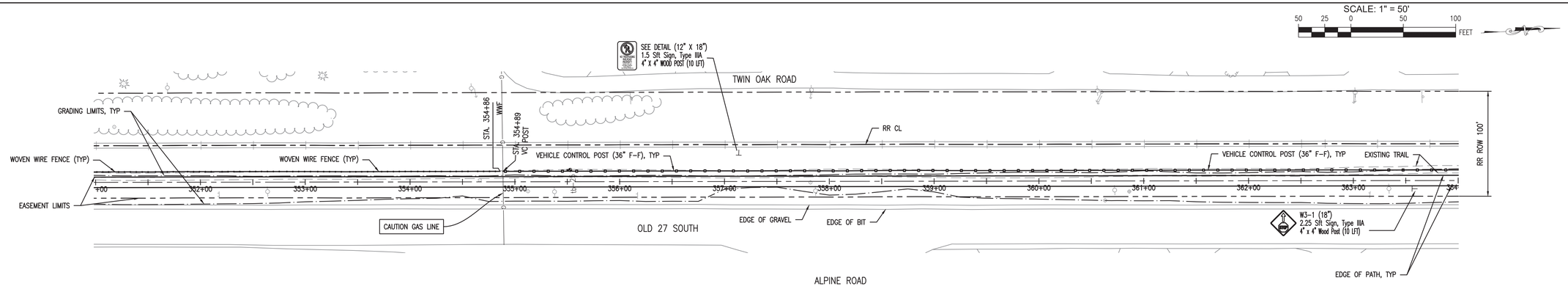


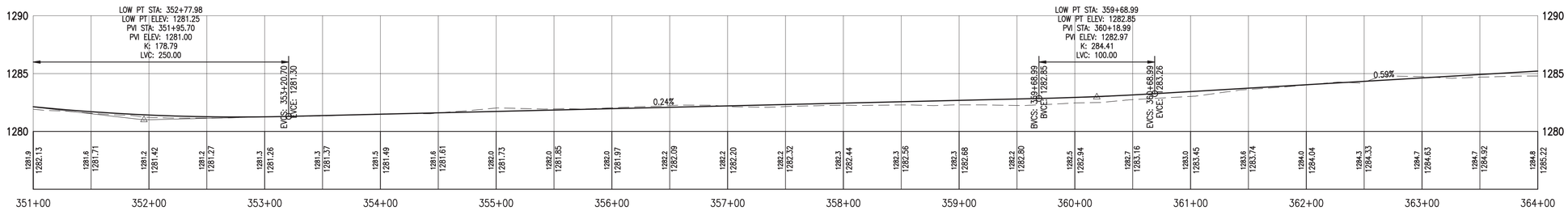
NOTE:
ROAD CROSSING QUANTITIES ARE SHOWN ON DETAIL SHEETS–SEE SHEET 31 FOR ADDITIONAL INFORMATION

SHARED USE PATH QUANTITIES THIS SHEET

2,581	Ft	Shared Use Path, Grading, Modified
2,855	Syd	Aggregate Surface Cse, 6 inch, Special
26	Sta	Slope Restoration, Modified
13	Sft	Sign, Type IIIA
9	Sft	Sign, Type IIIB
32	Ft	Post, Steel, 3 pound
5	Ea	Trail Sign Post and Installation
1665	Ft	Fence, Woven Wire With Steel Post
262	Ea	Vehicle Control Post







c2ae architecture • engineering

OTSEGO COUNTY IRON BELLE TRAIL

OTSEGO COUNTY, MI

PLAN AND PROFILE
STA 338+00 TO 364+00

REVISIONS

© 2018 C2AE
NOT TO BE REPRODUCED OR
TRANSMITTED WITHOUT PRIOR
WRITTEN CONSENT FROM C2AE
ALL RIGHTS RESERVED

SCALE: AS SHOWN

PROJ. #: 170019

DATE: MARCH 1, 2018

SHEET

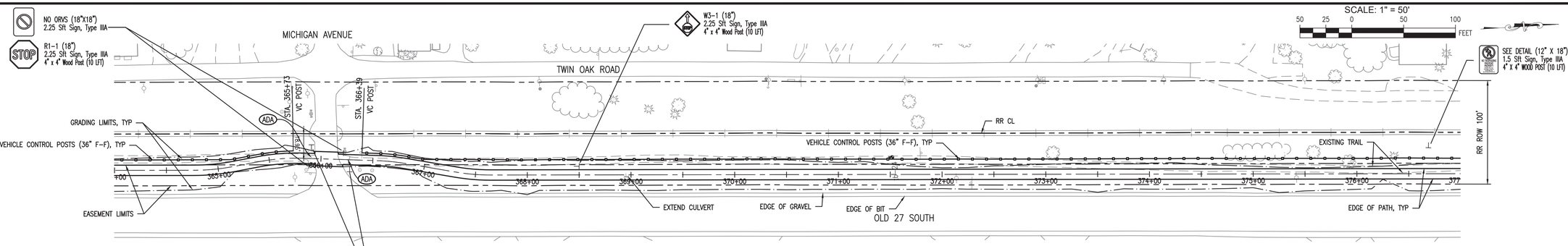
19

BID SET

DESIGNED BY: -
CHECKED BY: -
APPROVED BY: -
DWGS MOD BY: -

PLOTTED BY: POYNTER, AMANDA 3/7/2018 1:35 PM
CONTROL FILE: C:\PWWORK\DMS32\C2AEDEV\Projects\Plan and Profile STA 338+00 to 390+00.dwg - 19 PLAN AND PROFILE STA 338+00 TO 364+00
C2AE STANDARDS.STB

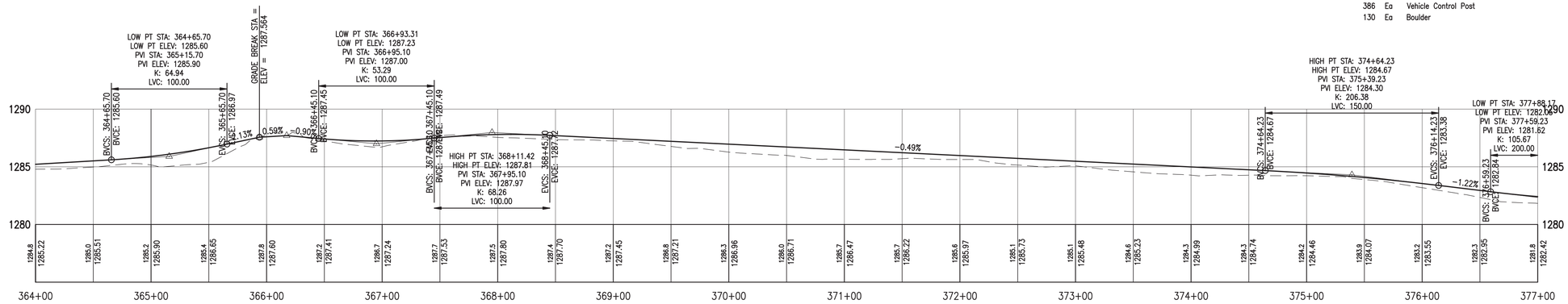
WE RECYCLE

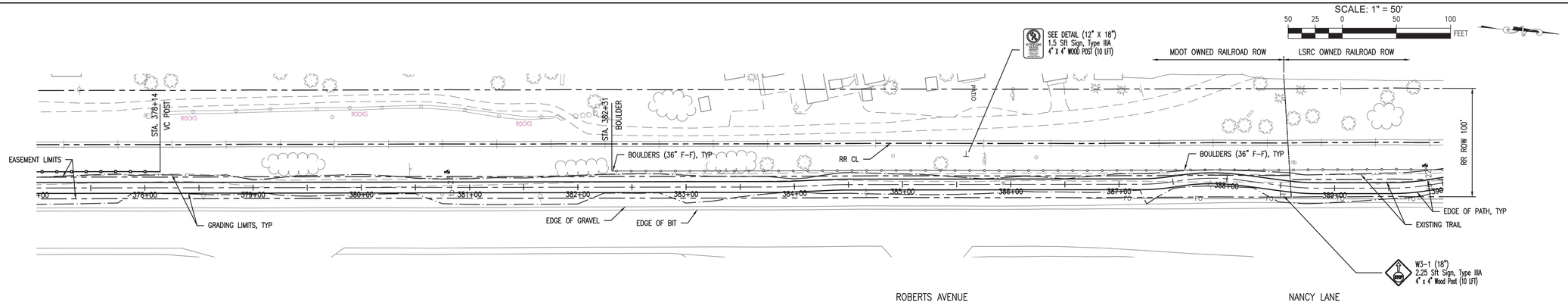


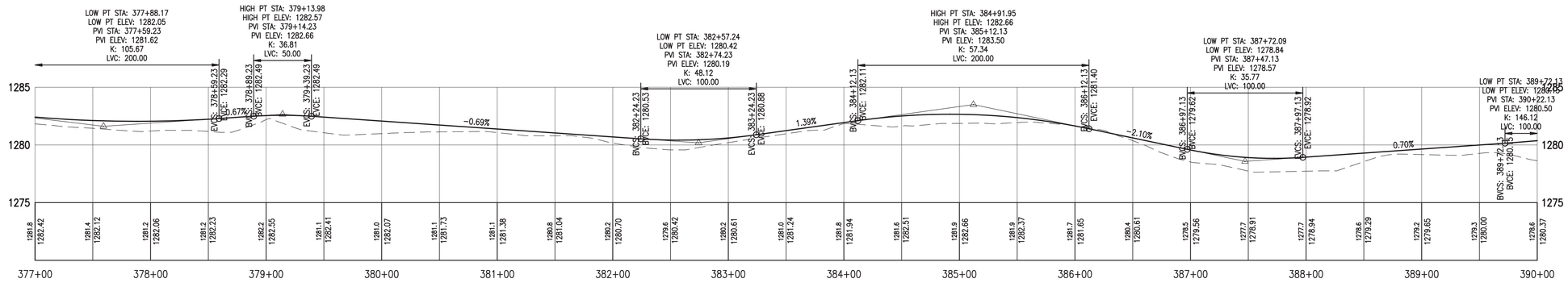
NOTE:
ROAD CROSSING QUANTITIES ARE SHOWN ON DETAIL SHEETS–SEE SHEET 32 FOR ADDITIONAL INFORMATION

SHARED USE PATH QUANTITIES THIS SHEET

2,576	Ft	Shared Use Path, Grading, Modified	17	Sft	Sign, Type IIIA
2,837	Syd	Aggregate Surface Cse, 6 inch, Special	17	Sft	Sign, Type IIIB
26	Sta	Slope Restoration, Modified	64	Ft	Post, Steel, 3 pound
			8	Ea	Trail Sign Post and Installation
			386	Ea	Vehicle Control Post
			130	Ea	Boulder







PLOTTED BY: POYNITER, AMANDA 3/7/2018 1:35 PM
DWG NAME: C:\PWWORK\dms25\d0820422\Roadway\Sheets\Plan and Profile STA 364+00 to 390+00.dwg - 20 PLAN AND PROFILE STA 364+00 TO 390+00
C2AE STANDARD.STB

DESIGNED BY: -	APPROVED BY: -		
CHECKED BY: -	DWGS MOD BY: -		

c2ae architecture • engineering

OTSEGO COUNTY IRON BELLE TRAIL

OTSEGO COUNTY, MI

PLAN AND PROFILE
STA 364+00 TO 390+00

REVISIONS

© 2018 C2AE
NOT TO BE REPRODUCED OR TRANSMITTED WITHOUT PRIOR WRITTEN CONSENT FROM C2AE
ALL RIGHTS RESERVED.

SCALE: AS SHOWN

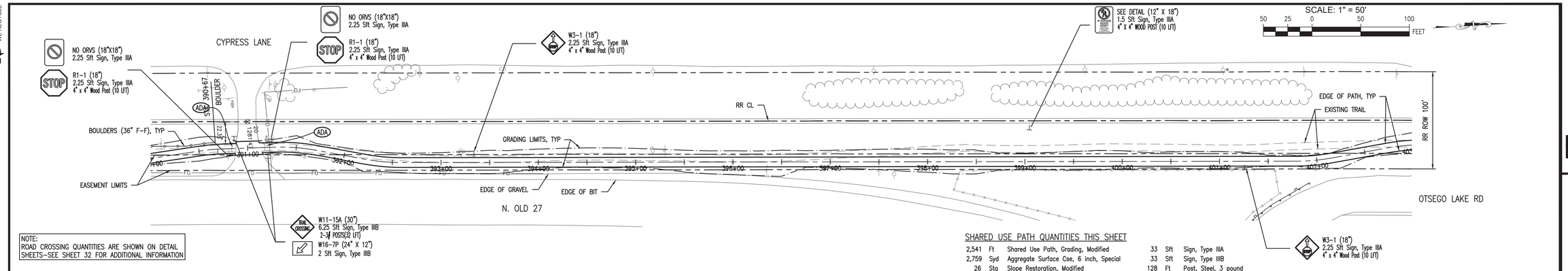
PROJ. #: 170019

DATE: MARCH 1, 2018

SHEET

20

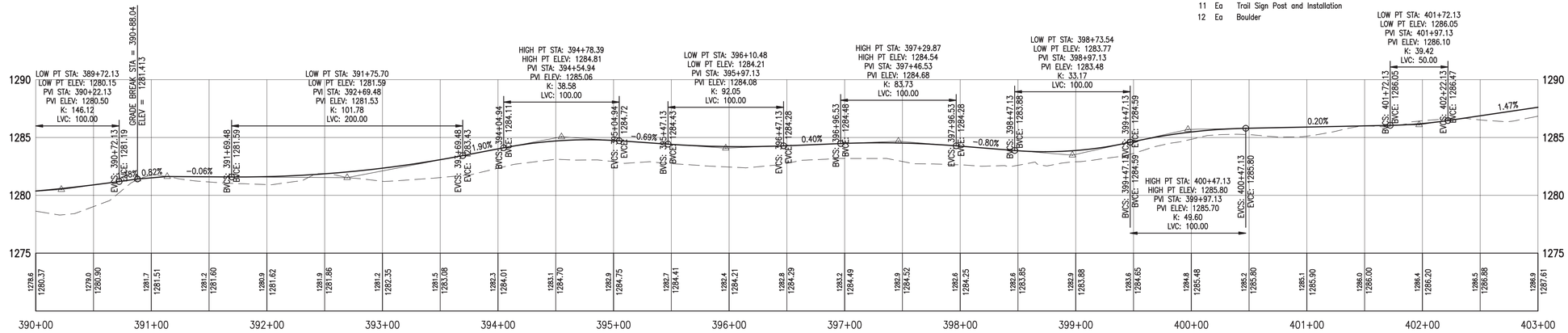
BID SET

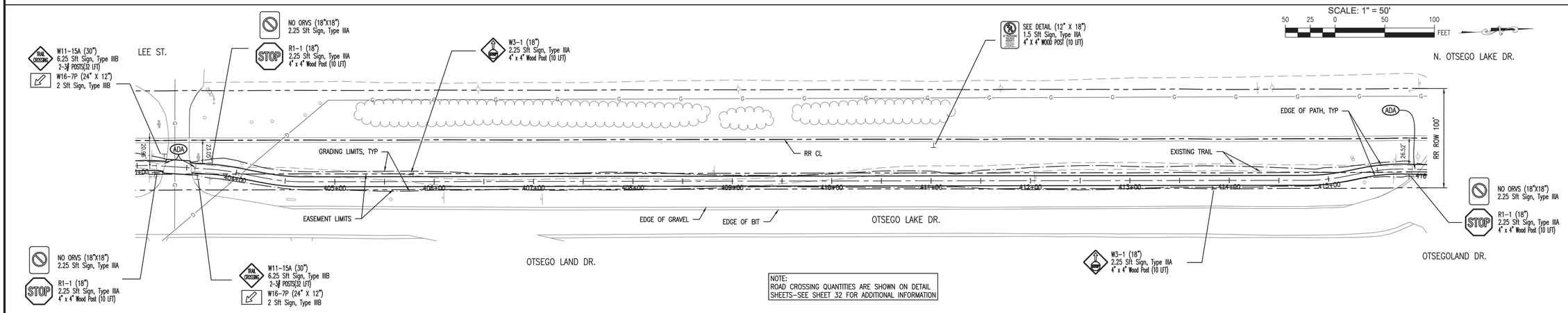


NOTE:
ROAD CROSSING QUANTITIES ARE SHOWN ON DETAIL SHEETS–SEE SHEET 32 FOR ADDITIONAL INFORMATION

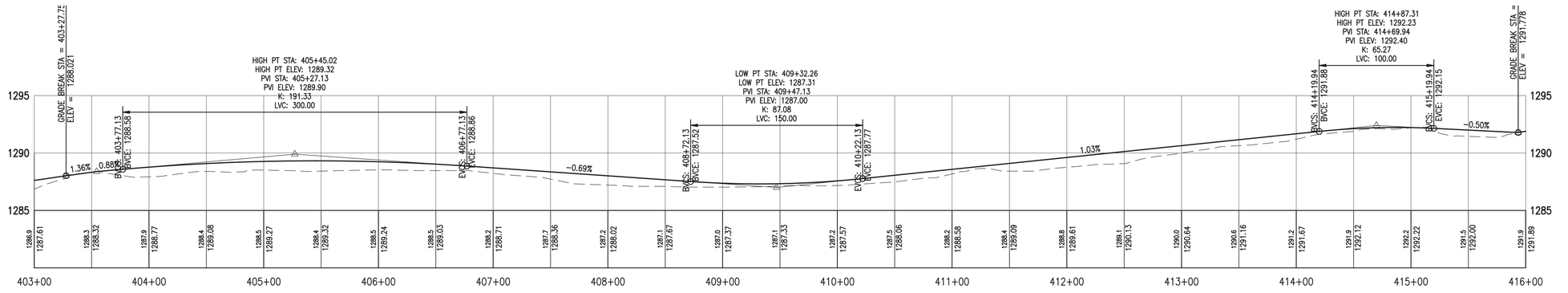
SHARED USE PATH QUANTITIES THIS SHEET

2,541	Ft	Shared Use Path, Grading, Modified
2,759	Syd	Aggregate Surface Cse, 6 inch, Special
26	Sta	Slope Restoration, Modified
33	Sft	Sign, Type IIIA
33	Sft	Sign, Type IIIB
128	Ft	Post, Steel, 3 pound
11	Ea	Trail Sign Post and Installation
12	Ea	Boulder





NOTE:
ROAD CROSSING QUANTITIES ARE SHOWN ON DETAIL SHEETS–SEE SHEET 32 FOR ADDITIONAL INFORMATION



OTSEGO COUNTY IRON BELLE TRAIL
OTSEGO COUNTY, MI

PLAN AND PROFILE
STA 390+00 TO 416+00

REVISIONS

© 2018 C2AE
NOT TO BE REPRODUCED OR
DISTRIBUTED WITHOUT PRIOR
WRITTEN CONSENT FROM C2AE
ALL RIGHTS RESERVED

SCALE: AS SHOWN
PROJ. #: 170019
DATE: MARCH 1, 2018
SHEET
21

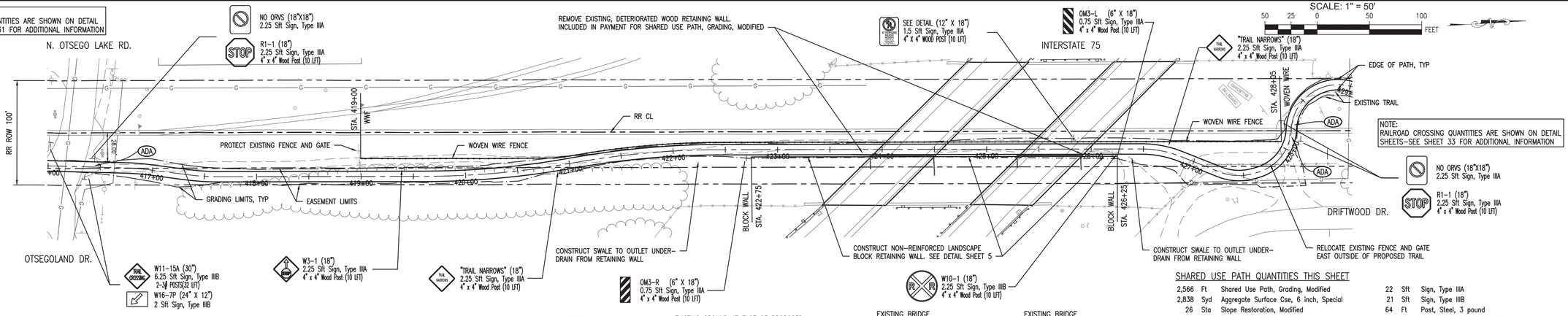
BID SET

DESIGNED BY: -
CHECKED BY: -
APPROVED BY: -
DWGS MOD BY: -

PLOTTED BY: POYNTER, AMANDA 3/12/2018 1:37 PM
C:\Users\poynter\AppData\Local\Temp\AcPublish_7164\Drawings\Sheets\Plan and Profile STA 494+00 to 520+00.dwg - 21 PLAN AND PROFILE STA 390+00 TO 416+00
C2AE STANDARD.STB

WE RECYCLE

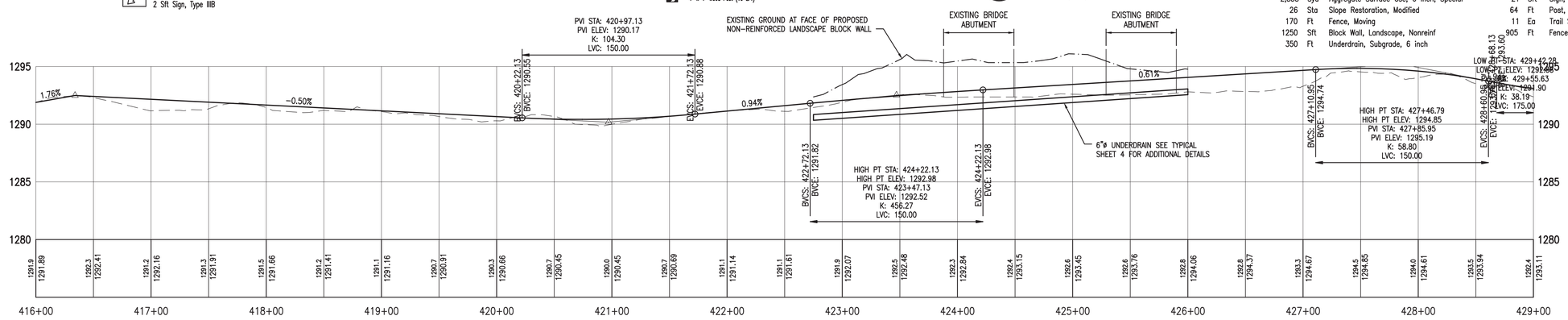
NOTE:
ROAD CROSSING QUANTITIES ARE SHOWN ON DETAIL SHEETS–SEE SHEET 31 FOR ADDITIONAL INFORMATION

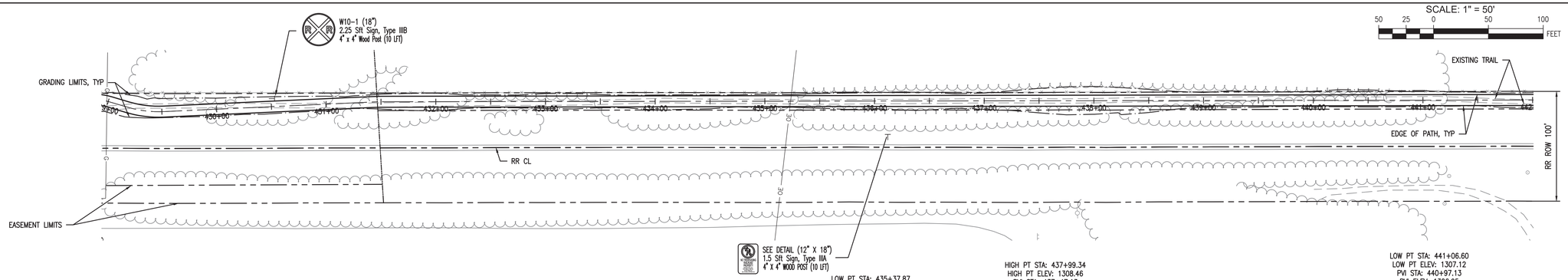


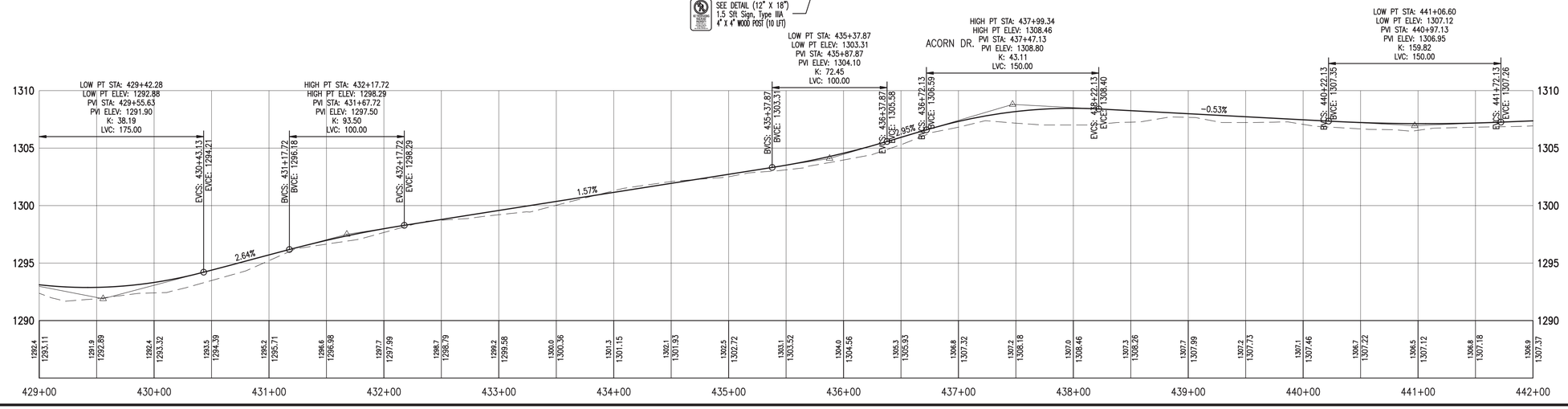
NOTE:
RAILROAD CROSSING QUANTITIES ARE SHOWN ON DETAIL SHEETS–SEE SHEET 33 FOR ADDITIONAL INFORMATION

SHARED USE PATH QUANTITIES THIS SHEET

2,566	Ft	Shared Use Path, Grading, Modified
2,838	Syd	Aggregate Surface Cse, 6 inch, Special
26	Sta	Slope Restoration, Modified
170	Ft	Fence, Moving
1250	Sft	Block Wall, Landscape, Nonreinf
350	Ft	Underdrain, Subgrade, 6 inch
22	Sft	Sign, Type IIIA
21	Sft	Sign, Type IIIB
64	Ft	Post, Steel, 3 pound
11	Ea	Trail Sign Post and Installation
905	Ft	Fence, Woven Wire with Steel Post







PLOTTED BY: POYNTER, AMANDA 3/7/2018 1:38 PM
DWG NAME: C:\Users\poyntera\AppData\Local\Temp\AcPublish_1164\Drawings\Sheets\Plan and Profile STA 416+00 to 520+00.dwg - 22 PLAN AND PROFILE STA 416+00 TO 442+00
CURRENT DWG XREFS: NONE
C2AE STANDARDS: STB

DESIGNED BY: -	APPROVED BY: -
CHECKED BY: -	DWGS MOD BY: -

c2ae architecture • engineering

OTSEGO COUNTY IRON BELLE TRAIL

OTSEGO COUNTY, MI

PLAN AND PROFILE
STA 416+00 TO 442+00

REVISIONS

© 2018 C2AE
NOT TO BE REPRODUCED OR
DISTRIBUTED WITHOUT PRIOR
WRITTEN CONSENT FROM C2AE
ALL RIGHTS RESERVED

SCALE: AS SHOWN

PROJ. #: 170019

DATE: MARCH 1, 2018

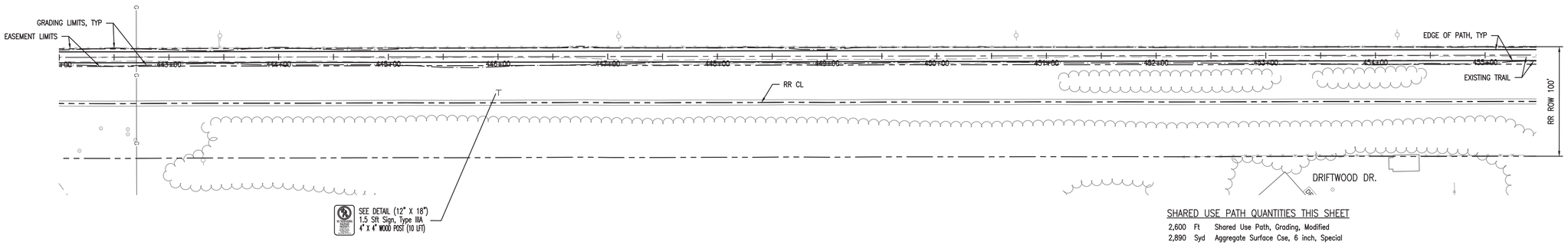
SHEET

22

BID SET

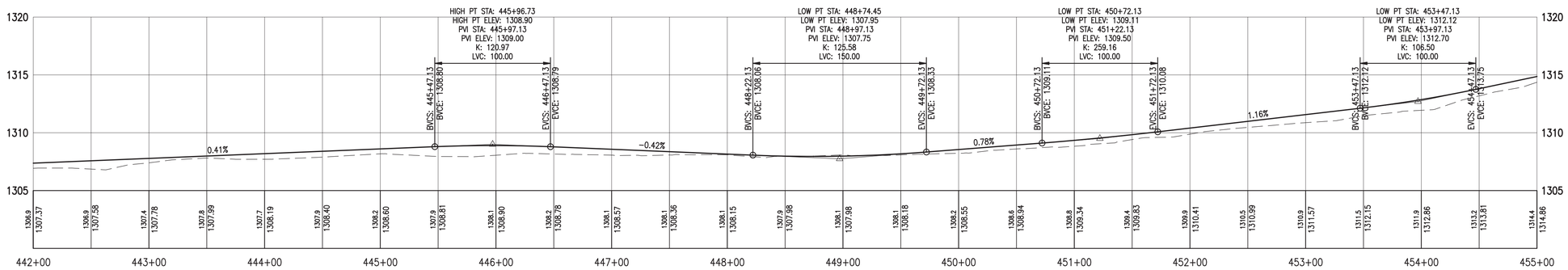
SCALE: 1" = 50'

50 25 0 50 100 FEET



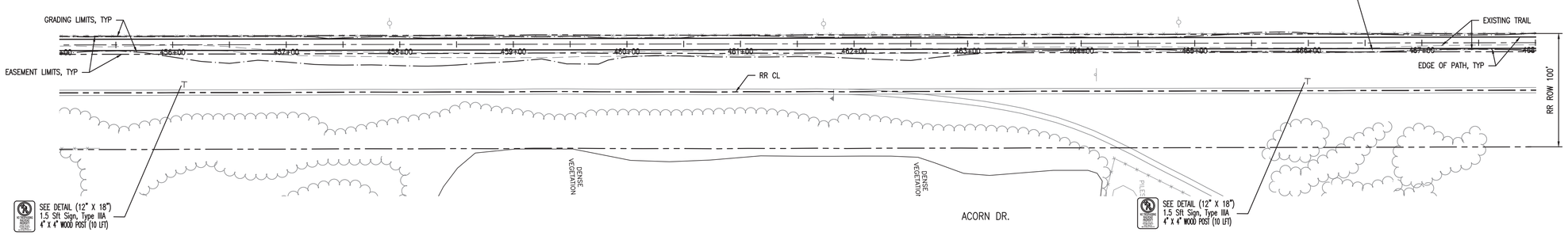
SHARED USE PATH QUANTITIES THIS SHEET

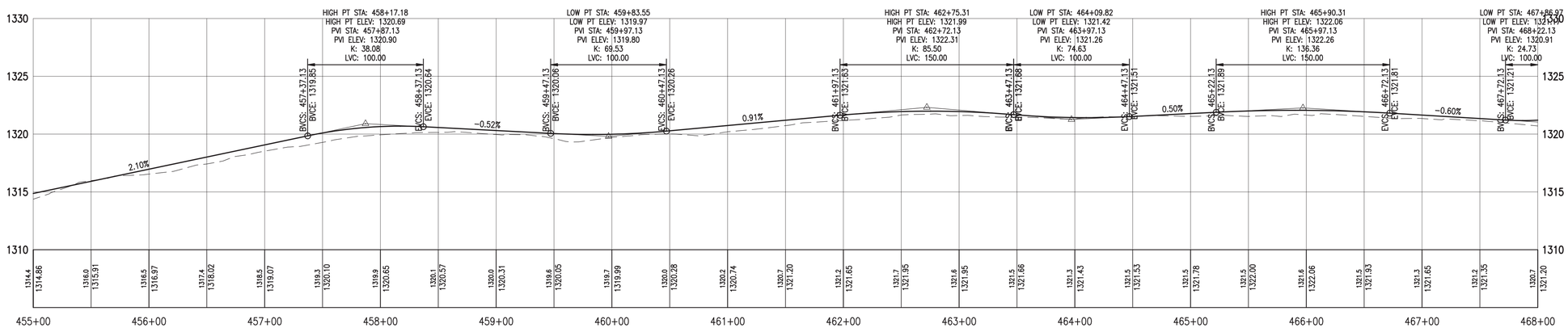
2,600	Ft	Shared Use Path, Grading, Modified
2,890	Syd	Aggregate Surface Cse, 6 inch, Special
26	Sta	Slope Restoration, Modified
7	Sft	Sign, Type IIIA
4	Ea	Trail Sign Post and Installation



SCALE: 1" = 50'

50 25 0 50 100 FEET





c2ae architecture • engineering

OTSEGO COUNTY IRON BELLE TRAIL

OTSEGO COUNTY, MI

PLAN AND PROFILE
STA 442+00 TO 468+00

REVISIONS

© 2018 C2AE
NOT TO BE REPRODUCED OR
DISTRIBUTED WITHOUT PRIOR
WRITTEN CONSENT FROM C2AE
ALL RIGHTS RESERVED

SCALE: AS SHOWN

PROJ. #: 170019

DATE: MARCH 1, 2018

SHEET

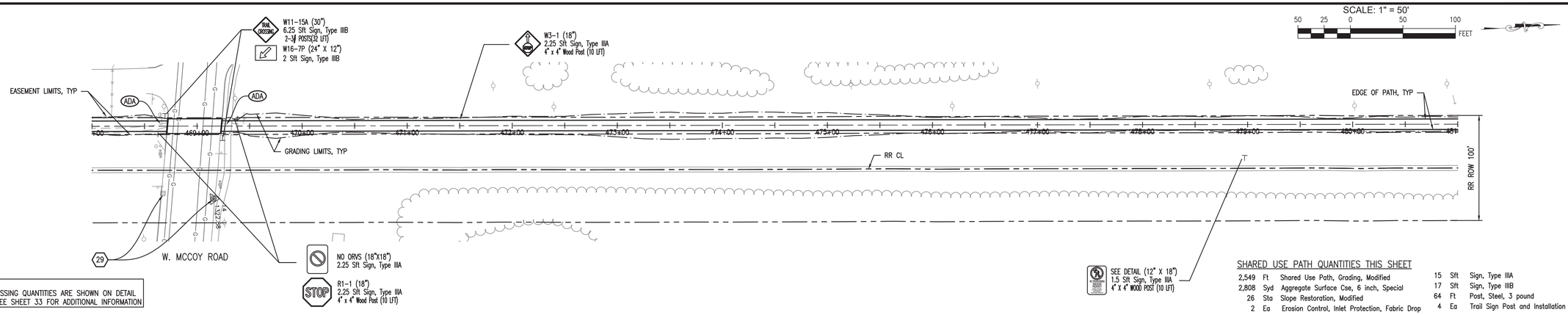
23

BID SET

WE RECYCLE

PLOTTED BY: POYNITER, AMANDA 3/1/2018 1:38 PM
DWG: J:\170019_OTSEGO COUNTY IRON BELLE\Design\Sheets\Plan and Profile STA 494+00 to 520+00.dwg - 23 PLAN AND PROFILE STA 442+00 TO 468+00
C2AE STANDARD.STB

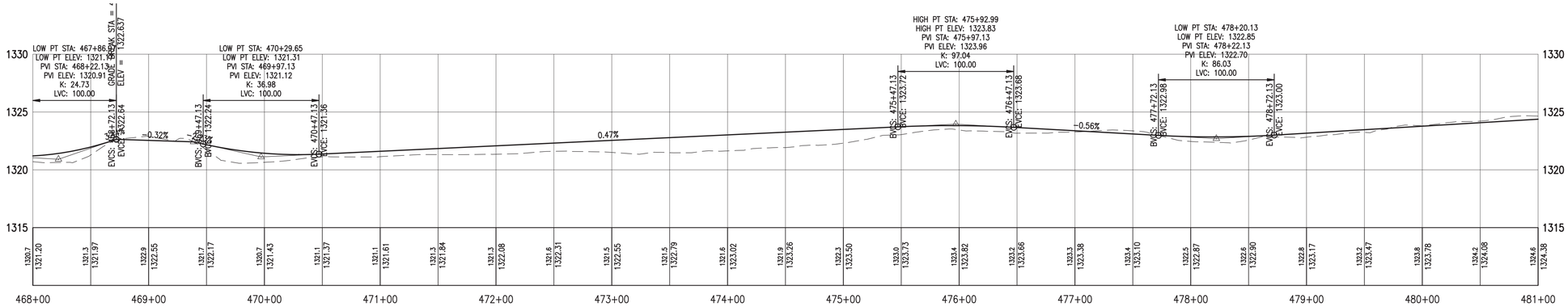
DESIGNED BY: -
CHECKED BY: -
APPROVED BY: -
DWGS MOD BY: -

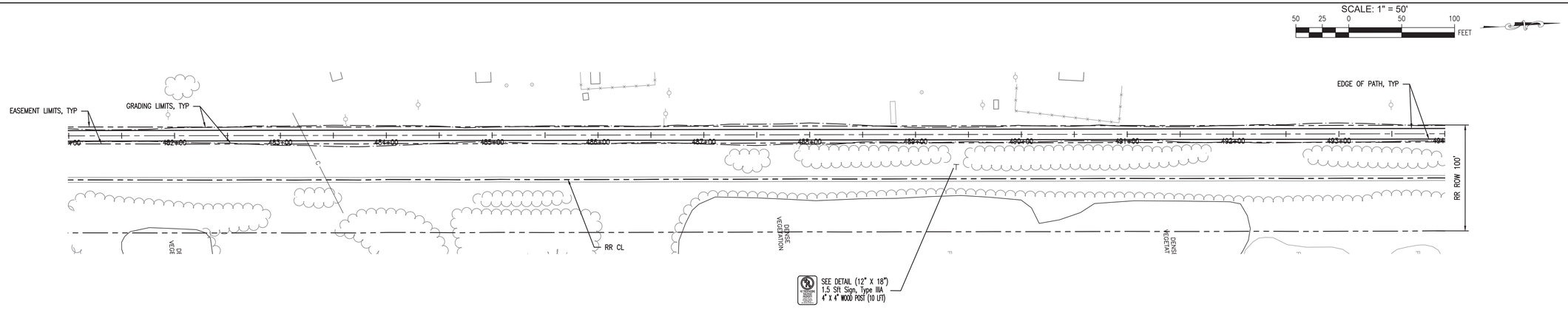


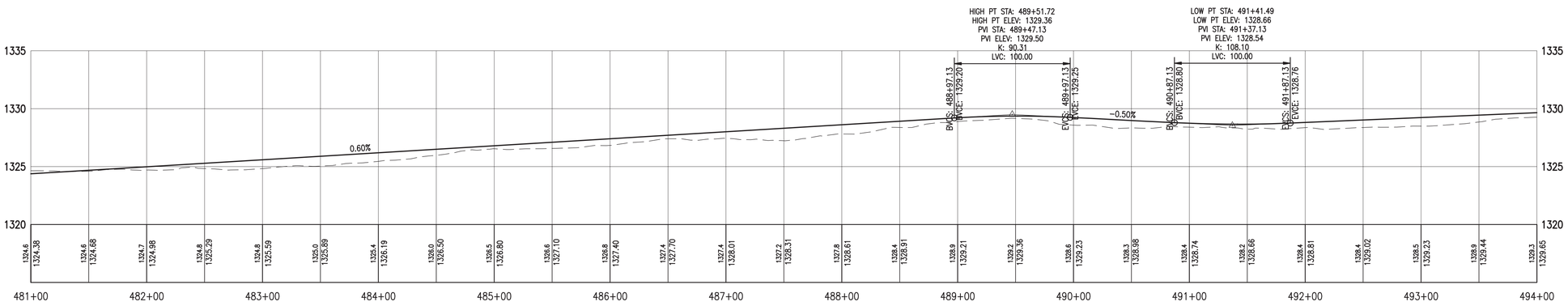
NOTE:
ROAD CROSSING QUANTITIES ARE SHOWN ON DETAIL SHEETS-SEE SHEET 33 FOR ADDITIONAL INFORMATION

SHARED USE PATH QUANTITIES THIS SHEET

2,549	Ft	Shared Use Path, Grading, Modified	15	Sft	Sign, Type IIIA
2,808	Syd	Aggregate Surface Cse, 6 inch, Special	17	Sft	Sign, Type IIIB
26	Sta	Slope Restoration, Modified	64	Ft	Post, Steel, 3 pound
2	Ea	Erosion Control, Inlet Protection, Fabric Drop	4	Ea	Trail Sign Post and Installation







PLOTTED BY: POYNTER, AMANDA 3/7/2018 1:39 PM
CAD FILE: O:\170019_Otsego_County_Parks\Design\Sheets\Plan and Profile STA 494+00 to 520+00.dwg - 24 PLAN AND PROFILE STA 468+00 TO 494+00
C2AE STANDARDS.STB

DESIGNED BY: -
CHECKED BY: -
APPROVED BY: -
DWGS MOD BY: -

c2ae architecture • engineering

OTSEGO COUNTY IRON BELLE TRAIL

OTSEGO COUNTY, MI

PLAN AND PROFILE
STA 468+00 TO 494+00

REVISIONS

© 2018 C2AE
NOT TO BE REPRODUCED OR
DISTRIBUTED WITHOUT PRIOR
WRITTEN CONSENT FROM C2AE
ALL RIGHTS RESERVED

SCALE: AS SHOWN

PROJ. #: 170019

DATE: MARCH 1, 2018

SHEET
24

BID SET

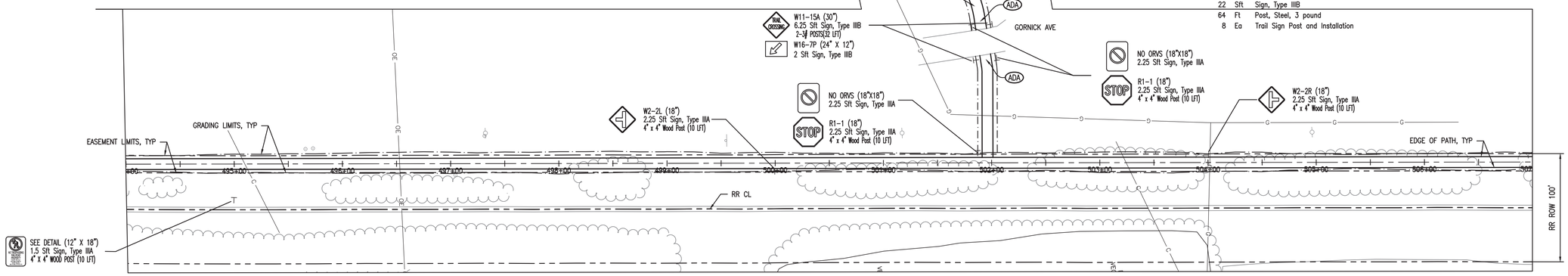
NOTE:
ROAD CROSSING QUANTITIES ARE SHOWN ON DETAIL SHEETS–SEE SHEET 33 FOR ADDITIONAL INFORMATION

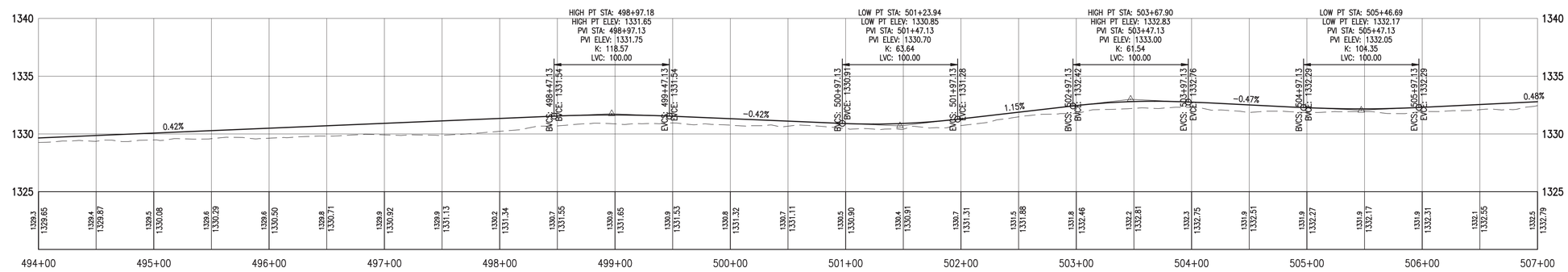
SCALE: 1" = 50'

50 25 0 50 100 FEET

SHARED USE PATH QUANTITIES THIS SHEET

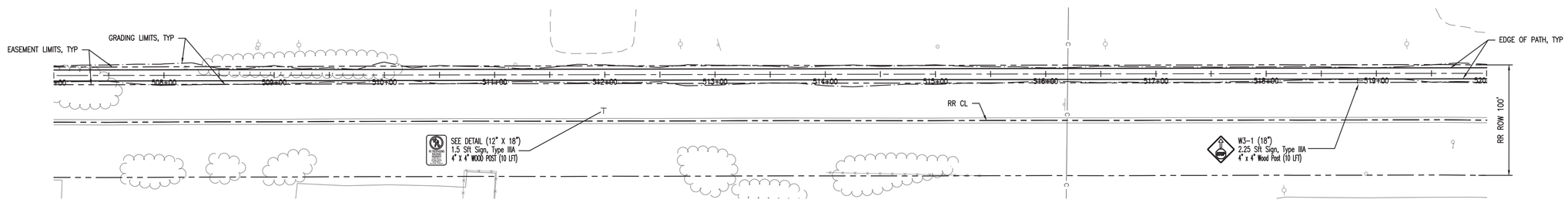
2,863	Ft	Shared Use Path, Grading, Modified
3,181	Syd	Aggregate Surface Cse, 6 inch, Special
29	Sta	Slope Restoration, Modified
17	Sft	Sign, Type IIIA
22	Sft	Sign, Type IIIB
64	Ft	Post, Steel, 3 pound
8	Ea	Trail Sign Post and Installation

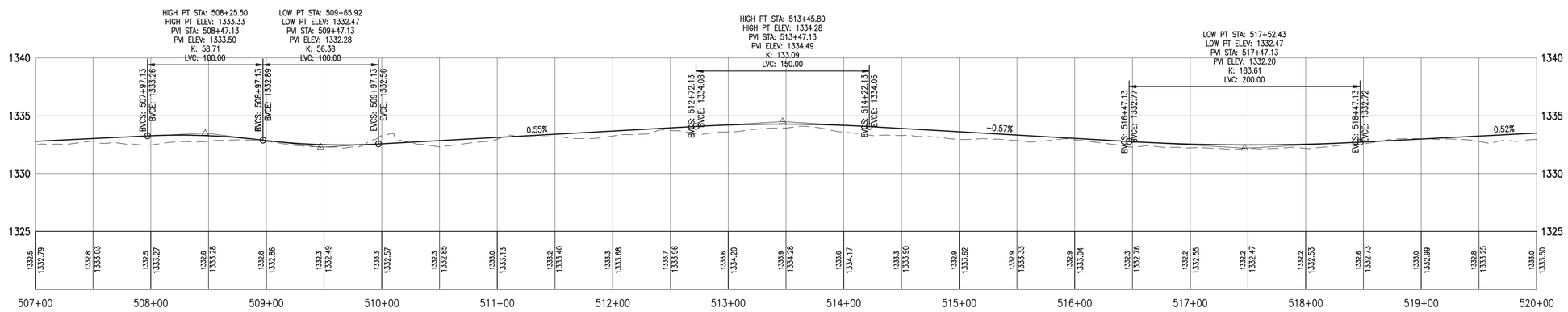




SCALE: 1" = 50'

50 25 0 50 100 FEET





c2ae architecture • engineering

OTSEGO COUNTY IRON BELLE TRAIL

OTSEGO COUNTY, MI

PLAN AND PROFILE
STA 494+00 TO 520+00

REVISIONS

© 2018 C2AE
NOT TO BE REPRODUCED OR DISTRIBUTED WITHOUT PRIOR WRITTEN CONSENT FROM C2AE
ALL RIGHTS RESERVED

SCALE: AS SHOWN

PROJ. #: 170019

DATE: MARCH 1, 2018

SHEET

25

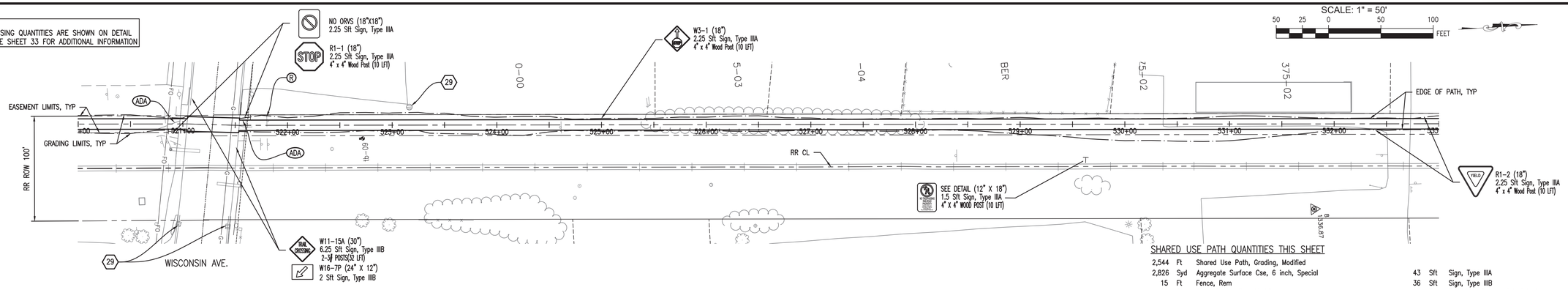
BID SET

WE RECYCLE

PLOTTED BY: POYNTER, AMANDA 3/1/2018 1:40 PM
DWG NAME: J:\170019_Otsego_Twp_Trail\Drawings\Sheets\Plan and Profile STA 494+00 to 520+00.dwg - 25 PLAN AND PROFILE STA 494+00 TO 520+00
C2AE STANDARD.STB

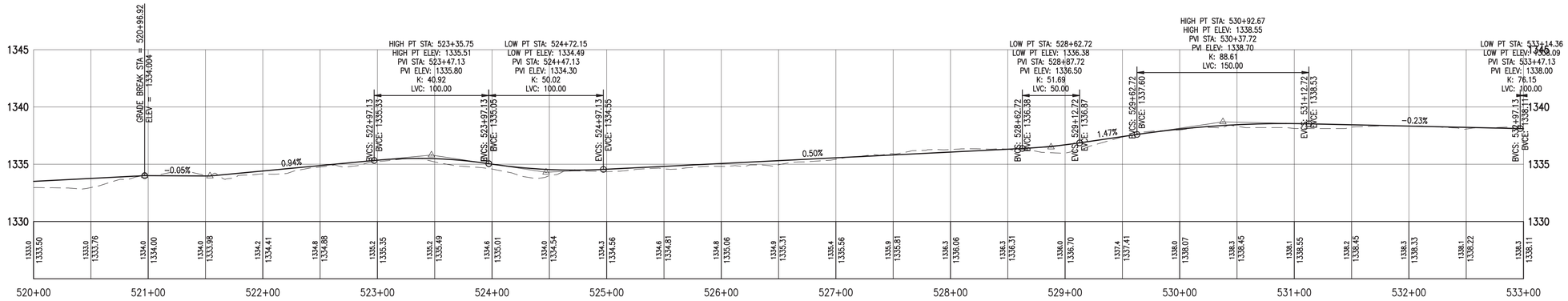
DESIGNED BY: -
CHECKED BY: -
APPROVED BY: -
DWGS MOD BY: -

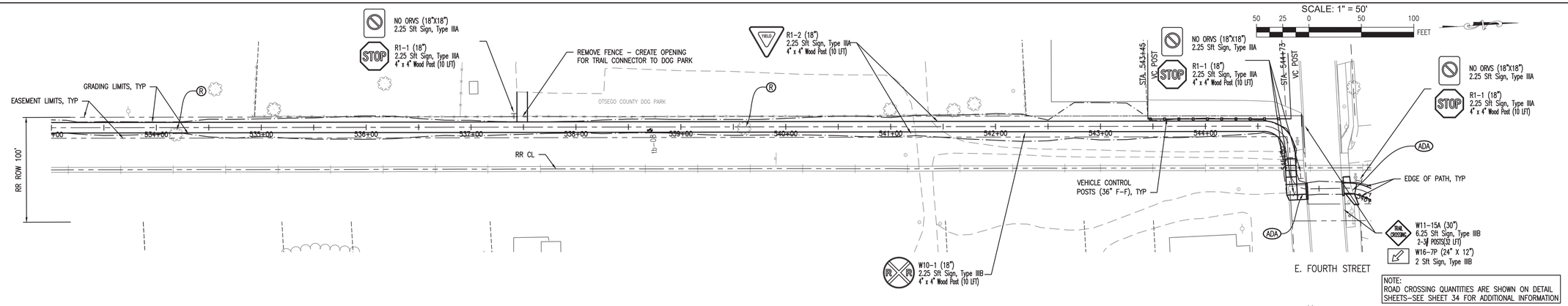
NOTE:
ROAD CROSSING QUANTITIES ARE SHOWN ON DETAIL SHEETS–SEE SHEET 33 FOR ADDITIONAL INFORMATION



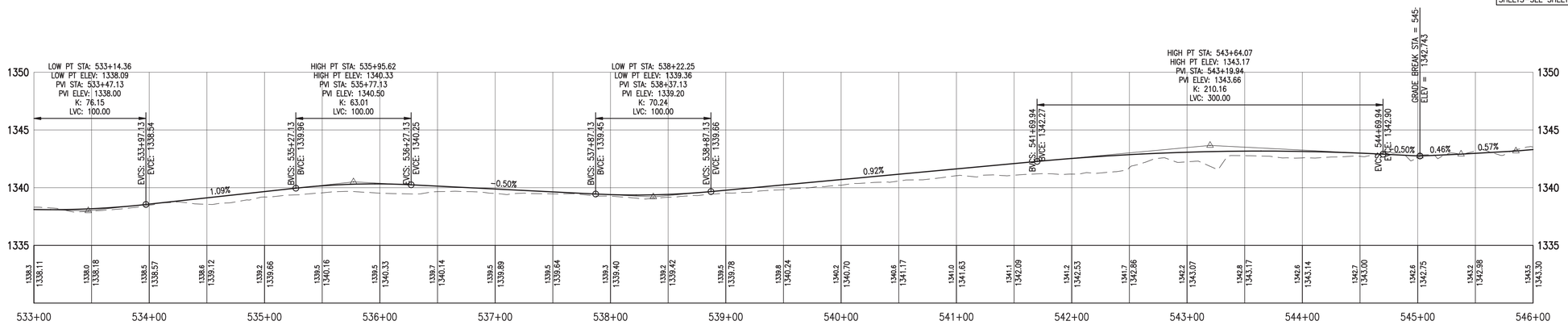
SHARED USE PATH QUANTITIES THIS SHEET

2,544	Ft	Shared Use Path, Grading, Modified
2,826	Syd	Aggregate Surface Cse, 6 inch, Special
15	Ft	Fence, Rem
26	Sta	Slope Restoration, Modified
2	Ea	Erosion Control, Inlet Protection, Fabric Drop
43	Sft	Sign, Type IIIA
36	Sft	Sign, Type IIIB
15	Ea	Trail Sign Post and Installation
128	Ft	Post, Steel, 3 pound
38	Ea	Vehicle Control Post





NOTE:
ROAD CROSSING QUANTITIES ARE SHOWN ON DETAIL SHEETS–SEE SHEET 34 FOR ADDITIONAL INFORMATION



OTSEGO COUNTY IRON BELLE TRAIL
OTSEGO COUNTY, MI

PLAN AND PROFILE
STA 520+00 TO 546+00

REVISIONS

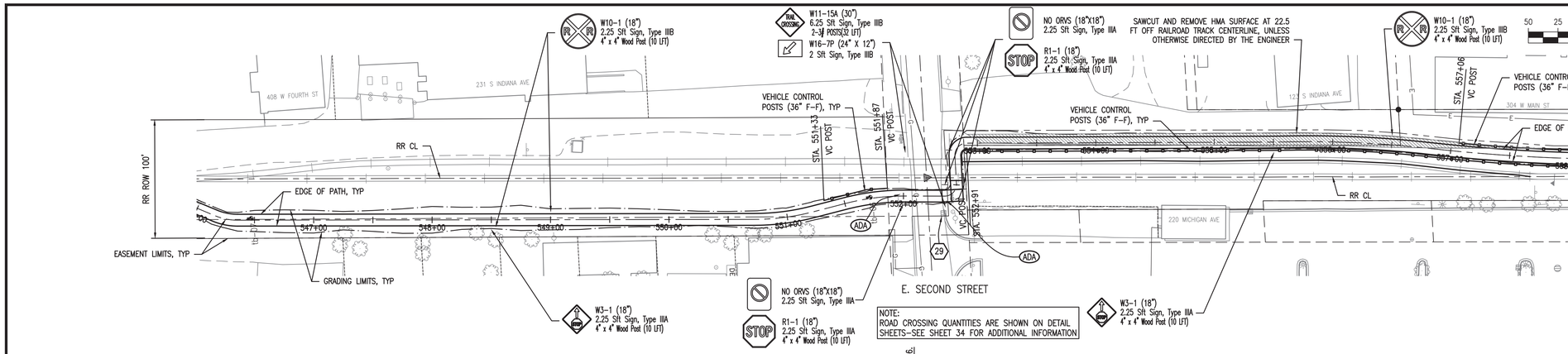
© 2018 C2AE
NOT TO BE REPRODUCED OR
TRANSMITTED WITHOUT PRIOR
WRITTEN CONSENT FROM C2AE
ALL RIGHTS RESERVED

SCALE: AS SHOWN
PROJ. #: 170019
DATE: MARCH 1, 2018
SHEET
26

BID SET

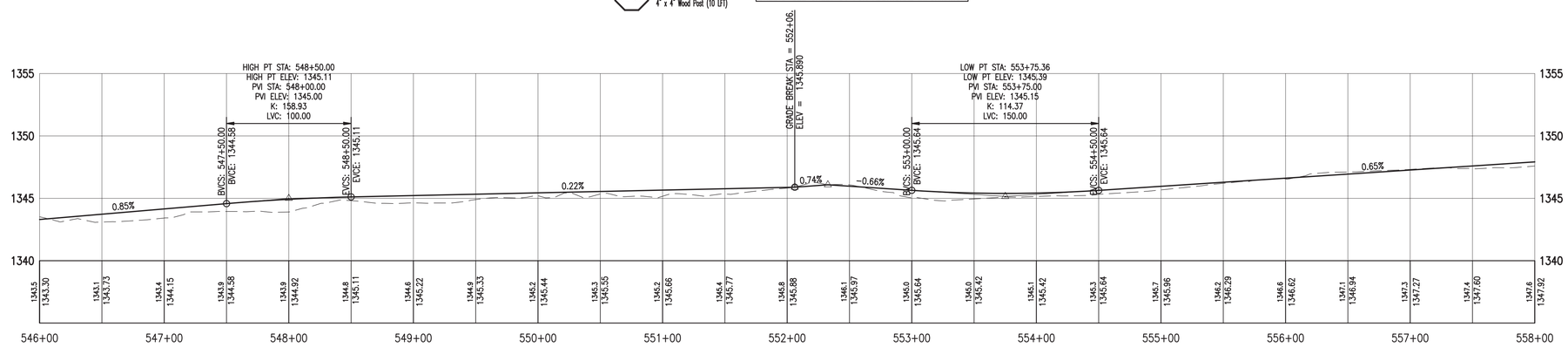
DESIGNED BY: -
CHECKED BY: -
APPROVED BY: -
DWGS MOD BY: -

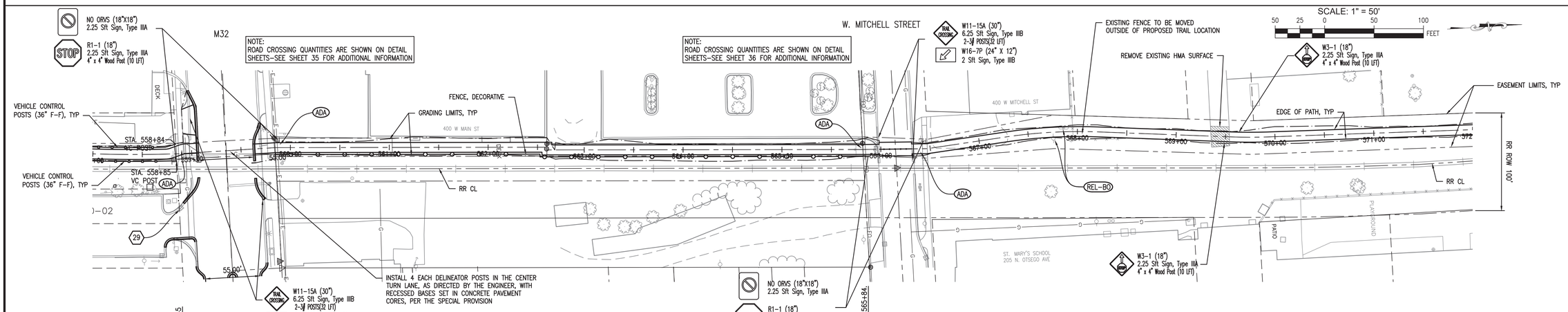
PLOTTED BY: POYNTER, AMANDA 3/12/2018 1:41 PM
DWG: P:\0170019_OTSEGO COUNTY IRON BELLE\Design\Sheets\Plan and Profile STA 520+00 to 6133+00.dwg - 26 PLAN AND PROFILE STA 520+00 TO 546+00
C2AE STANDARD.STB

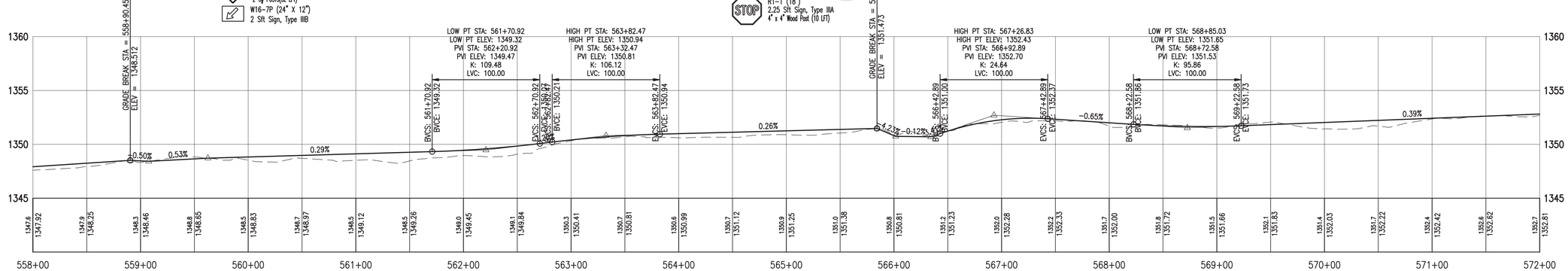


SHARED USE PATH QUANTITIES THIS SHEET

485	Syd	HMA Surface, Rem
2,486	Ft	Shared Use Path, Grading, Modified
2,655	Syd	Aggregate Surface Cse, 6 inch, Special
26	Sta	Slope Restoration, Modified
2	Ea	Erosion Control, Inlet Protection, Fabric Drop
45	Sft	Sign, Type IIIA
54	Sft	Sign, Type IIIB
96	Ft	Post, Steel, 3 lb
15	Ea	Trail Sign Post and Installation
236	Ea	Vehicle Control Post
600	Ft	Fence, Decorative
110	Ft	Fence, Moving







c2ae architecture • engineering

OTSEGO COUNTY IRON BELLE TRAIL

OTSEGO COUNTY, MI

PLAN AND PROFILE STA 546+00 TO 572+00

REVISIONS

© 2018 C2AE
NOT TO BE REPRODUCED OR DISTRIBUTED WITHOUT PRIOR WRITTEN CONSENT FROM C2AE.
ALL RIGHTS RESERVED.

SCALE: AS SHOWN

PROJ. #: 170019

DATE: MARCH 1, 2018

SHEET

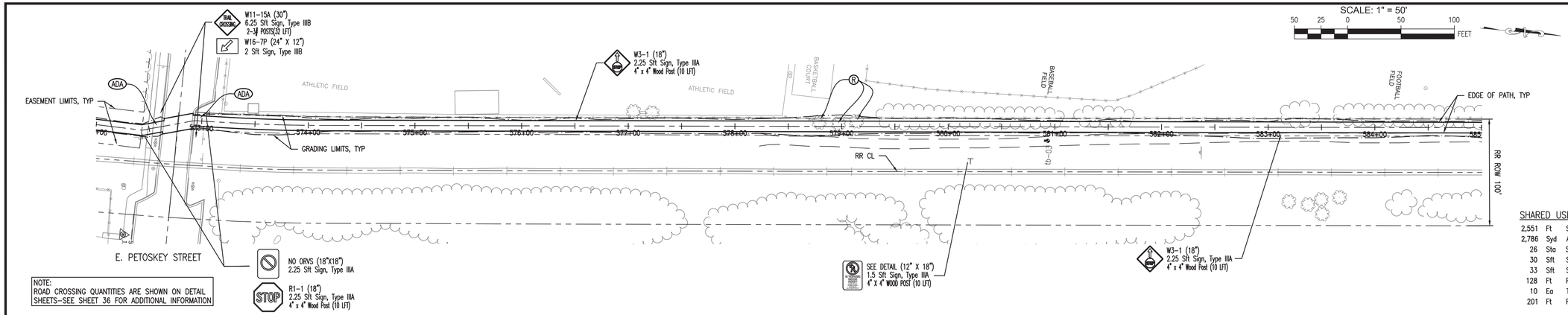
27

BID SET

PLOTTED BY: POYNTER, AMANDA 3/12/2018 1:42 PM
O:\2017\170019_OtsegoCty_TrailDrawings\Sheets\Plan and Profile STA 546+00 to 613+00.dwg - 27 PLAN AND PROFILE STA 546+00 TO 572+00
C2AE STANDARDS 318

DESIGNED BY: -
CHECKED BY: -
APPROVED BY: -
DWG'S MOD BY: -

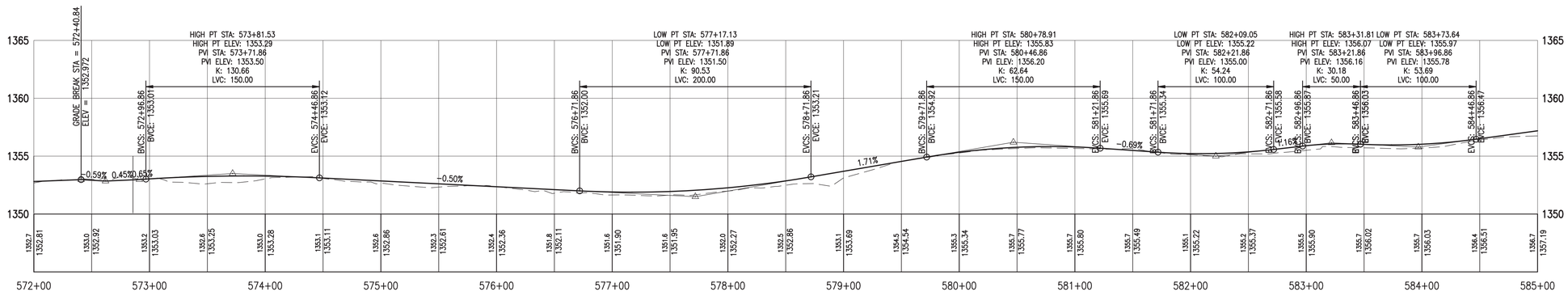
WE RECYCLE

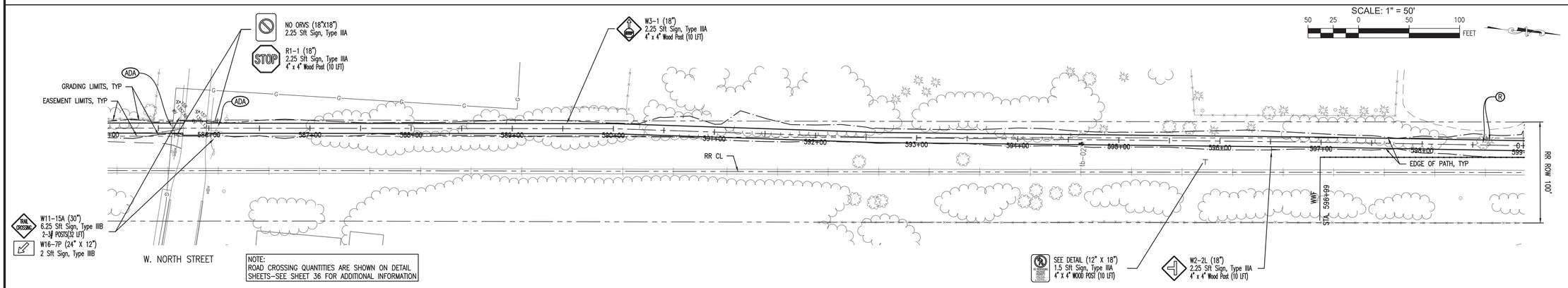


NOTE:
ROAD CROSSING QUANTITIES ARE SHOWN ON DETAIL SHEETS–SEE SHEET 36 FOR ADDITIONAL INFORMATION

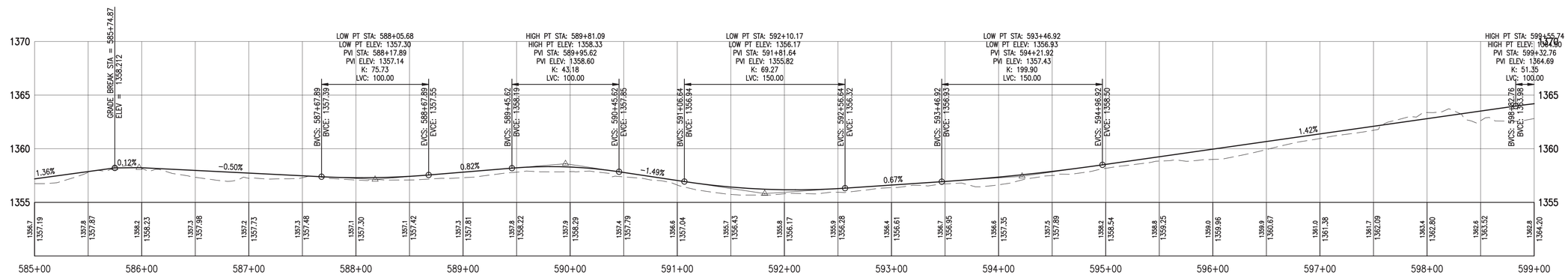
SHARED USE PATH QUANTITIES THIS SHEET

2,551	Ft	Shared Use Path, Grading, Modified
2,786	Syd	Aggregate Surface Cse, 6 inch, Special
26	Sta	Slope Restoration, Modified
30	Sft	Sign, Type IIIA
33	Sft	Sign, Type IIIB
128	Ft	Post, Steel, 3 lb
10	Ea	Trail Sign Post and Installation
201	Ft	Fence, Woven Wire with Steel Post





NOTE:
ROAD CROSSING QUANTITIES ARE SHOWN ON DETAIL SHEETS–SEE SHEET 36 FOR ADDITIONAL INFORMATION



OTSEGO COUNTY IRON BELLE TRAIL

OTSEGO COUNTY, MI

PLAN AND PROFILE
STA 572+00 TO 599+00

REVISIONS

© 2018 C2AE
NOT TO BE REPRODUCED OR
DISTRIBUTED WITHOUT PRIOR
WRITTEN CONSENT FROM C2AE
ALL RIGHTS RESERVED

SCALE: AS SHOWN

PROJ. #: 170019

DATE: MARCH 1, 2018

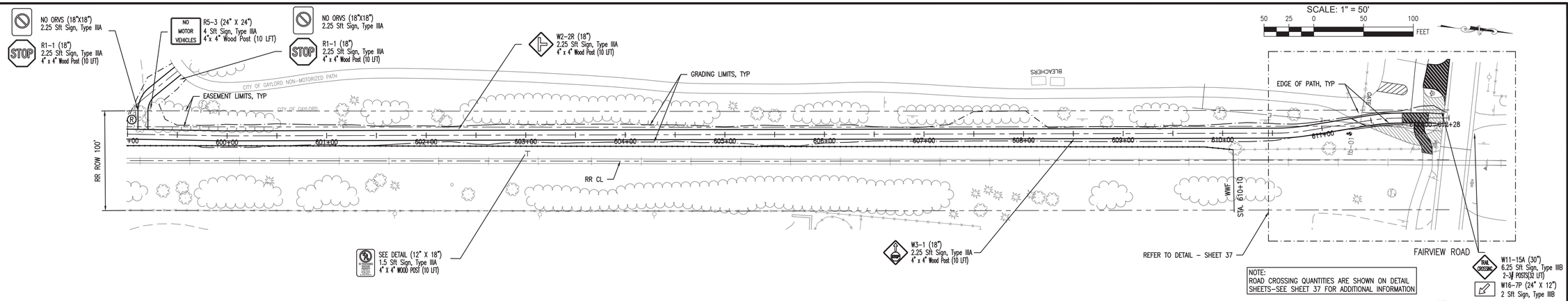
SHEET

28

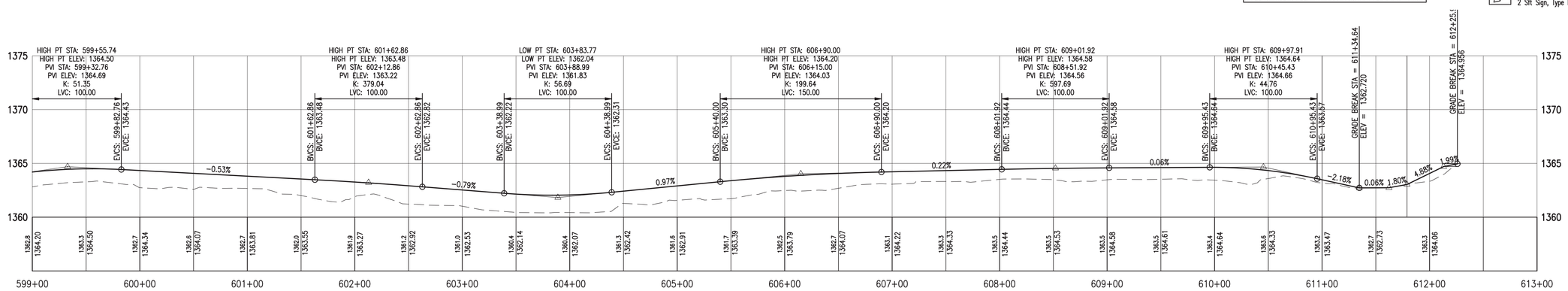
BID SET

DESIGNED BY: -
CHECKED BY: -
APPROVED BY: -
DWGS MOD BY: -

PLOTTED BY: POYNITER, AMANDA 3/12/2018 1:42 PM
P:\170019 OTSEGO COUNTY TRAIL\Bellebange\Sheets\Plan and Profile STA 599+00 to 613+00.dwg - 28 PLAN AND PROFILE STA 572+00 TO 599+00
C2AE STANDARD.STB



NOTE:
ROAD CROSSING QUANTITIES ARE SHOWN ON DETAIL SHEETS-SEE SHEET 37 FOR ADDITIONAL INFORMATION



SHARED USE PATH QUANTITIES THIS SHEET

1,387	Ft	Shared Use Path, Grading, Modified
1,524	Syd	Aggregate Surface Cse, 6 inch, Special
13	Sta	Slope Restoration, Modified
20	Sft	Sign, Type IIIA
17	Sft	Sign, Type IIIB
64	Ft	Post, Steel, 3 lb
6	Ea	Trail Sign Post and Installation
1110	Ft	Fence, Woven Wire with Steel Post

c2ae architecture • engineering

OTSEGO COUNTY IRON BELLE TRAIL
OTSEGO COUNTY, MI

PLAN AND PROFILE
STA 599+00 TO 613+00

REVISIONS

© 2018 C2AE
NOT TO BE REPRODUCED OR DISTRIBUTED WITHOUT WRITTEN CONSENT FROM C2AE
ALL RIGHTS RESERVED

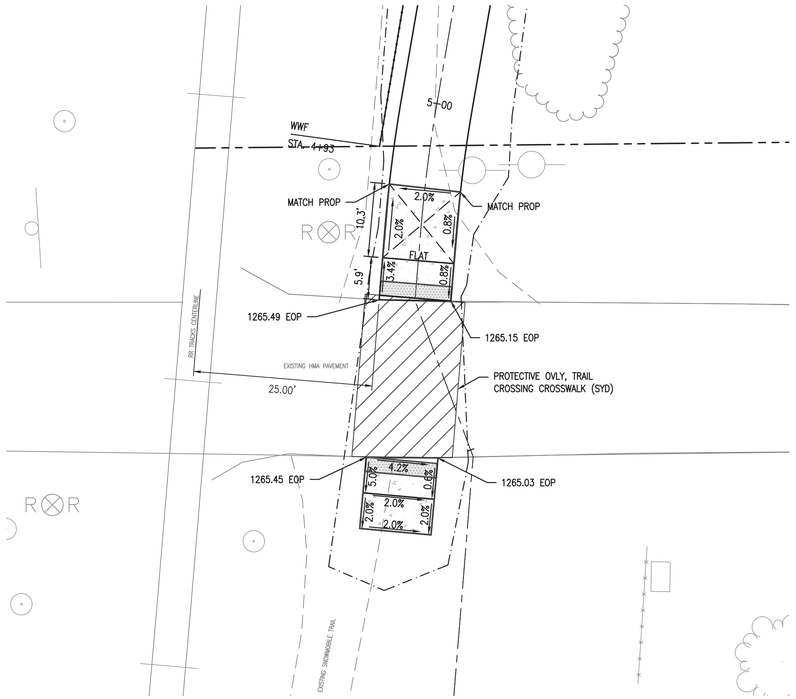
SCALE: AS SHOWN
PROJ. #: 170019
DATE: MARCH 1, 2018
SHEET
29

BID SET

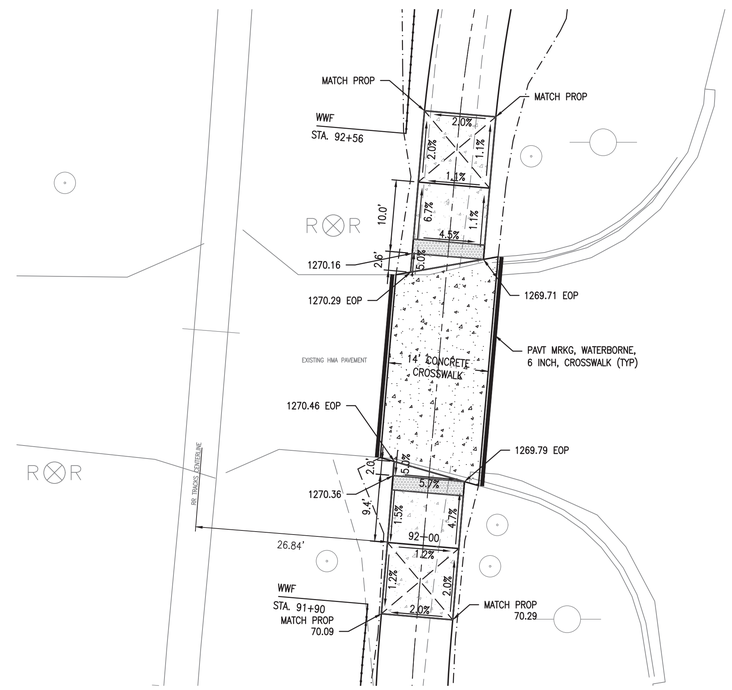
WE RECYCLE

PLOTTED BY: POYNTER, AMANDA 3/7/2018 1:43 PM
CUSTOM 11x17 (Two-Up) - PlotDrawings/Sheets/Plan and Profile STA 599+00 to 613+00.dwg - 29 PLAN AND PROFILE STA 599+00 TO 613+00
C2AE STANDARD.STB

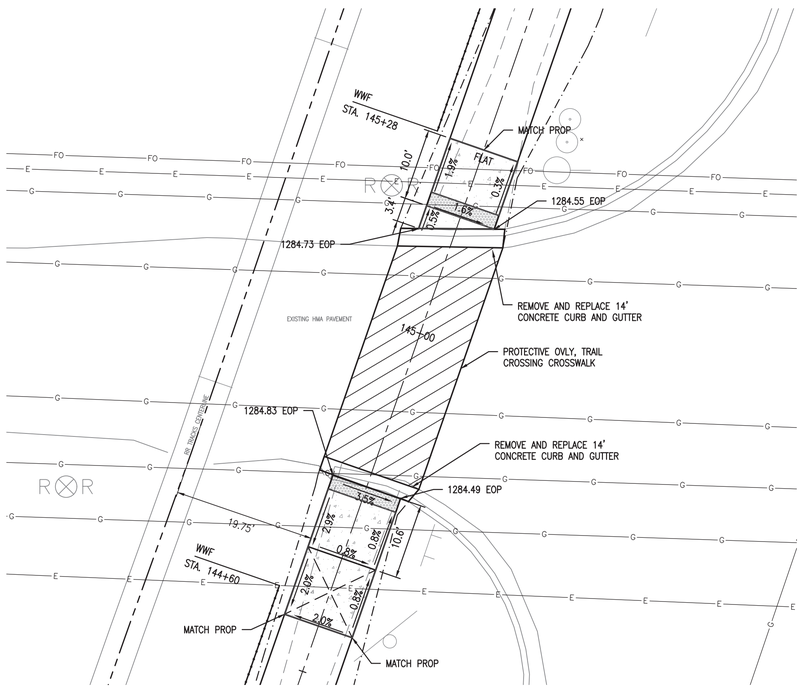
DESIGNED BY: -
CHECKED BY: -
APPROVED BY: -
DWG'S MOD BY: -



DETAIL GRADES AT PASSENHEIM RD



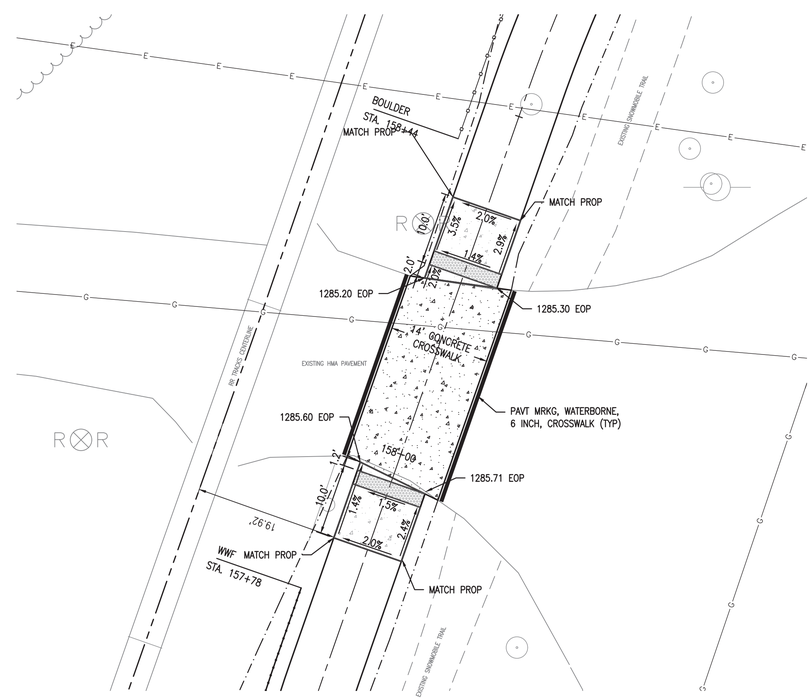
DETAIL GRADES AT DODGE LAKE RD



DETAIL GRADES AT MANCELONA RD

QUANTITIES THIS SHEET

28	Ft	Curb and Gutter, Rem
90	Syd	HMA Surface Rem
90	Syd	Conc Pavt, Nonreinf, 8 inch
28	Ft	Curb Ramp Opening, Conc
1220	Sft	Sidewalk Ramp, Conc, 6 inch
80	Ft	Detectable Warning Surface, Cast Iron
116	Ft	Pavt Mrkg, Waterborne, 6 inch, Crosswalk
87	Syd	Protective Ovly, Snowmobile Trail Crossing



DETAIL GRADES AT WASHINGTON RD

SCALE: 1" =10'

10 5 0 10 20 FEET

c2ae architecture • engineering

OTSEGO COUNTY IRON BELLE TRAIL

OTSEGO COUNTY, MI

RAMP DETAILS 1

REVISIONS

© 2018 C2AE
NOT TO BE REPRODUCED OR
DISTRIBUTED WITHOUT PRIOR
WRITTEN CONSENT FROM C2AE
ALL RIGHTS RESERVED

SCALE: AS SHOWN

PROJ. #: 170019

DATE: MARCH 1, 2018

SHEET

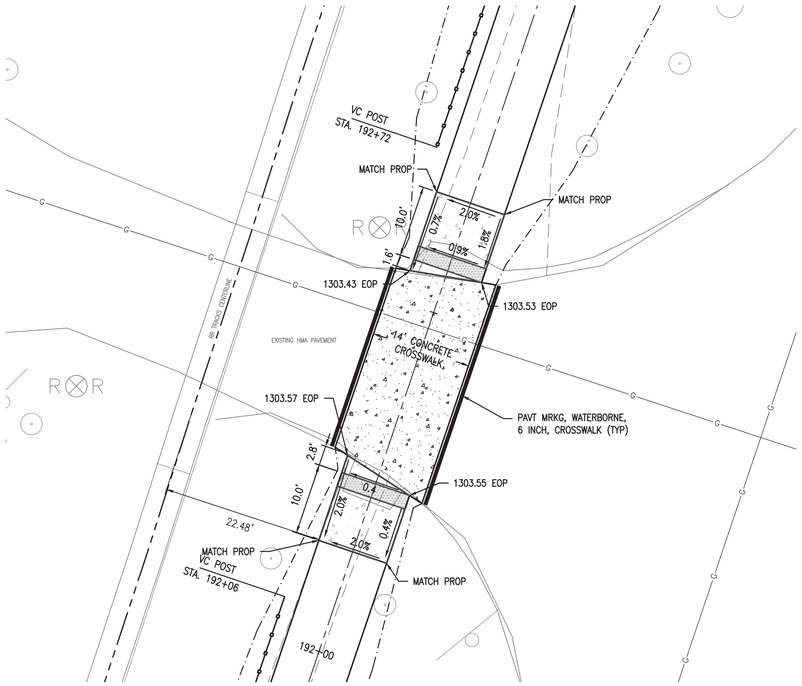
30

BID SET

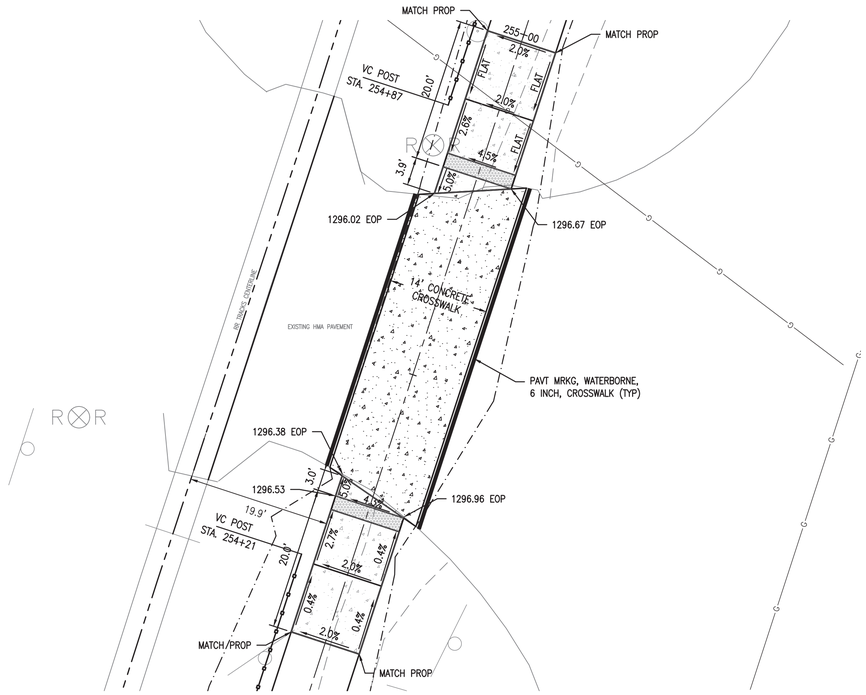
DESIGNED BY: -
CHECKED BY: -
APPROVED BY: -
DWG'S MOD BY: -

PLOTTED BY: POYNTER, AMANDA 3/7/2018 1:43 PM
DWG: J:\Otsego County\170019_Belle Range\Sheets\Ramp Details 2 Jwg - 30 RAMP DETAILS 1
C2AE STANDARD.STB

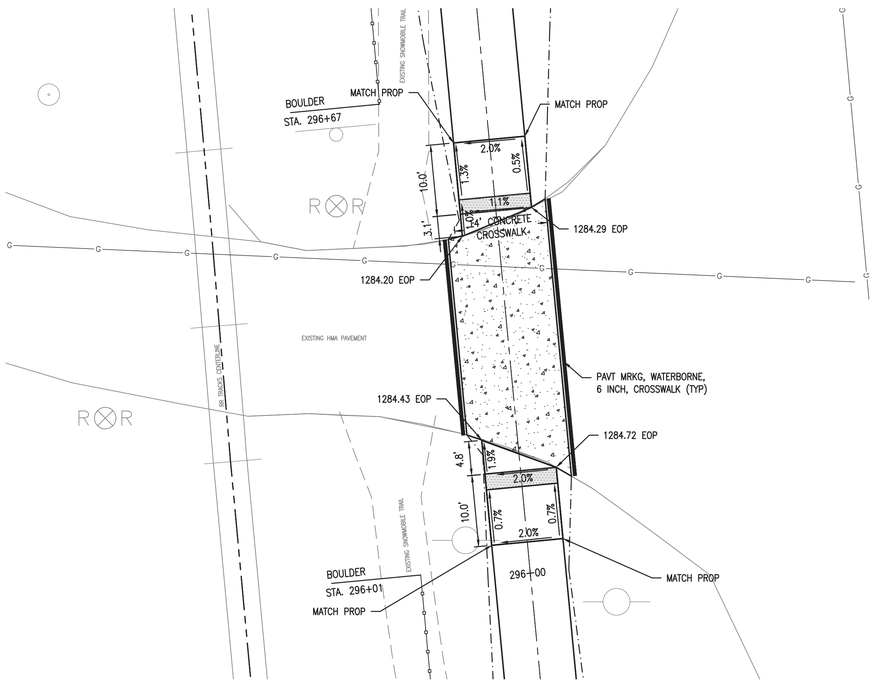
WE RECYCLE



DETAIL GRADES AT LOMBARD AVE (STATE PARK)



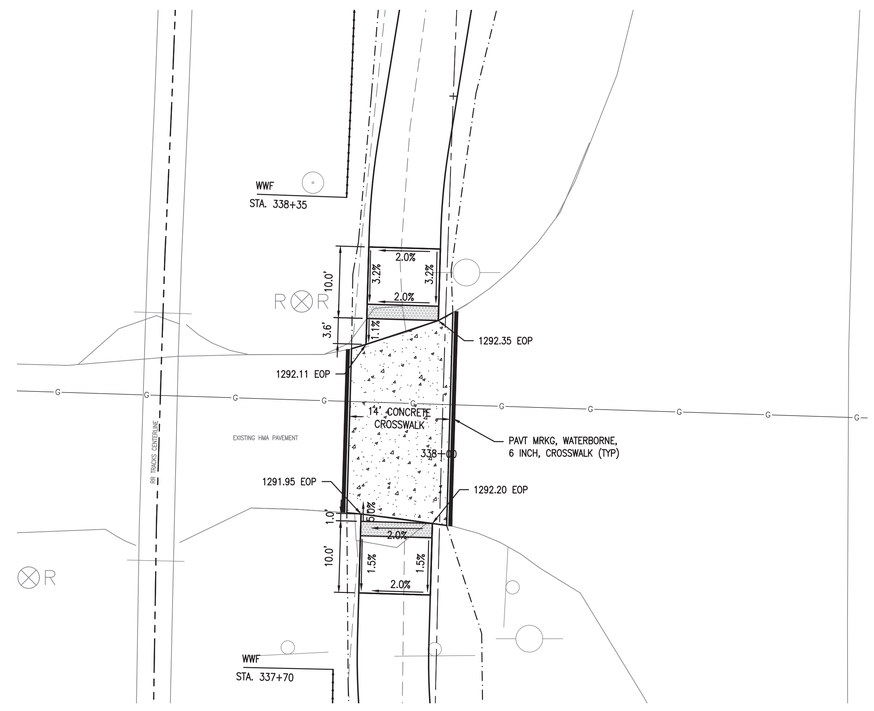
DETAIL GRADES AT LAKEVIEW ST



DETAIL GRADES AT WAH WAH SOO DR

QUANTITIES THIS SHEET

208	Syd	HMA Surface Rem
208	Syd	Conc Pavt, Nonreinf, 8 inch
1121	Sft	Sidewalk Ramp, Conc, 6 inch
80	Ft	Detectable Warning Surface, Cast Iron
270	Ft	Pavt Mrkg, Waterborne, 6 inch, Crosswalk



DETAIL GRADES AT OAK GROVE DR

SCALE: 1" =10'

10 5 0 10 20 FEET

c2ae architecture • engineering

OTSEGO COUNTY IRON BELLE TRAIL

OTSEGO COUNTY, MI

RAMP DETAILS 2

REVISIONS

© 2018 C2AE
NOT TO BE REPRODUCED OR DISTRIBUTED WITHOUT WRITTEN CONSENT FROM C2AE
ALL RIGHTS RESERVED

SCALE: AS SHOWN

PROJ. #: 170019

DATE: MARCH 1, 2018

SHEET

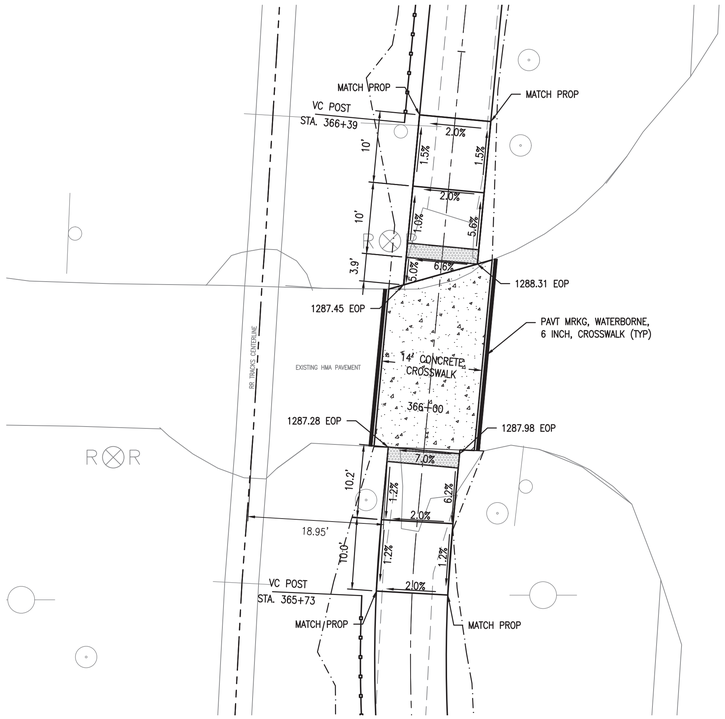
31

BID SET

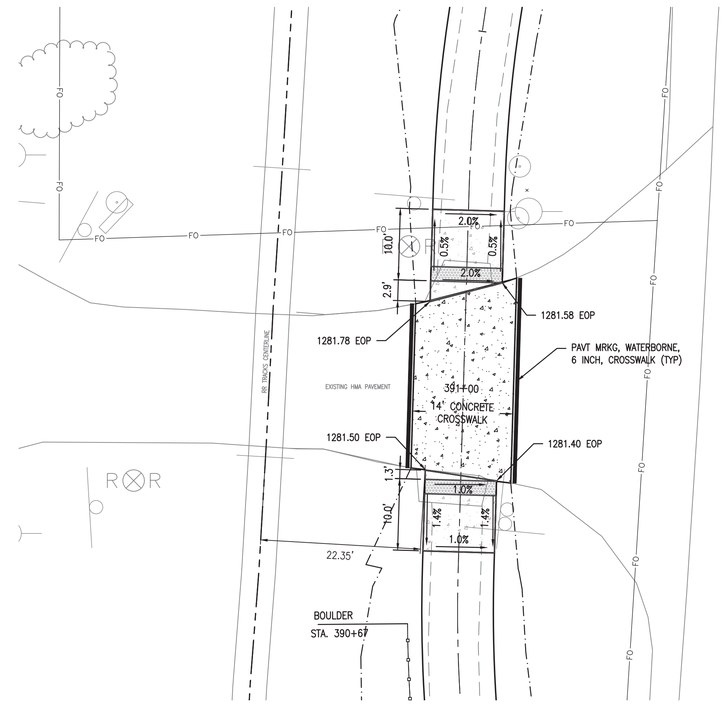
PLOTTED BY: POYNTER, AMANDA 3/7/2018 1:44 PM
DWG: P:\170019 OTSEGO COUNTY - PHASE 2\Drawings\Sheets\Ramp Details 2.dwg - 31 RAMP DETAILS 2
C2AE STANDARDS.STB

DESIGNED BY: -
CHECKED BY: -
APPROVED BY: -
DWG'S MOD BY: -

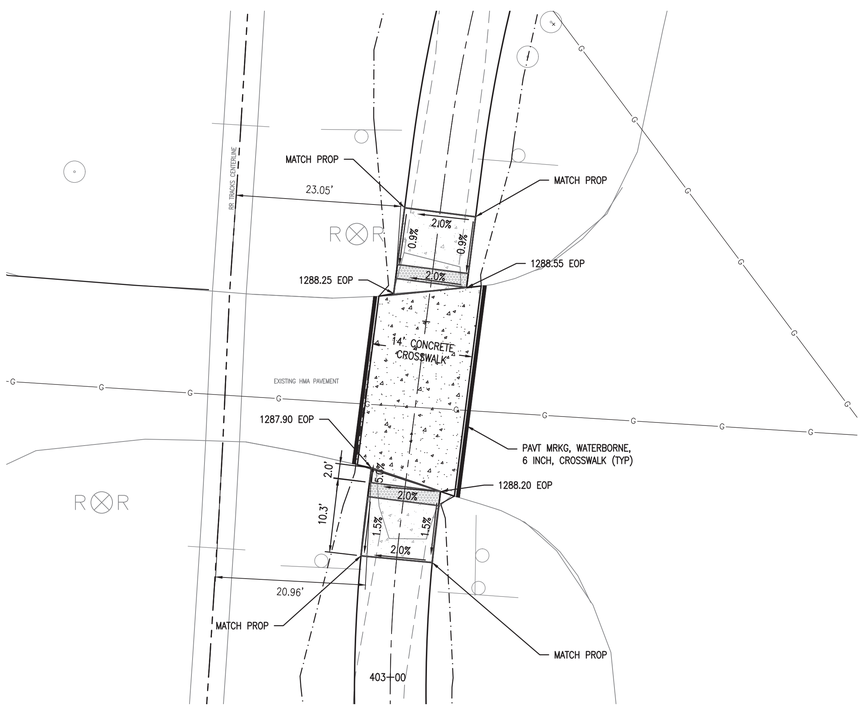
WE RECYCLE



DETAIL GRADES AT MICHIGAN AVE



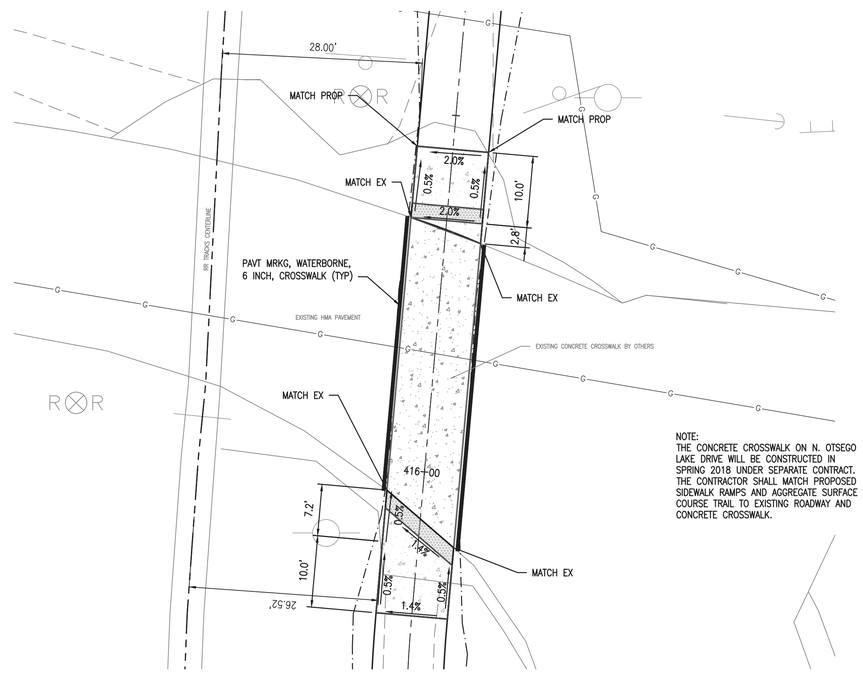
DETAIL GRADES AT CYPRESS LN



DETAIL GRADES AT LEE ST

QUANTITIES THIS SHEET

120	Syd	HMA Surface Rem
120	Syd	Conc Pavt, Nonreinf, 8 inch
1116	Sft	Sidewalk Ramp, Conc, 6 inch
80	Ft	Detectable Warning Surface, Cast Iron
237	Ft	Pavt Mrkg, Waterborne, 6 inch, Crosswalk



NOTE:
THE CONCRETE CROSSWALK ON N. OTSEGO LAKE DRIVE WILL BE CONSTRUCTED IN SPRING 2018 UNDER SEPARATE CONTRACT. THE CONTRACTOR SHALL MATCH PROPOSED SIDEWALK RAMPS AND AGGREGATE SURFACE COURSE TRAIL TO EXISTING ROADWAY AND CONCRETE CROSSWALK.

DETAIL GRADES AT N OTSEGO LAKE RD

SCALE: 1" =10'

10 5 0 10 20 FEET

c2ae architecture • engineering

OTSEGO COUNTY IRON BELLE TRAIL

OTSEGO COUNTY, MI

RAMP DETAILS 3

REVISIONS

© 2018 C2AE
NOT TO BE REPRODUCED OR
DISTRIBUTED WITHOUT PRIOR
WRITTEN CONSENT FROM C2AE
ALL RIGHTS RESERVED

SCALE: AS SHOWN

PROJ. #: 170019

DATE: MARCH 1, 2018

SHEET

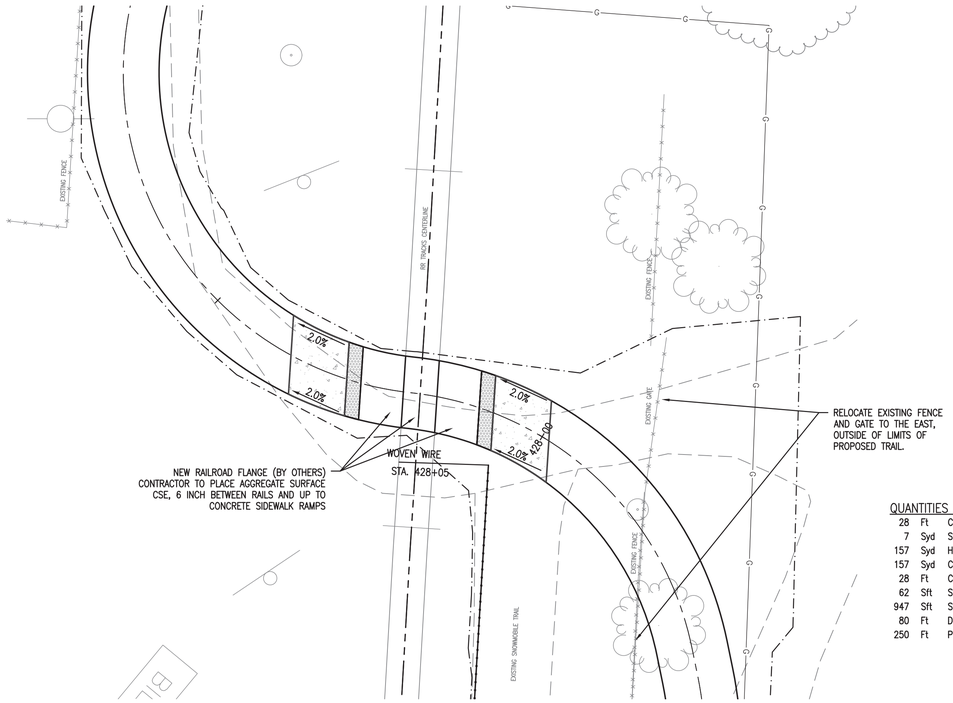
32

BID SET

WE RECYCLE

PLOTTED BY: POYNTER, AMANDA 3/7/2018 1:44 PM
DWG: J:\170019_Otsego County Iron Belle\Design\Sheets\Ramp Details 2 Jwg - 32 RAMP DETAILS 3
C2AE STANDARD.STB

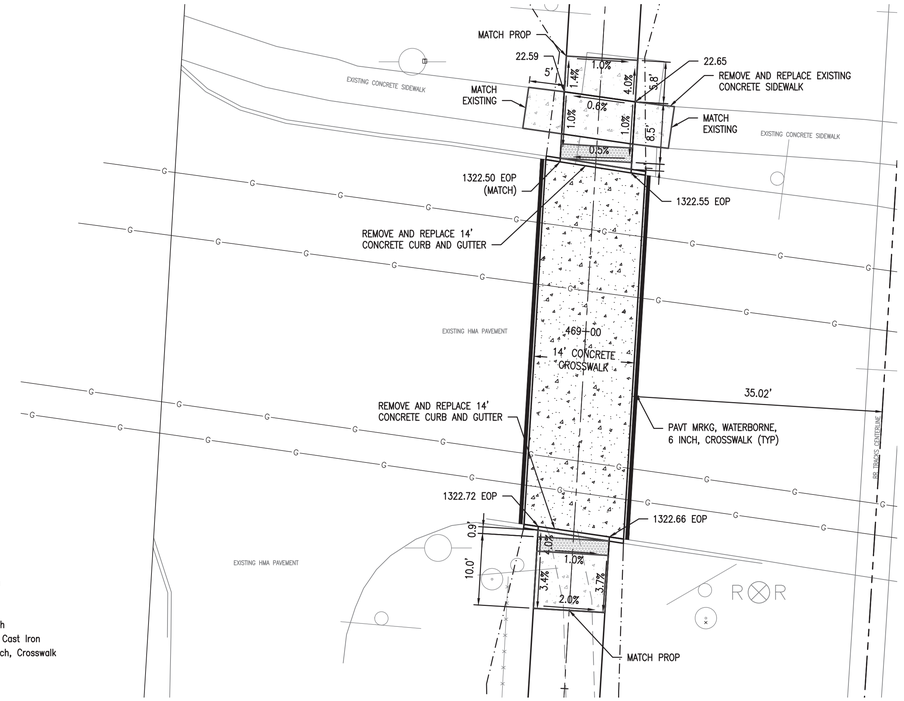
DESIGNED BY: -
CHECKED BY: -
APPROVED BY: -
DWG'S MOD BY: -



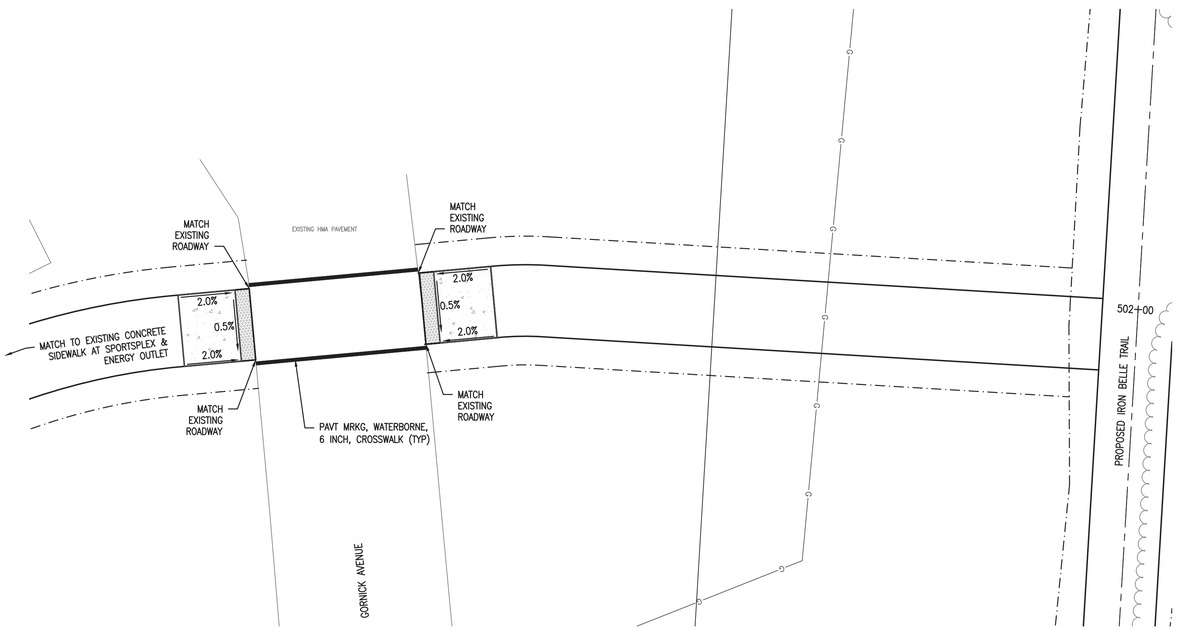
DETAIL GRADES AT RAILROAD CROSSING NORTH OF I-75

QUANTITIES THIS SHEET

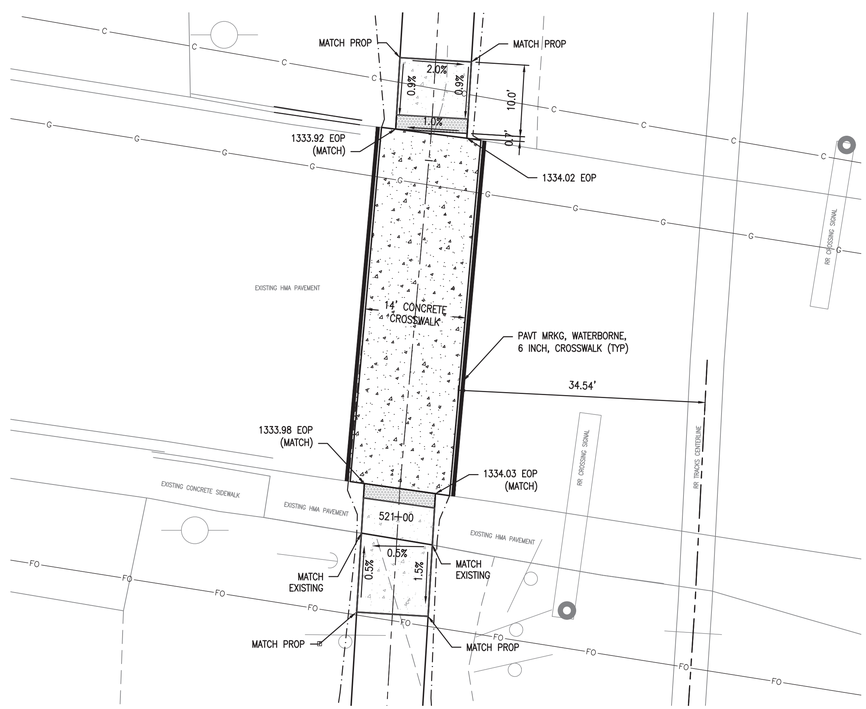
28	Ft	Curb and Gutter, Rem
7	Syd	Sidewalk, Rem
157	Syd	HMA Surface Rem
157	Syd	Conc Pavt, Nonreinf, 8 inch
28	Ft	Curb Ramp Opening, Conc
62	Sft	Sidewalk, Conc, 6 inch
947	Sft	Sidewalk Ramp, Conc, 6 inch
80	Ft	Detectable Warning Surface, Cast Iron
250	Ft	Pavt Mrkg, Waterborne, 6 inch, Crosswalk



DETAIL GRADES AT MCCOY RD



DETAIL GRADES AT GORNICK AVE SPUR TO SPORTSPLEX



DETAIL GRADES AT WISCONSIN AVE

SCALE: 1" =10'

10 5 0 10 20 FEET

c2ae architecture • engineering

OTSEGO COUNTY IRON BELLE TRAIL

OTSEGO COUNTY, MI

RAMP DETAILS 4

REVISIONS

© 2018 C2AE
NOT TO BE REPRODUCED OR
DISTRIBUTED WITHOUT PRIOR
WRITTEN CONSENT FROM C2AE.
ALL RIGHTS RESERVED.

SCALE: AS SHOWN

PROJ. #: 170019

DATE: MARCH 1, 2018

SHEET

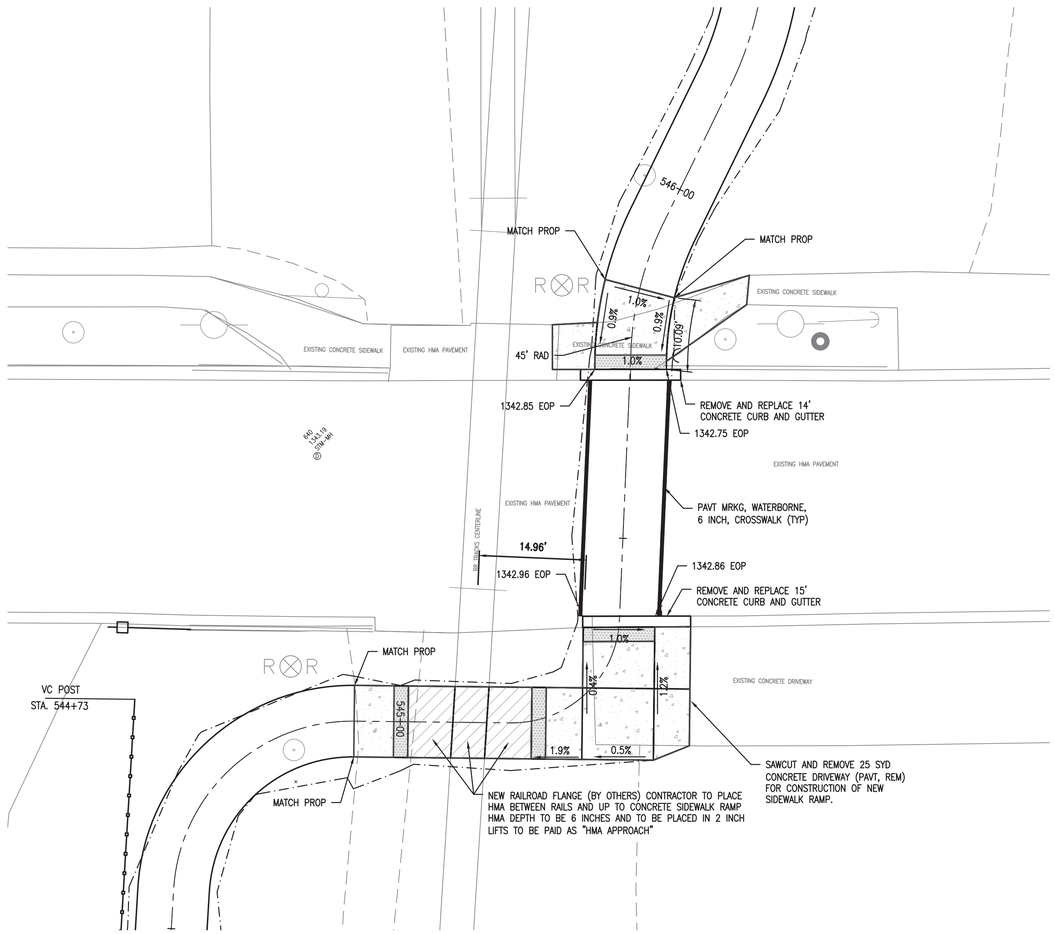
33

BID SET

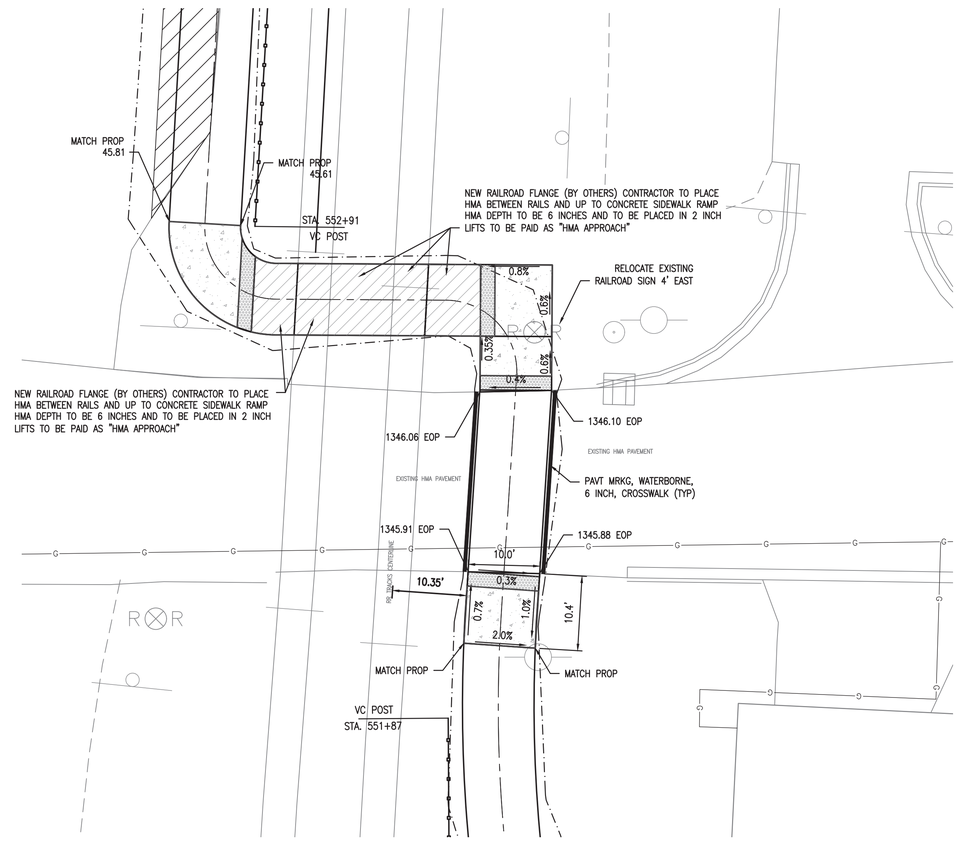
PLOTTED BY: POYNTER, AMANDA, 3/12/2018 1:43 PM
DWG: P:\170019 Otsego County Iron Belle Trail\Design\Sheets\Ramp Details 2.dwg - 33 RAMP DETAILS 4
C2AE STANDARD STB

DESIGNED BY: -
CHECKED BY: -
APPROVED BY: -
DWGS MOD BY: -

WE RECYCLE



DETAIL GRADES AT 4TH ST



DETAIL GRADES AT 2ND ST

QUANTITIES THIS SHEET

29	Ft	Curb and Gutter, Rem
25	Syd	Pavt, Rem
29	Ft	Curb Ramp Opening, Conc
196	Sft	Sidewalk, Conc, 6 inch
857	Sft	Sidewalk Ramp, Conc, 6 inch
82	Ft	Detectable Warning Surface, Cast Iron
19	Ton	HMA Approach
118	Ft	Pavt Mrkg, Waterborne, 6 inch, Crosswalk

SCALE: 1" =10'

10 5 0 10 20 FEET

c2ae architecture • engineering

OTSEGO COUNTY IRON BELLE TRAIL

OTSEGO COUNTY, MI

RAMP DETAILS 5

REVISIONS

© 2018 C2AE
NOT TO BE REPRODUCED OR DISTRIBUTED WITHOUT PRIOR WRITTEN CONSENT FROM C2AE
ALL RIGHTS RESERVED

SCALE: AS SHOWN

PROJ. #: 170019

DATE: MARCH 1, 2018

SHEET

34

BID SET

WE RECYCLE

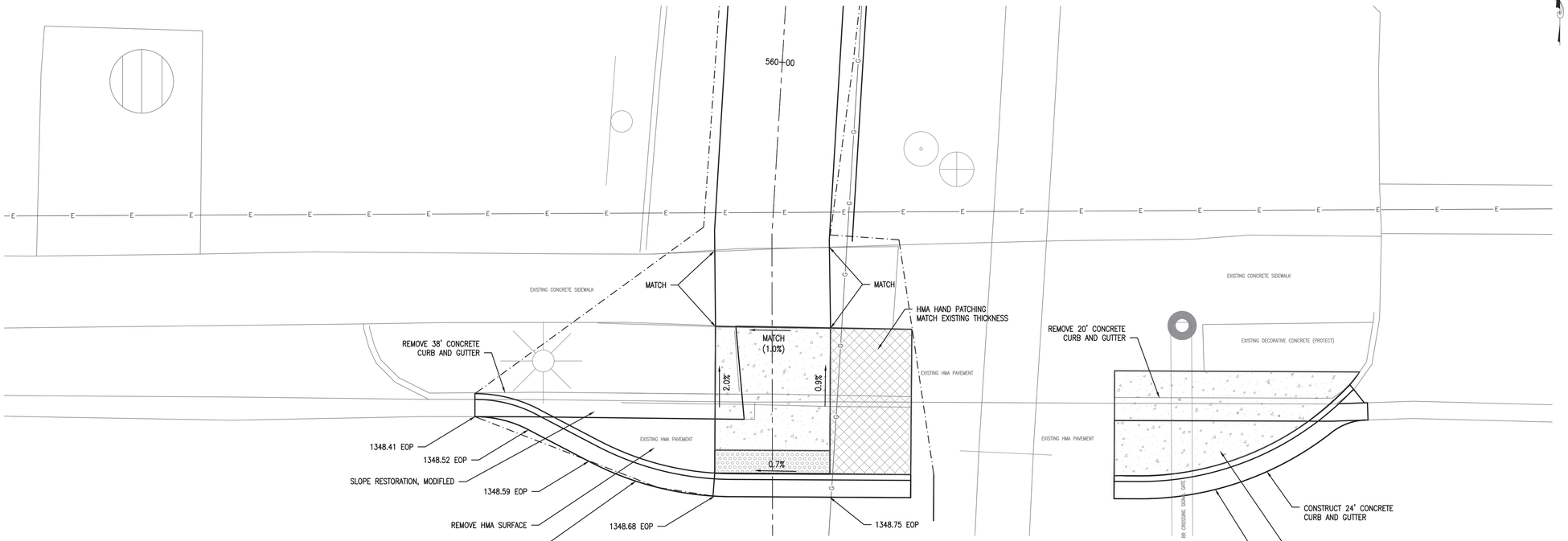
PLOTTED BY: POYNTER, AMANDA 3/1/2018 1:45 PM
DWG To PDF.pc3 PDF-Color-Bookmarks-Layers-Links-Sheets\Ramp Details 2.dwg - 34 RAMP DETAILS 5
C2AE-STANDARD.STB

DESIGNED BY: -
CHECKED BY: -
APPROVED BY: -
DWG'S MOD BY: -

WE RECYCLE

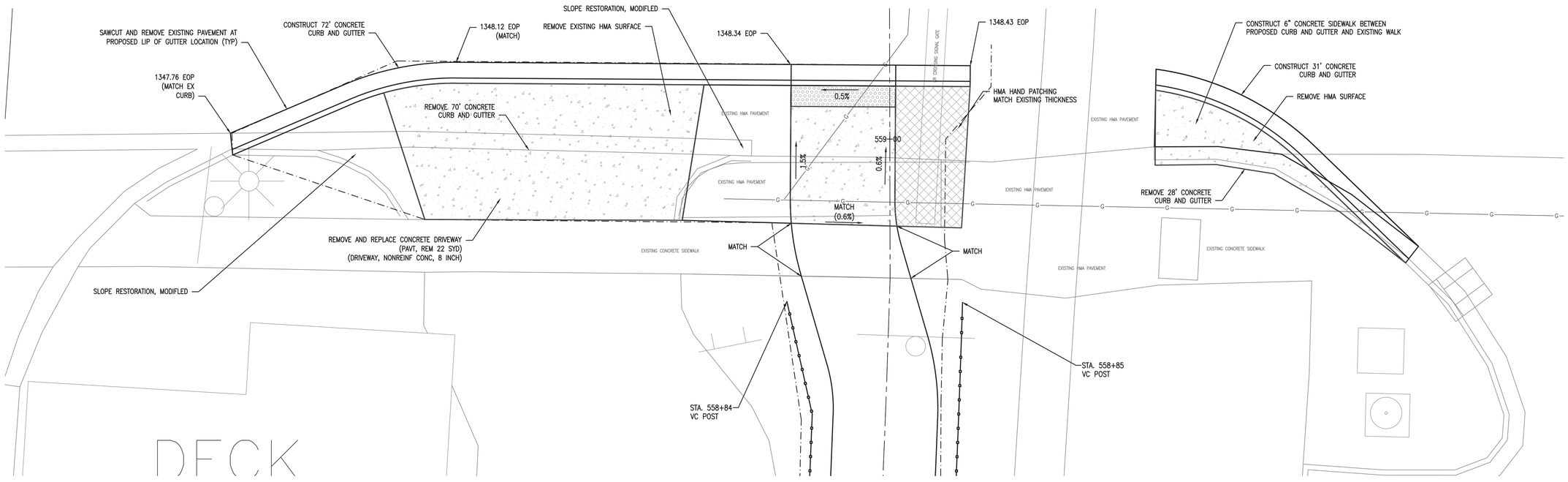
QUANTITIES THIS SHEET

156	Ft	Curb and Gutter, Rem
22	Syd	Pavt, Rem
81	Syd	HMA Surface Rem
40	Syd	Driveway, Nonreinf Conc, 8 inch
139	Ft	Curb and Gutter, Conc, Det F4
28	Ft	Curb Ramp Opening, Conc
342	Sft	Sidewalk, Conc, 6 inch
261	Sft	Sidewalk Ramp, Conc, 6 inch
20	Ft	Detectable Warning Surface, Cast Iron
8	Ton	Hand Patching
62	Syd	Protective Ovly, Snowmobile Trail Crossing
4	Ea	Delineator Post



DETAIL GRADES AT NORTH HALF OF MAIN ST

INSTALL 4 EACH DELINEATOR POSTS IN THE CENTER TURN LANE, AS DIRECTED BY THE ENGINEER, WITH RECESSED BASES SET IN CONCRETE PAVEMENT CORES, PER THE SPECIAL PROVISION



DETAIL GRADES AT SOUTH HALF OF MAIN ST

SCALE: 1" =5'

c2ae architecture • engineering

OTSEGO COUNTY IRON BELLE TRAIL

OTSEGO COUNTY, MI

RAMP DETAILS 6

REVISIONS

© 2018 C2AE
NOT TO BE REPRODUCED OR
DISTRIBUTED WITHOUT PRIOR
WRITTEN CONSENT FROM C2AE
ALL RIGHTS RESERVED.

SCALE: 1"=5'

PROJ. #: 170019

DATE: MARCH 1, 2018

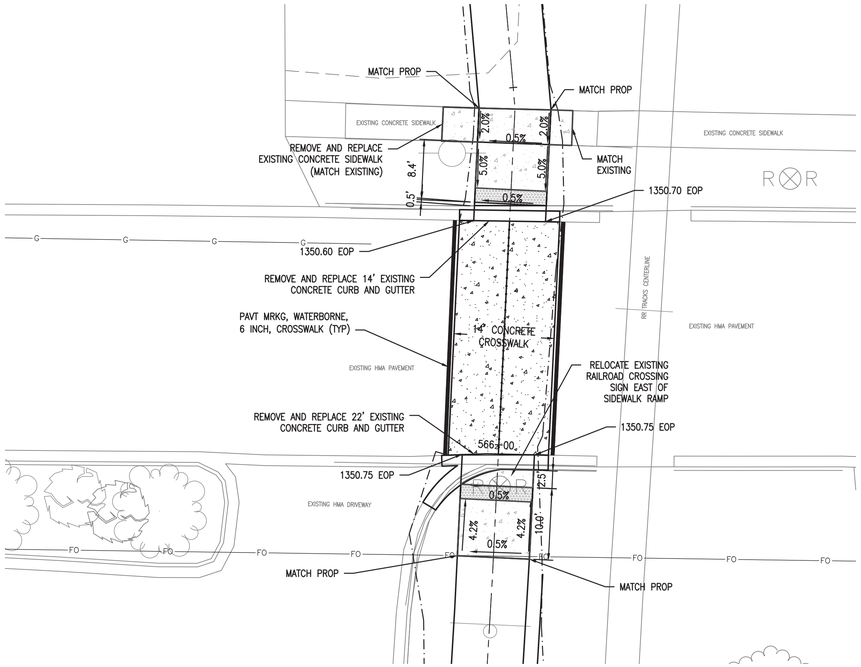
SHEET

35

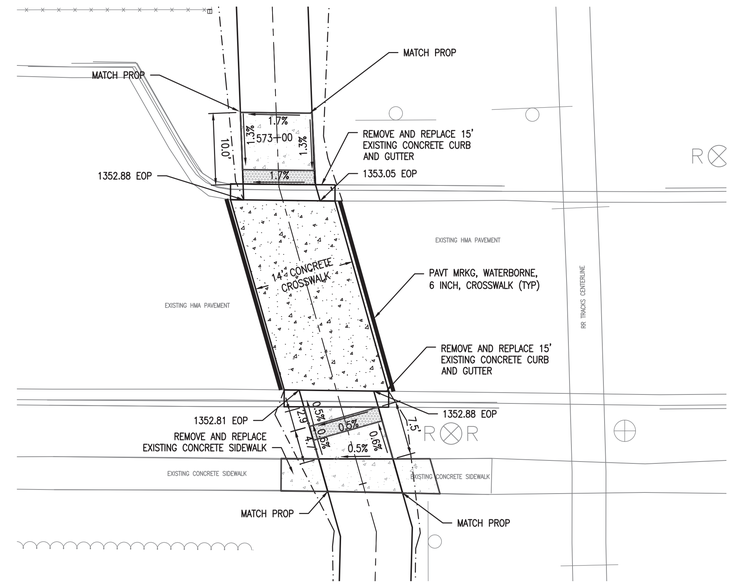
BID SET

PLOTTED BY: POYNTER, AMANDA 3/12/2018 1:45 PM
DWG NAME: J:\170019_Bellevange\Sheets\Ramp Details 2 Ang - 36 RAMP DETAILS 6
C2AE STANDARD.STB

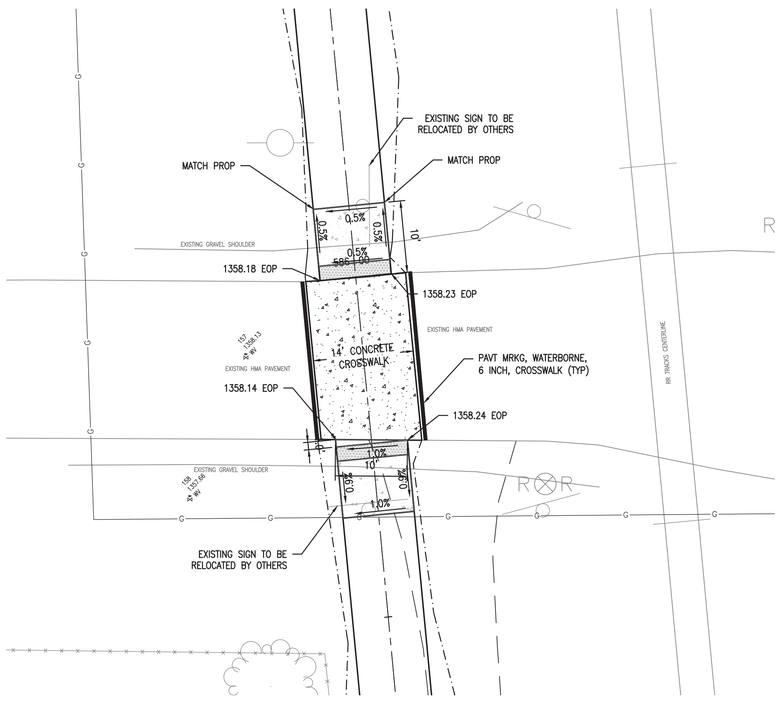
DESIGNED BY: -
CHECKED BY: -
APPROVED BY: -
DWGS MOD BY: -



DETAIL GRADES AT MITCHELL ST



DETAIL GRADES AT PETOSKEY ST



DETAIL GRADES AT NORTH ST

QUANTITIES THIS SHEET

66	Ft	Curb and Gutter, Rem
130	Syd	HMA Surface Rem
130	Syd	Conc Pavt, Nonreinf, 8 inch
66	Ft	Curb Ramp Opening, Conc
92	Sft	Sidewalk, Conc, 6 inch
688	Sft	Sidewalk Ramp, Conc, 6 inch
60	Ft	Detectable Warning Surface, Cast Iron
169	Ft	Pavt Mrkg, Waterborne, 6 inch, Crosswalk

SCALE: 1" =10'

10 5 0 10 20 FEET

c2ae architecture • engineering

OTSEGO COUNTY IRON BELLE TRAIL

OTSEGO COUNTY, MI

RAMP DETAILS 7

REVISIONS

© 2018 C2AE
NOT TO BE REPRODUCED OR
DISTRIBUTED WITHOUT PRIOR
WRITTEN CONSENT FROM C2AE
ALL RIGHTS RESERVED

SCALE: AS SHOWN

PROJ. #: C70019

DATE: MARCH 1, 2018

SHEET

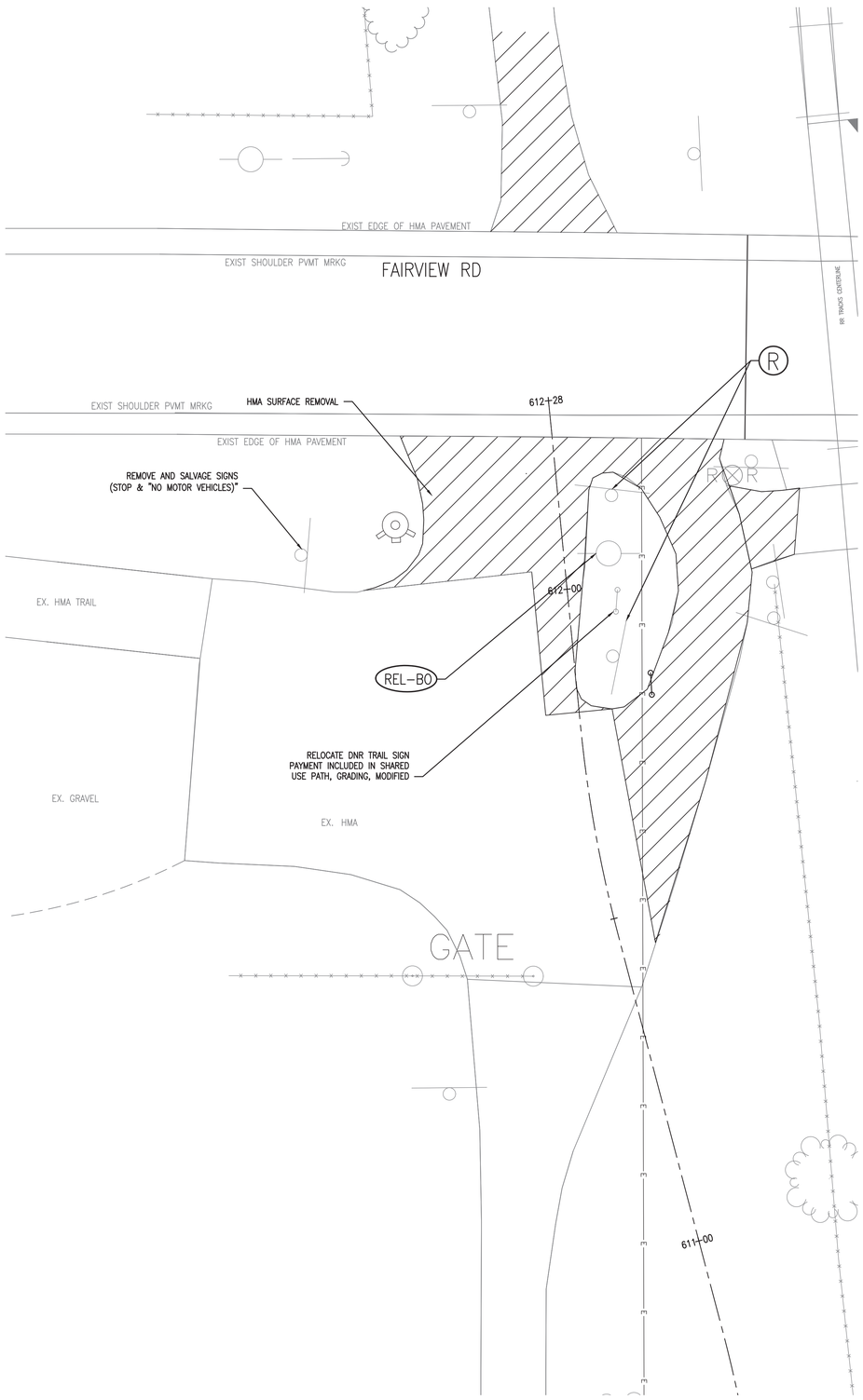
36

BID SET

WE RECYCLE

PLOTTED BY: POYNTER, AMANDA 3/7/2018 1:45 PM
DWG NAME: J:\C70019_Otsego_Iron_Belle\Design\Sheets\Ramp Details 2.dwg - 36 RAMP DETAILS 7
C2AE STANDARDS.STB

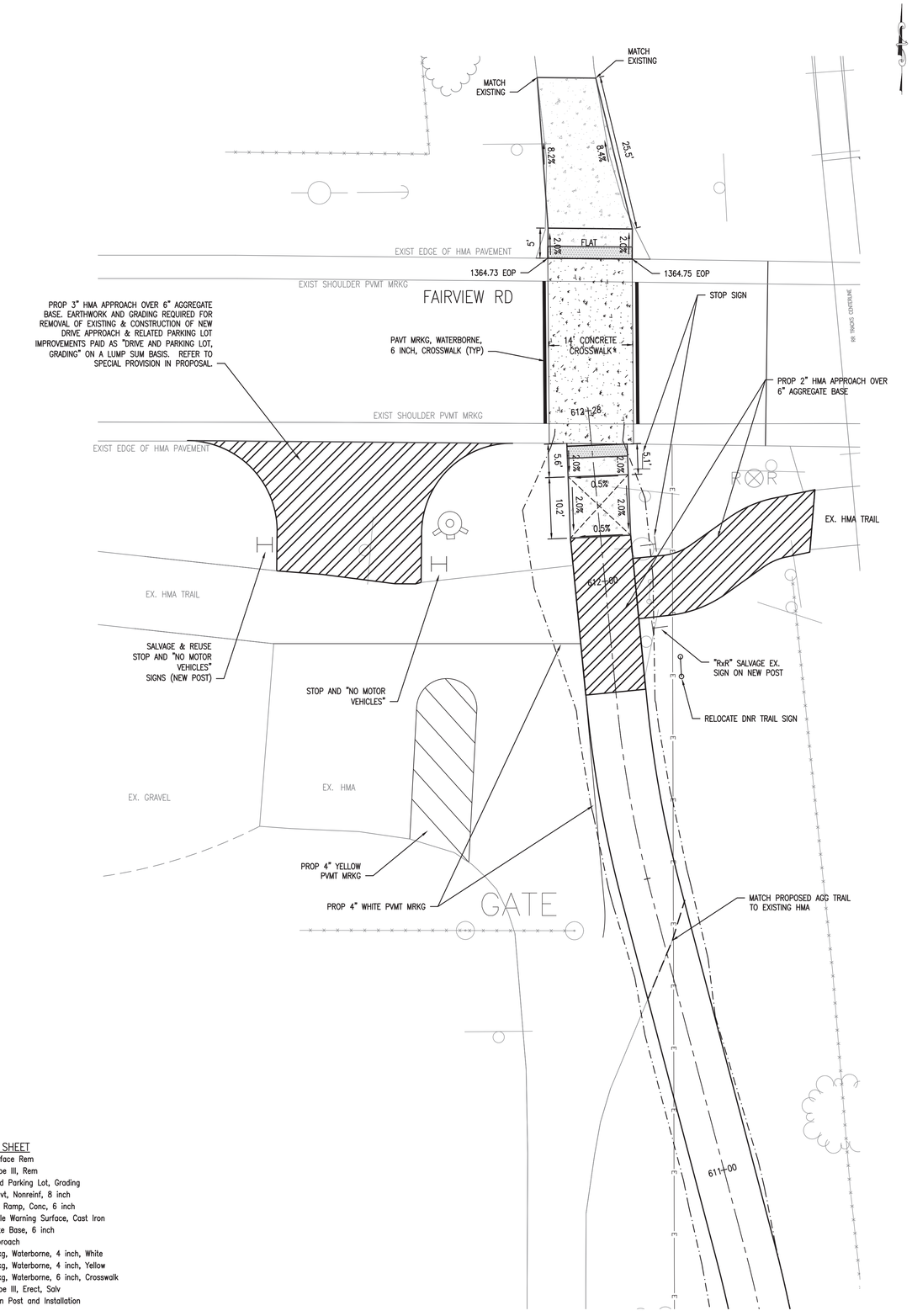
DESIGNED BY: -
APPROVED BY: -
CHECKED BY: -
DWG'S MOD BY: -



REMOVAL – FAIRVIEW ROAD

QUANTITIES THIS SHEET

267	Syd	HMA Surface Rem
3	Ea	Sign, Type III, Rem
1	Lsum	Drive and Parking Lot, Grading
48	Syd	Conc Pavt, Nonreinf, 8 inch
522	Sft	Sidewalk Ramp, Conc, 6 inch
24	Ft	Detectable Warning Surface, Cast Iron
136	Syd	Aggregate Base, 6 inch
19	Ton	HMA Approach
115	Ft	Pavt Mrkg, Waterborne, 4 inch, White
180	Ft	Pavt Mrkg, Waterborne, 4 inch, Yellow
48	Ft	Pavt Mrkg, Waterborne, 6 inch, Crosswalk
3	Ea	Sign, Type III, Erect, Salv
2	Ea	Trail Sign Post and Installation



PROPOSED – FAIRVIEW ROAD

SCALE: 1" =10'

10 5 0 10 20 FEET

c2ae architecture • engineering

OTSEGO COUNTY IRON BELLE TRAIL

OTSEGO COUNTY, MI

FAIRVIEW ROAD DETAILS

REVISIONS

© 2018 C2AE
NOT TO BE REPRODUCED OR
DISTRIBUTED WITHOUT THE
WRITTEN CONSENT FROM C2AE.
ALL RIGHTS RESERVED.

SCALE: AS SHOWN

PROJ. #: 170019

DATE: MARCH 1, 2018

SHEET

37

BID SET

WE RECYCLE

PLOTTED BY: POYNTER, AMANDA, 3/12/2018 1:46 PM
CONTROL FILE: C:\PWWorking\ACE\dpoynter\Sheets\Ramp Details 2.dwg - 37 FAIRVIEW ROAD DETAILS
C2AE STANDARDS STB

DESIGNED BY: -
CHECKED BY: -
APPROVED BY: -
DWGS MOD BY: -