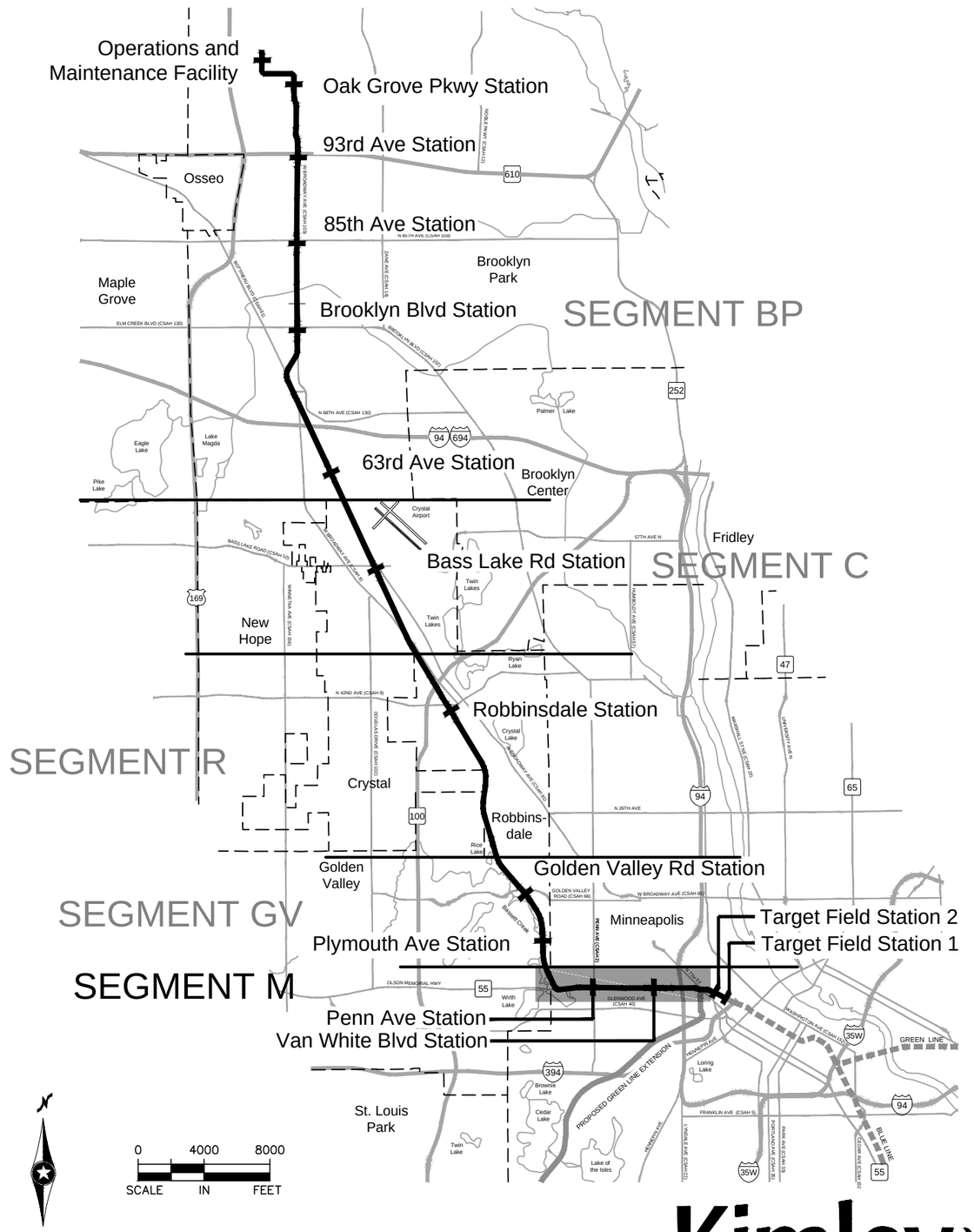

METRO BLUE LINE EXTENSION
Bottineau LRT

METROPOLITAN COUNCIL

SEGMENT M

EXISTING CONDITIONS/TRACK/CIVIL
MUNICIPAL CONSENT (12/15/2015)

MN STATE STATUTE 473.3994

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TOPOGRAPHIC SYMBOLS

- CATCH BASIN
- STORM MANHOLE
- FLARED END SECTION
- BOX CULVERT INVERT
- SANITARY MANHOLE
- SANITARY CLEANOUT
- WATER MANHOLE
- WATER GATE VALVE MANHOLE
- WATER VALVE
- WATER METER
- CORP STOP
- HYDRANT
- ELECTRIC METER
- ELECTRIC TRANSFORMER
- ELECTRIC PANEL
- ELECTRIC MANHOLE
- ELECTRIC BOX
- ELECTRIC VAULT
- GAS VALVE
- GAS METER
- TRAFFIC SIGNAL POLE
- LIGHT POLE
- HAND HOLE (STRUCTURE)
- CABLE TELEVISION
- COMMUNICATION STRUCTURE
- TELEPHONE STRUCTURE
- TELEPHONE MANHOLE
- FIBER OPTIC MANHOLE
- UTILITY POLE
- UTILITY POLE W/LIGHT
- GUY WIRE
- SHRUB
- TREE (DECIDUOUS)
- TREE (CONIFEROUS)
- CAMERA
- MONITOR WELL
- BOLLARD
- SIGN
- MAILBOX
- FLAG POLE
- UNIDENTIFIED STRUCTURE
- EXISTING DIRECTIONAL LANE USE
- EXISTING SIGNALIZED INTERSECTION
- SURVEY CONTROL STATION
- POWER TOWER
- GATE ARM
- RAIL SIGNAL FLASHER

EXISTING LINETYPES

- P-OH — OVERHEAD ELECTRIC
- P-UG — UNDERGROUND ELECTRIC
- T-OH — OVERHEAD TELEPHONE
- TEL — UNDERGROUND TELEPHONE
- COM-OH — OVERHEAD COMMUNICATION
- COM-UG — UNDERGROUND COMMUNICATION
- CABLE-OH — OVERHEAD CABLE TELEVISION
- CATV — UNDERGROUND CABLE TELEVISION
- FIB-OPT — UNDERGROUND FIBER OPTIC
- FUEL-UG — UNDERGROUND FUEL
- GAS-UG — UNDERGROUND GAS
- GAS(AB.) — ABANDONED UTILITY
- WATER
- SANITARY SEWER
- SANITARY FORCE MAIN
- STORM SEWER
- LARGE CULVERT
- EDGE OF PAVEMENT
- CURB AND GUTTER
- FENCE
- GUARDRAIL
- WALK
- BUILDING
- RETAINING WALL
- BRIDGE
- RIGHT-OF-WAY
- PROPERTY LINE
- FREIGHT RAIL
- CENTERLINE OF TRAIL
- VEGETATION
- WATER BODY

TRACK/CIVIL LINETYPES

- ROADWAY ℄
- TRACK ℄
- CONCRETE CURB AND GUTTER
- BIKE LANE
- SIDEWALK/TRAIL
- DRIVEWAY
- BRIDGE
- SAWCUT
- BALLAST CURB
- RETAINING WALL
- CROSSWALK
- MEDIAN NOSE

CIVIL SYMBOLS

- ACCESSIBLE PEDESTRIAN CURB RAMP (DESIGN VARIES)
- PROPOSED SIGNALIZED INTERSECTION
- PROPOSED DIRECTIONAL LANE USE
- HANDICAP PARKING STALL
- BIKE LANE
- TACTILE WARNING STRIP

TRACK SYMBOLS

- AUTOMATIC GATE
- RAIL TURNOUT
- RAIL CROSSOVER (DOUBLE)
- RAIL CROSSOVER (SINGLE)
- POINT OF SWITCH (PS)
- 2-20 — RAILROAD CURVE NUMBER

SURVEY NOTES

1. THE HORIZONTAL DATUM OF THIS MAP IS BASED ON THE HENNEPIN COUNTY COORDINATE SYSTEM WHICH IS RELATED TO THE MINNESOTA STATE PLANE COORDINATE SYSTEM NAD83 (2007 ADJUSTMENT) SOUTH ZONE.
2. THE VERTICAL DATUM OF THIS MAP IS NAVD 88.
3. THE PLANIMETRIC FEATURES SHOWN ON THIS MAP ARE AS PREPARED BY AERO-METRIC, INC. FROM AERIAL DATA AND IMAGERY COLLECTED IN SPRING 2008 AND OCTOBER 2010, AS SUPPLEMENTED BY FIELD SURVEYS COMPLETED BY SAMBATEK.

ABBREVIATIONS

AD	ALGEBRAIC DIFFERENCE	OCS	OVERHEAD CONTACT SYSTEM
AVE	AVENUE	OH	OVERHEAD
BGN	BEGIN	OMH	OLSON MEMORIAL HIGHWAY
BIT	BITUMINOUS	PC	POINT OF CURVE
BVCE	BEGININNING VERTICAL CURVE ELEVATION	PGL	PROFILE GRADE LINE
BVCS	BEGINNING VERTICAL CURVE STATION	PITO	POINT OF INTERSECTION TURNOUT
BLVD	BOULEVARD	PKWY	PARKWAY
BNSF	BNSF RAILWAY	POT	POINT ON TANGENT
BRT	BUS RAPID TRANSIT	PROP	PROPOSED
C&G	CURB AND GUTTER	PS	POINT OF SWITCH
℄	CENTERLINE	PT	POINT OF TANGENT
CONC	CONCRETE	PVI	POINT OF VERTICAL INTERSECTION
CP	CANADIAN PACIFIC	R	RADIUS (FEET)
CR	COUNTY ROAD	r	RATE OF CHANGE VERTICAL CURVE
CS	CURVE TO SPIRAL	RD	ROAD
CSAH	COUNTY STATE AID HIGHWAY	RH	RIGHT HAND
CT	COURT	ROW	RIGHT OF WAY
DF	DIRECT FIXATION	S	SOUTH
DR	DRIVE	SB	SOUTHBOUND
Ea	ACTUAL SUPERELEVATION (INCHES)	SC	SPIRAL TO CURVE
EB	EAST BOUND	SIG-COMM	SIGNAL COMMUNICATION
ELEV	ELEVATION	S/P	STOCKPILE
Eu	UNBALANCED SUPERELEVATION (INCHES)	SPI	SPIRAL POINT OF INTERSECTION
EVCE	ENDING VERTICAL CURVE ELEVATION	ST	STREET
EVCS	ENDING VERTICAL CURVE STATION	ST	SPIRAL TO TANGENT
EX	EXISTING	STA	STATION
HCRRA	HENNEPIN COUNTY REGIONAL RAILROAD AUTHORITY	SWLRT	SOUTHWEST LRT
HWL	HIGH WATER LINE	TERR	TERRACE
LH	LEFT HAND	TH	TRUNK HIGHWAY
LN	LANE	TOR	TOP OF RAIL
Ls	SPIRAL LENGTH (FEET)	TPSS	TRACTION POWER SUBSTATION
MIN	MINIMUM	TRK	TRACK
MPLS	CITY OF MINNEAPOLIS	TS	TANGENT TO SPIRAL
MPRB	MINNEAPOLIS PARK AND RECREATION BOARD	TWRP	THEODORE WIRTH REGIONAL PARK
N	NORTH	TYP	TYPICAL
NB	NORTHBOUND	UG	UNDERGROUND
NHCC	NORTH HENNEPIN COMMUNITY COLLEGE	Vd	DESIGN VELOCITY (MPH)
NO	NUMBER	WB	WEST BOUND
NWL	NORMAL WATER LINE	100-YR	WATER ELEVATION DURING 100-YEAR EVENT

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METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

SEGMENT M

GENERAL

LEGEND AND ABBREVIATIONS

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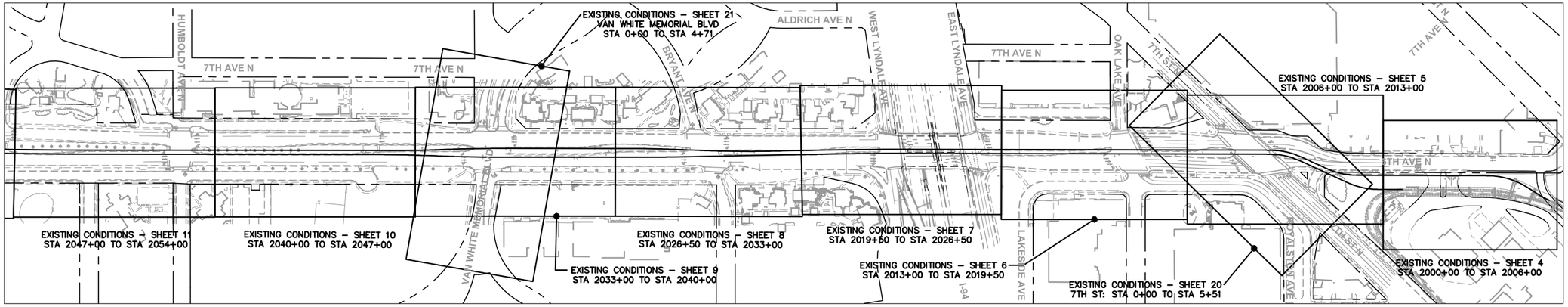

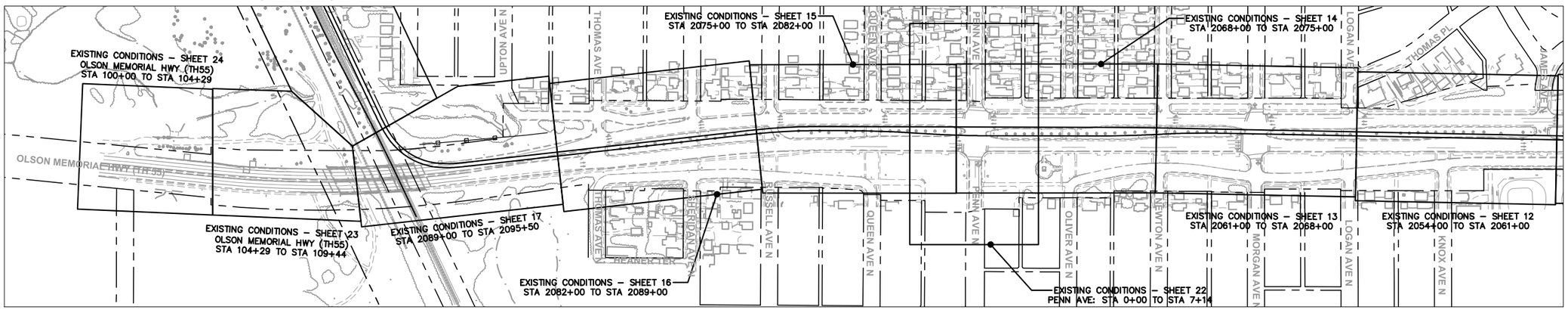

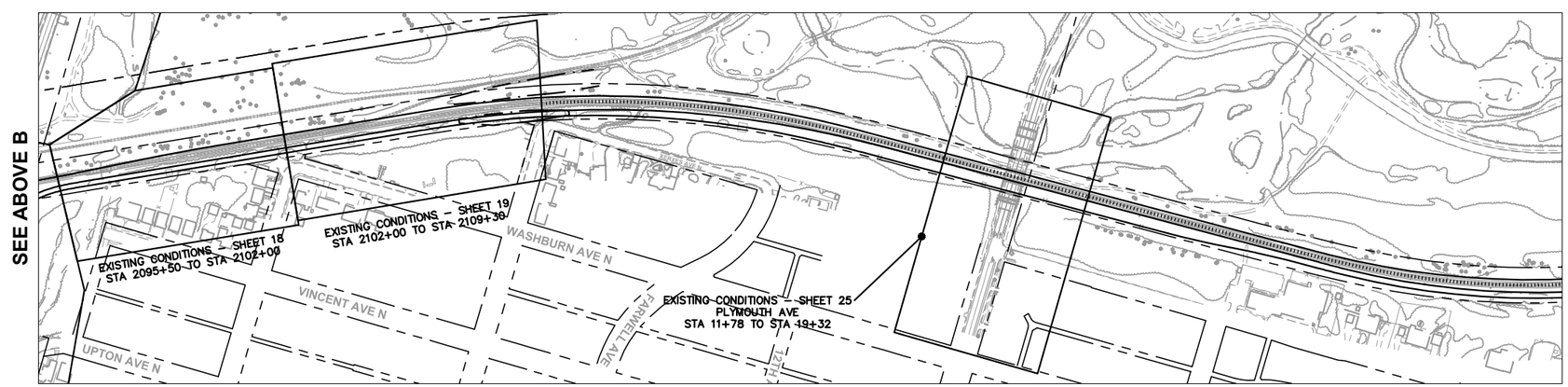

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SEGMENT M
EXISTING CONDITIONS
SHEET LAYOUT INDEX

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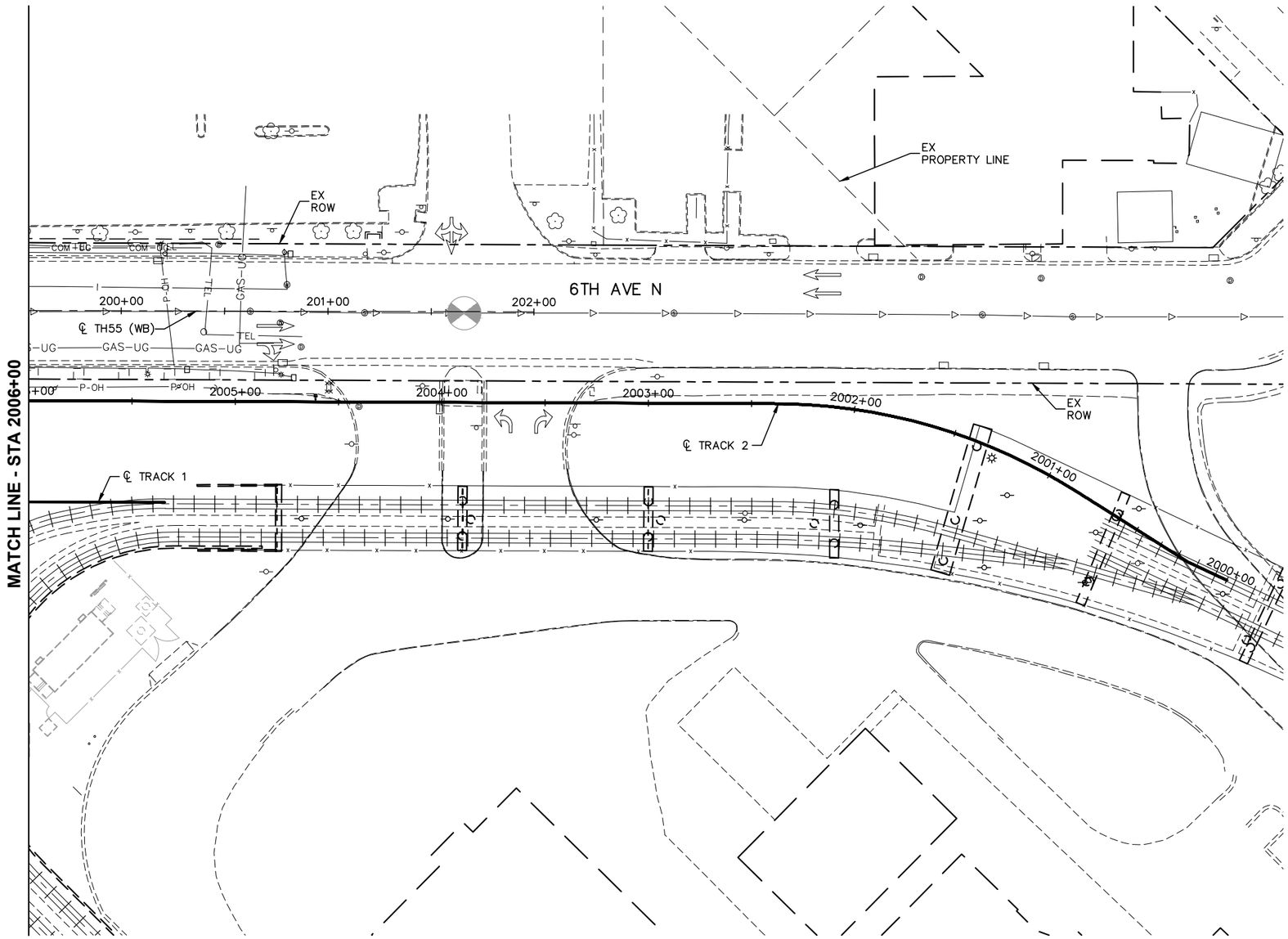

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METRO BLUE LINE EXTENSION
Bottineau LRT

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SEGMENT M
OLSON MEMORIAL HWY (TH55)
EXISTING CONDITIONS
STA 2000+00 TO STA 2006+00

DISCIPLINE: SURVEY
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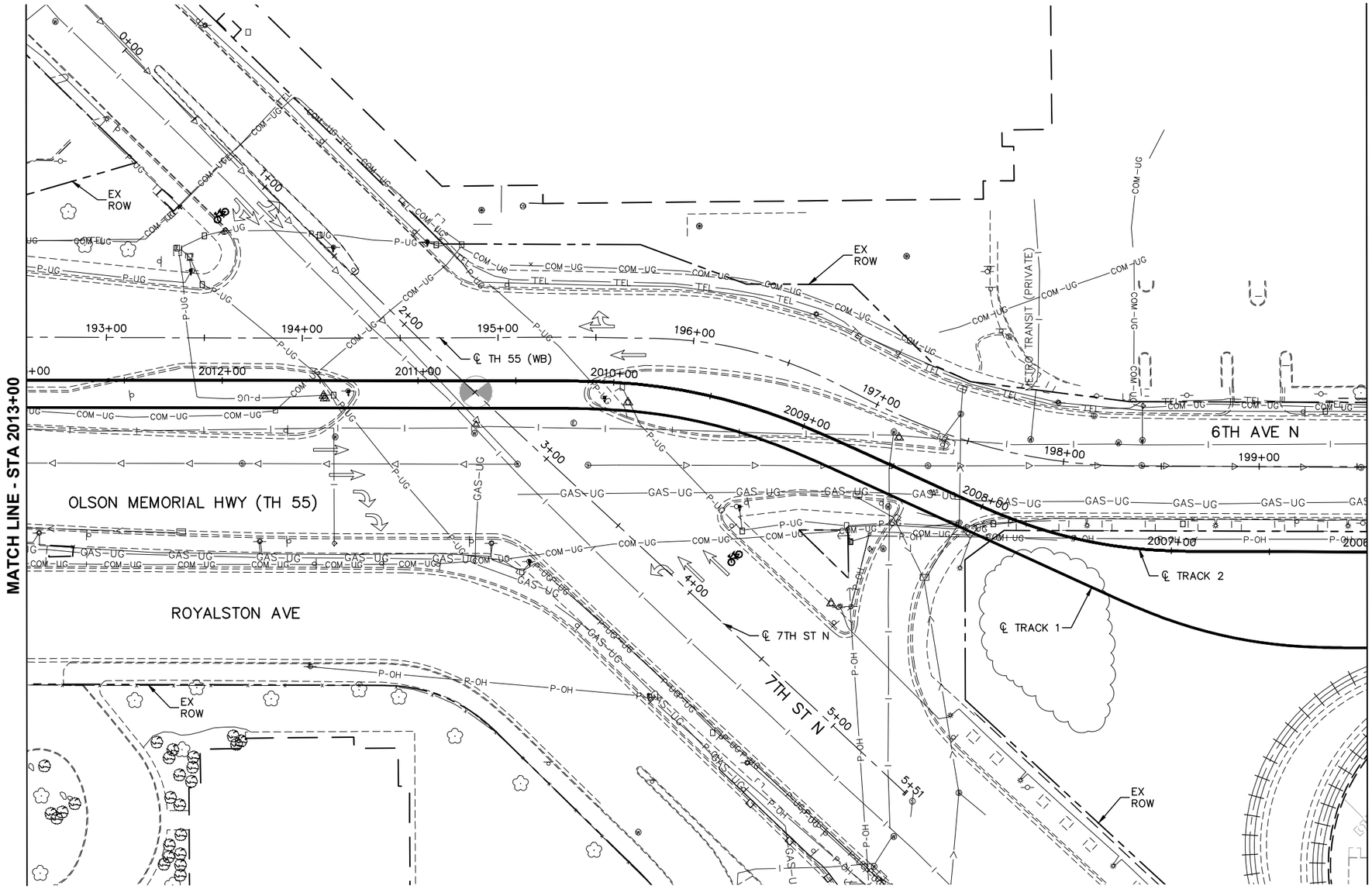

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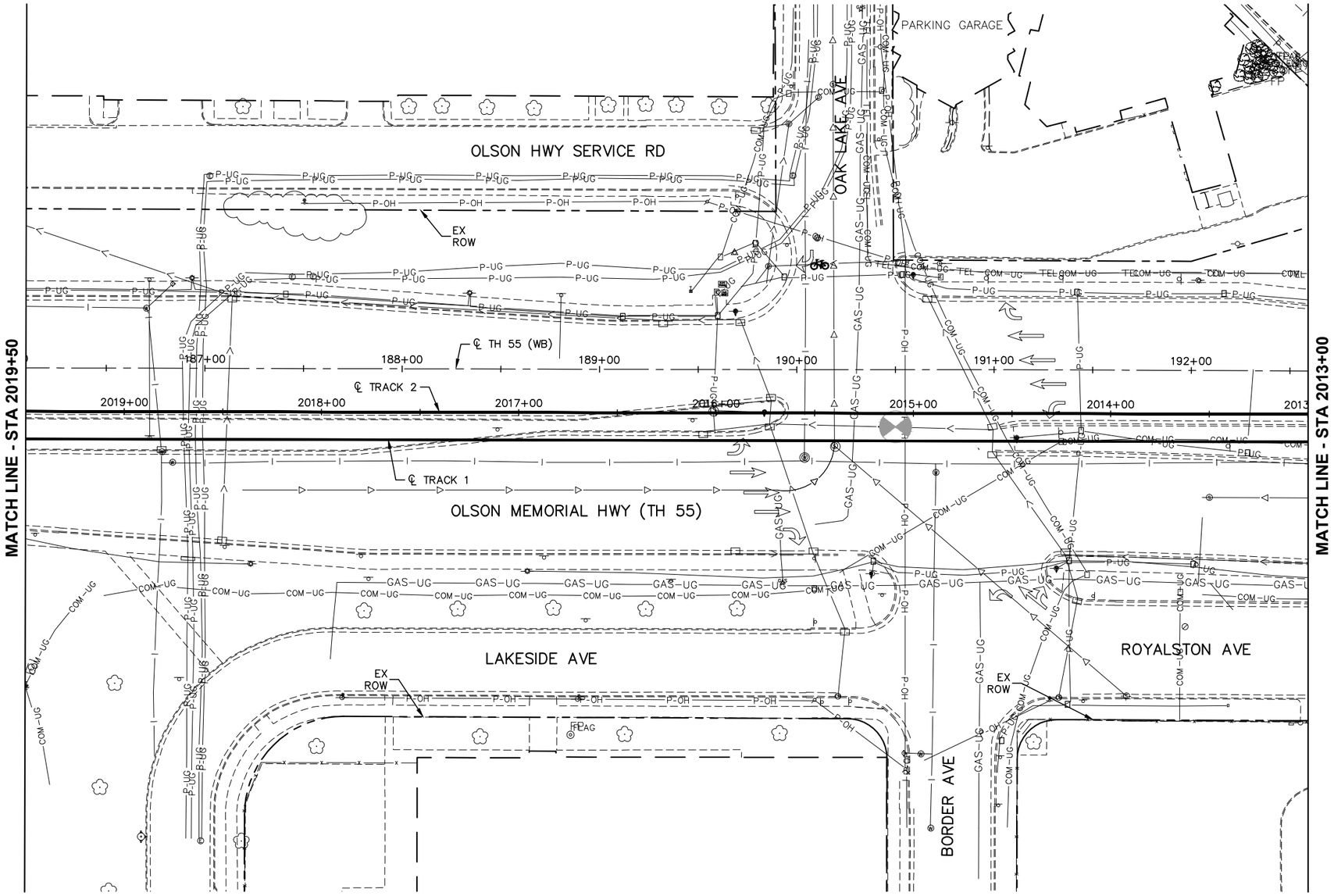

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STA 2013+00 TO STA 2019+50

DISCIPLINE: SURVEY

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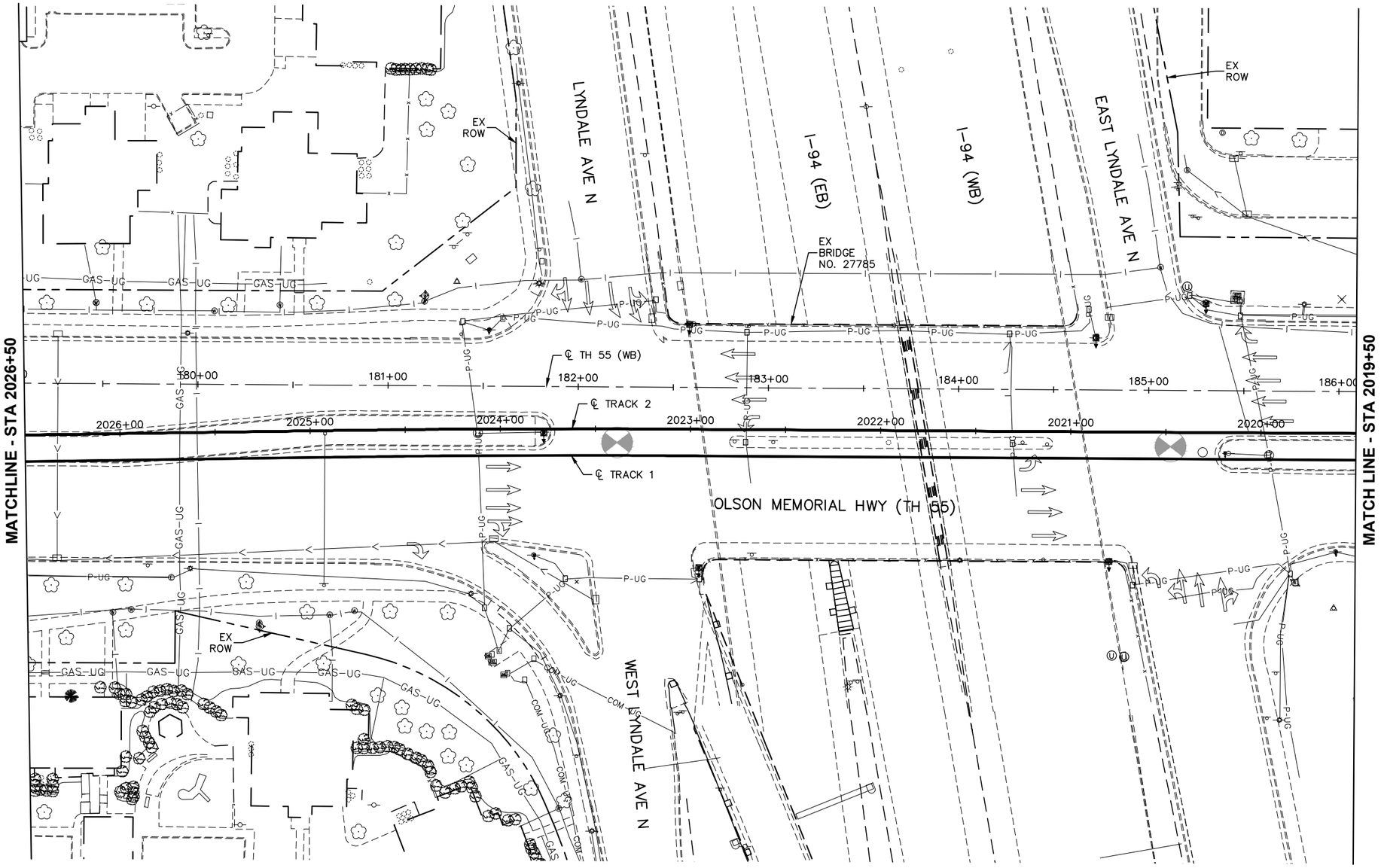

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EXISTING CONDITIONS
STA 2019+50 TO STA 2026+50

DISCIPLINE: SURVEY

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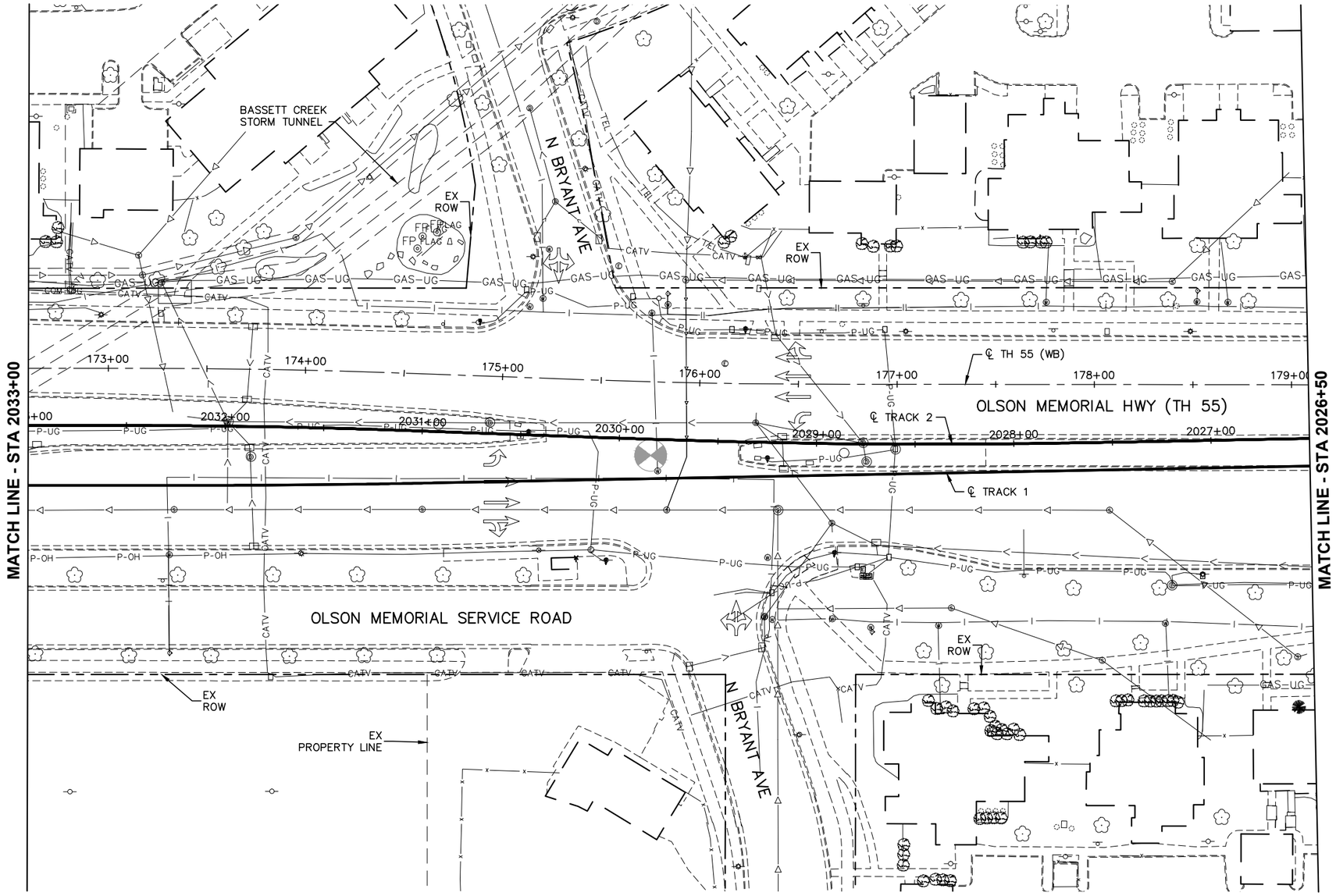

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Bottineau LRT

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STA 2026+50 TO STA 2033+00

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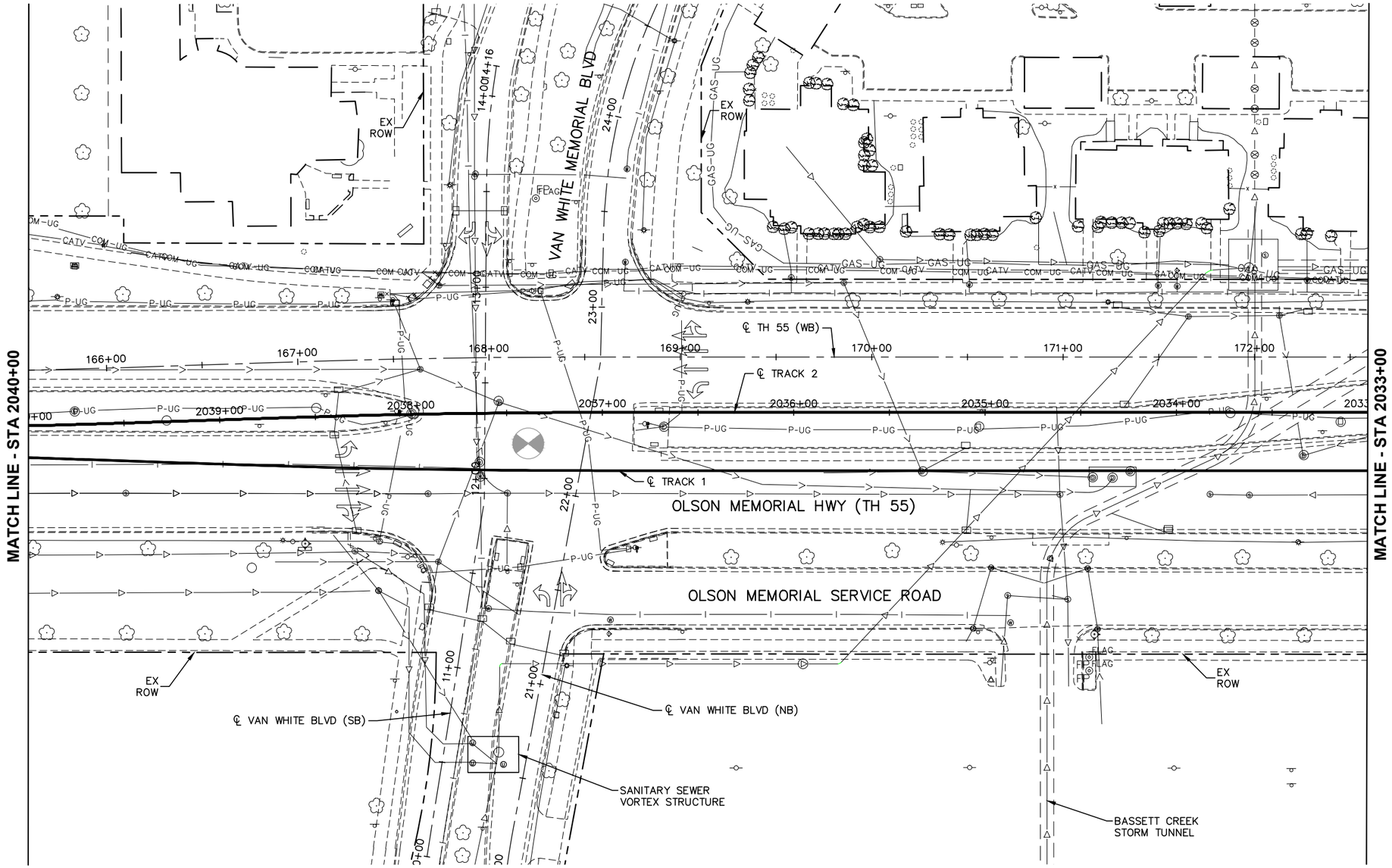

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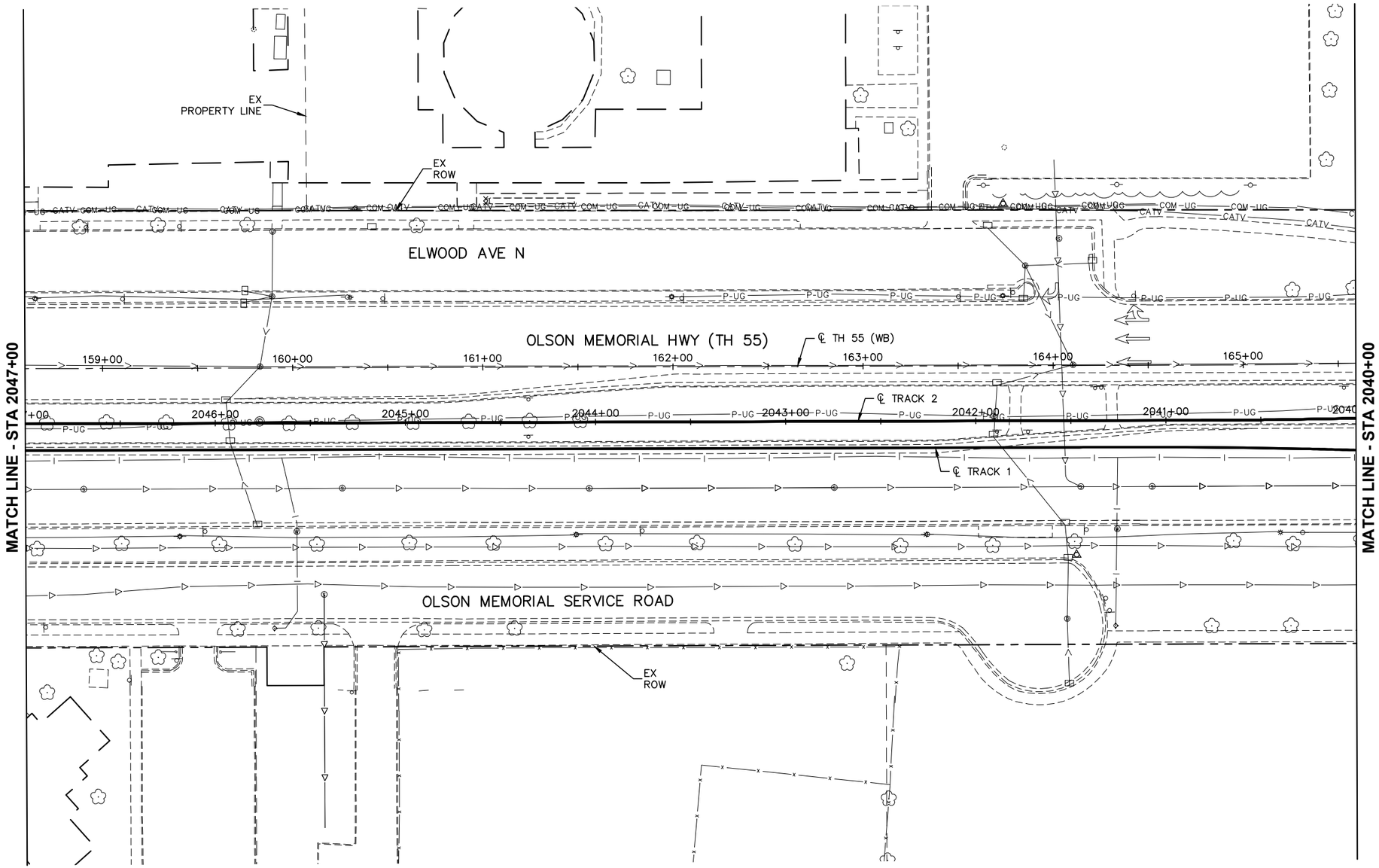

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STA 2040+00 TO STA 2047+00

DISCIPLINE: SURVEY

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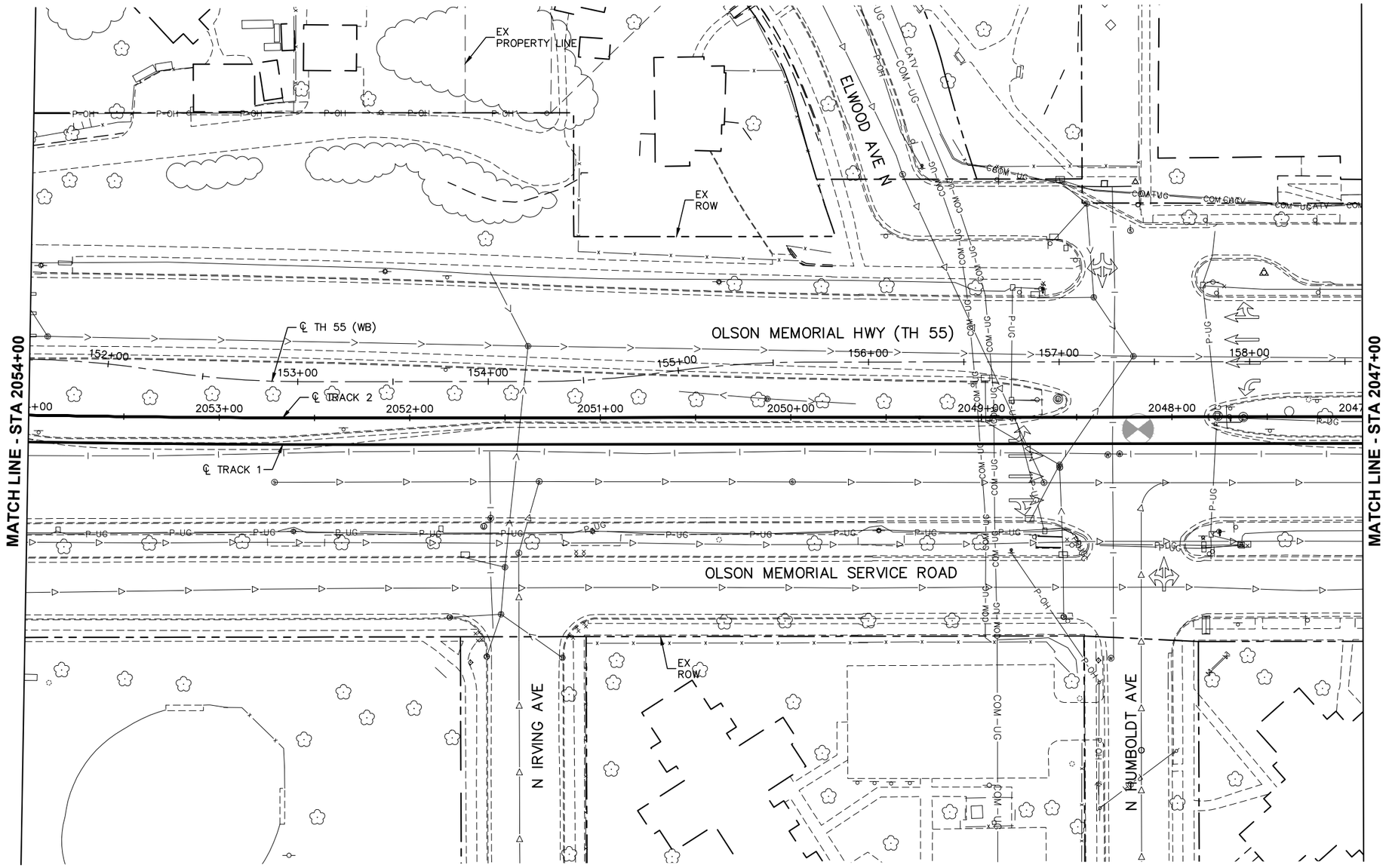

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STA 2047+00 TO STA 2054+00

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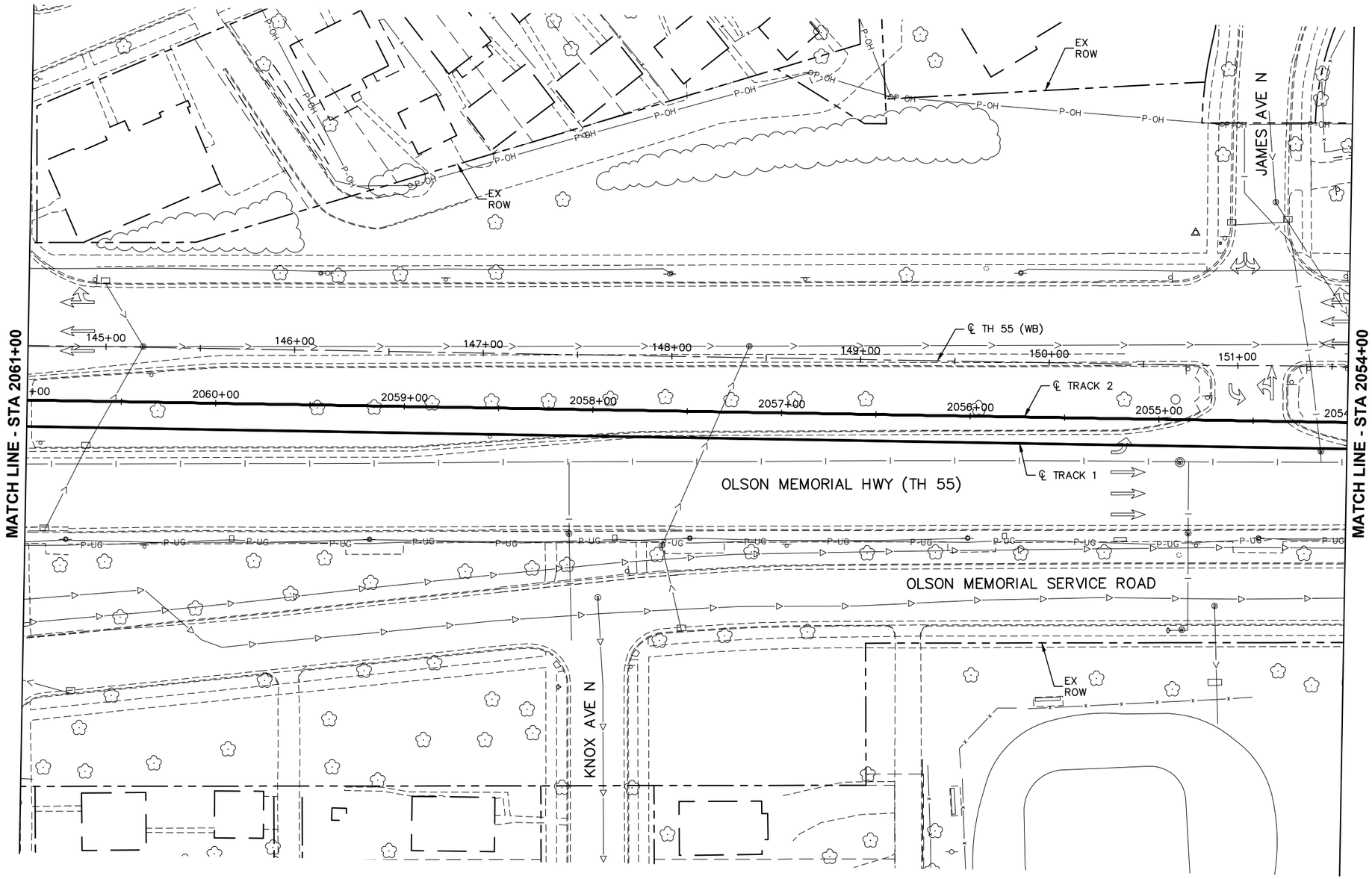

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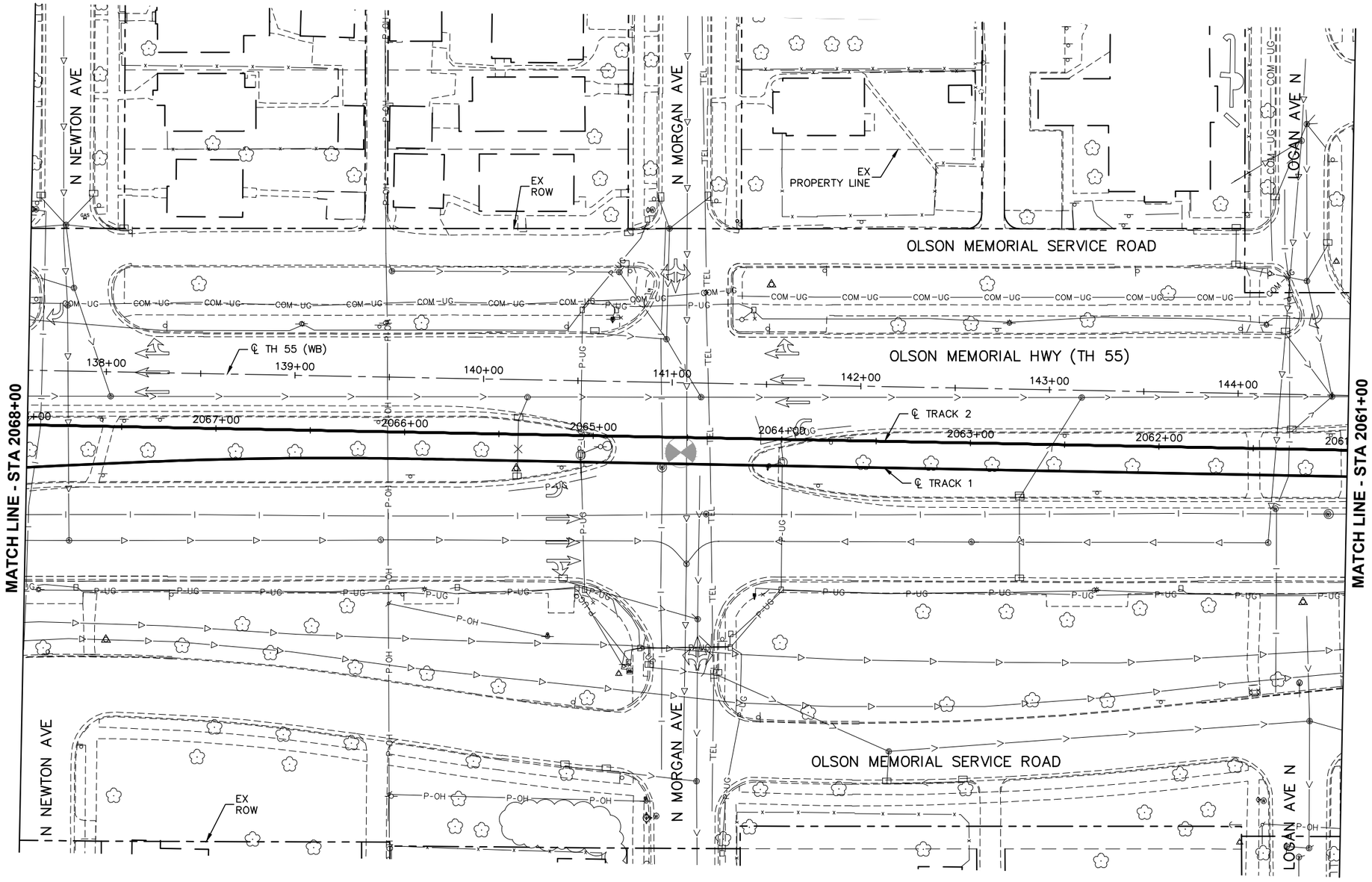

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SEGMENT M
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EXISTING CONDITIONS
STA 2061+00 TO STA 2068+00

DISCIPLINE: SURVEY

SHEET NAME: M-EXCON-PLN-010

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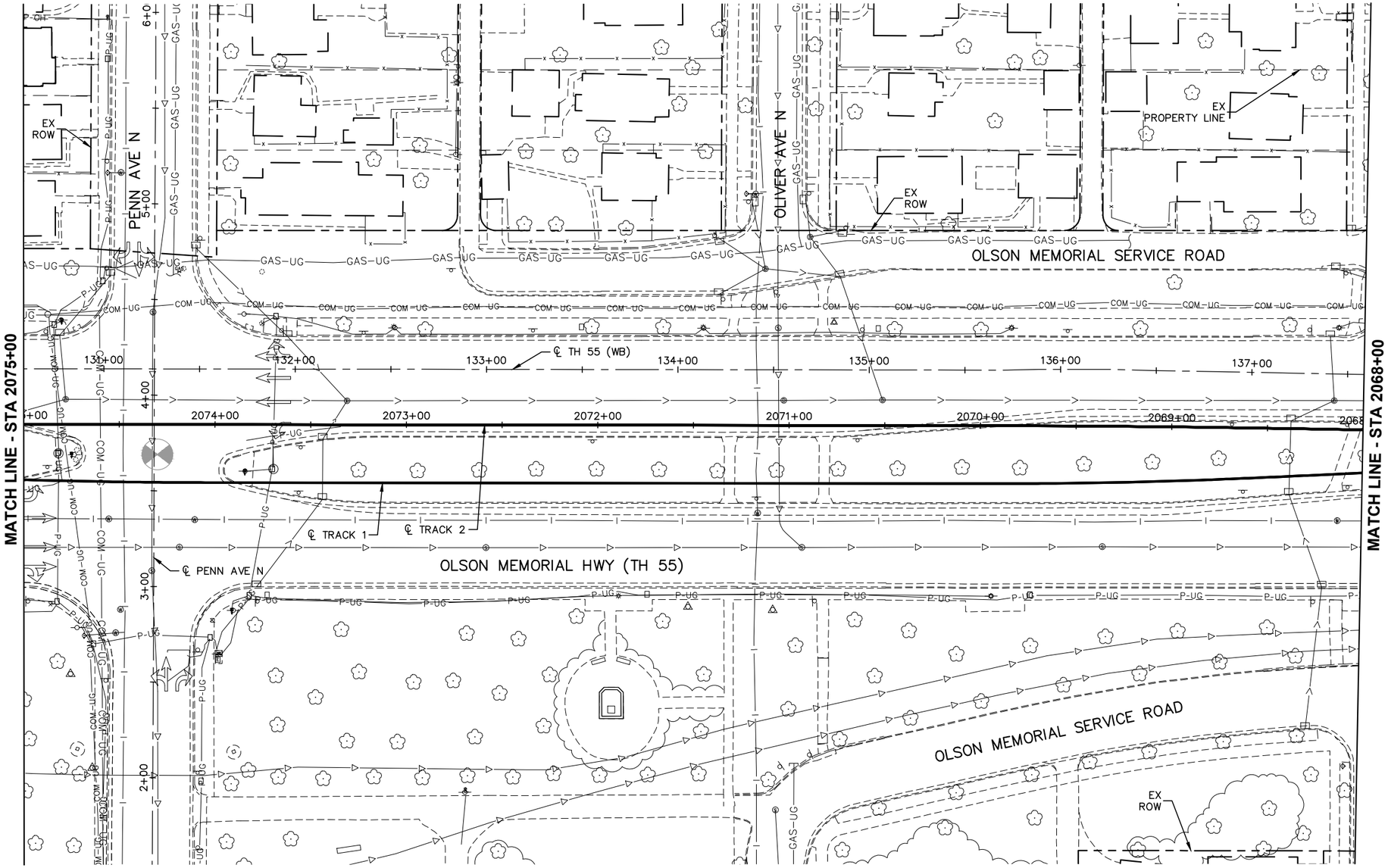

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EXISTING CONDITIONS
STA 2068+00 TO STA 2075+00

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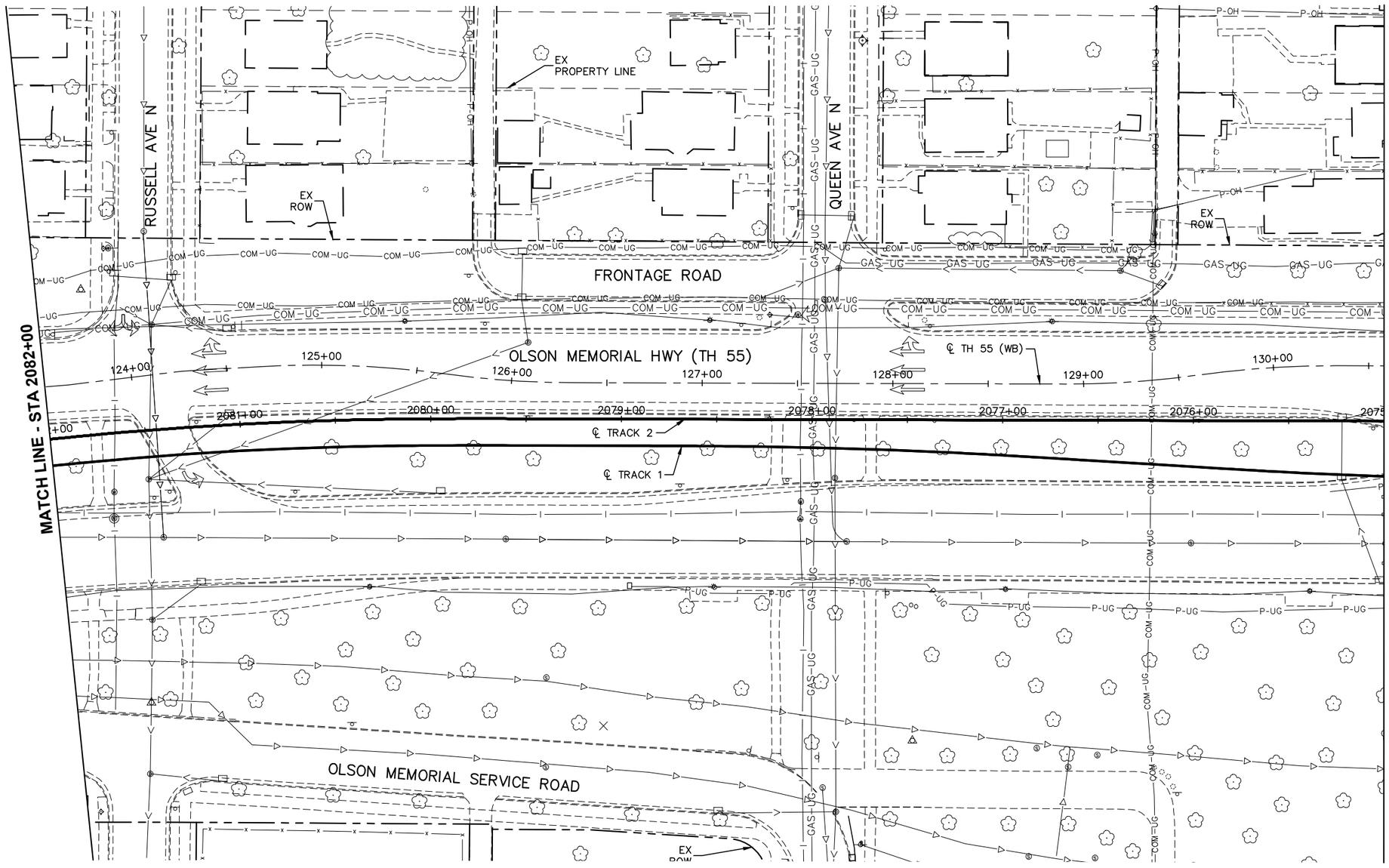

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METRO BLUE LINE EXTENSION Bottineau LRT

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EXISTING CONDITIONS
STA 2075+00 TO STA 2082+00

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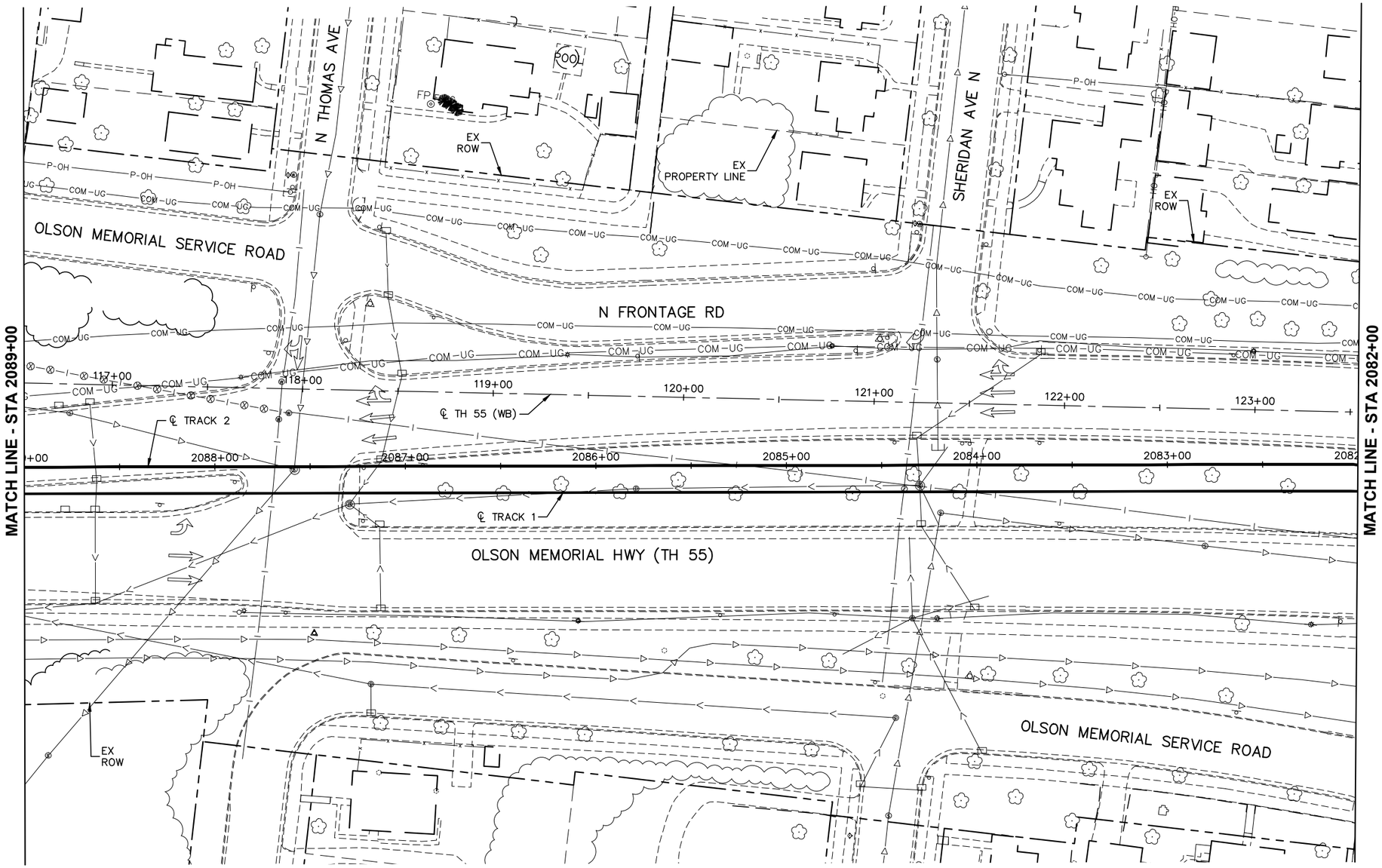

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METRO BLUE LINE EXTENSION Bottineau LRT

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SEGMENT M
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EXISTING CONDITIONS
STA 2082+00 TO STA 2089+00

DISCIPLINE: SURVEY

SHEET NAME: M-EXCON-PLN-013

SHEET 16 OF 107

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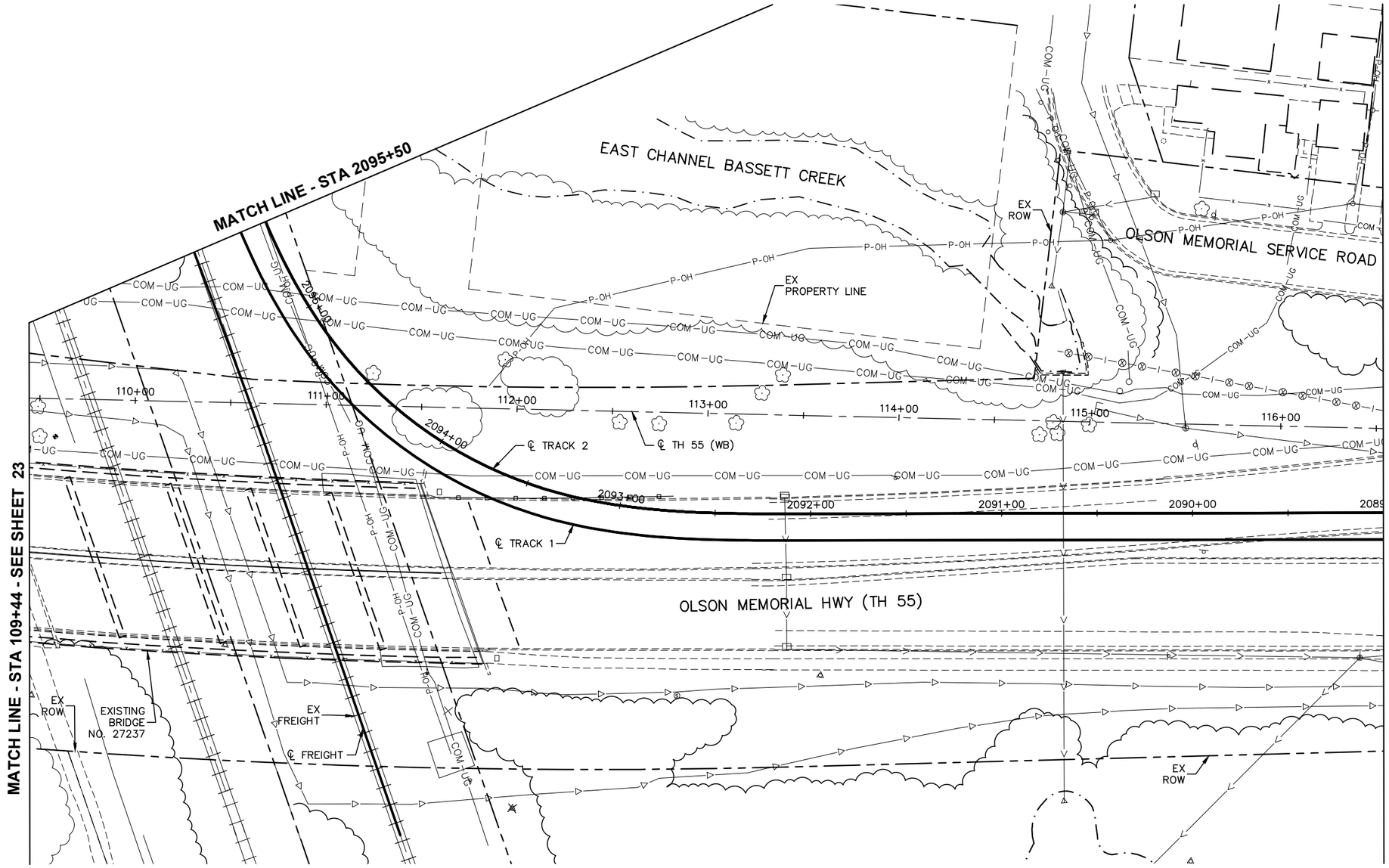

DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

SEGMENT M
OLSON MEMORIAL HWY (TH55)
EXISTING CONDITIONS
STA 2089+00 TO STA 2095+50

DISCIPLINE: SURVEY

SHEET NAME: M-EXCON-PLN-014

SHEET 17 OF 107

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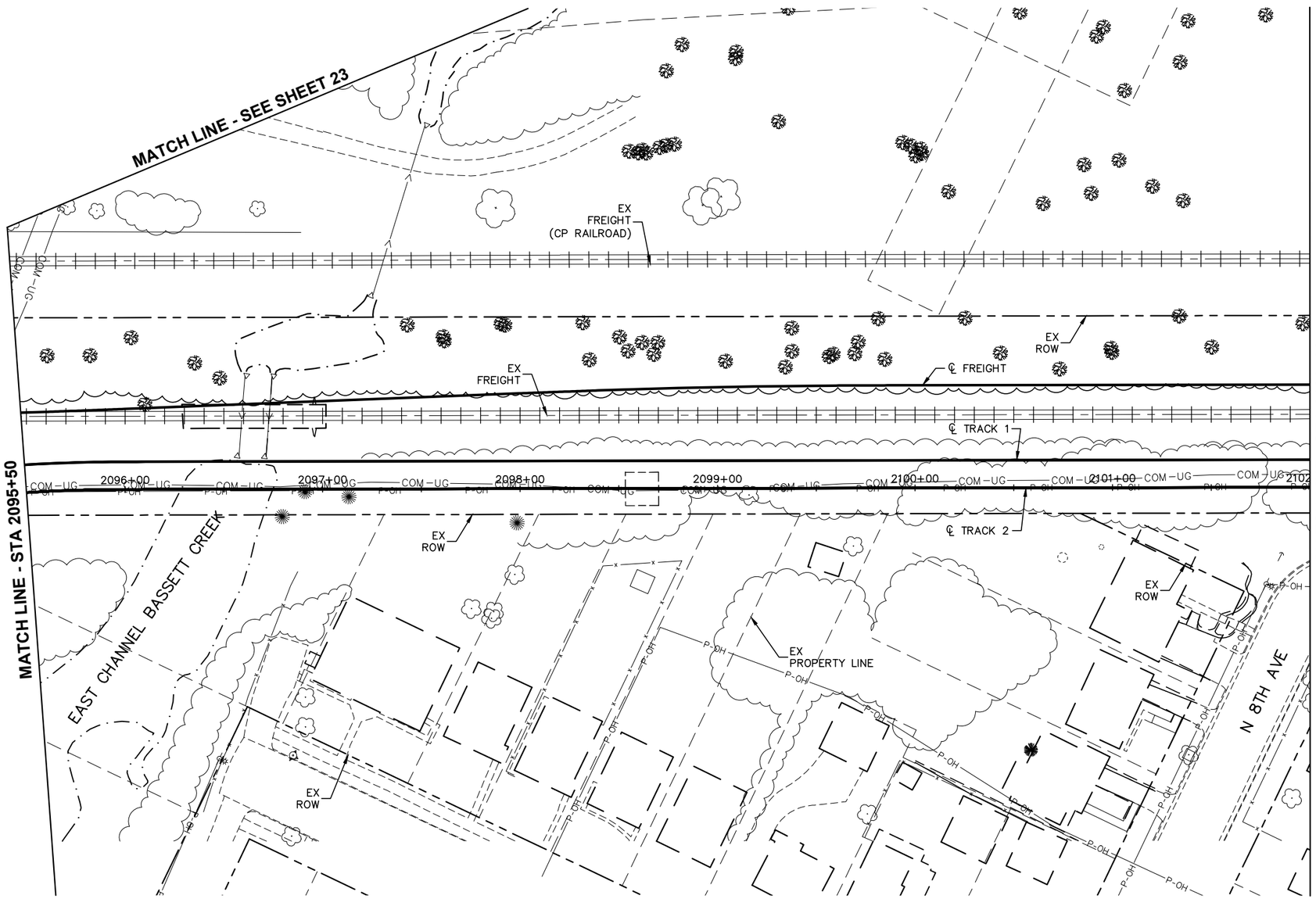

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SCALE IN FEET

DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION
Bottineau LRT

METROPOLITAN COUNCIL

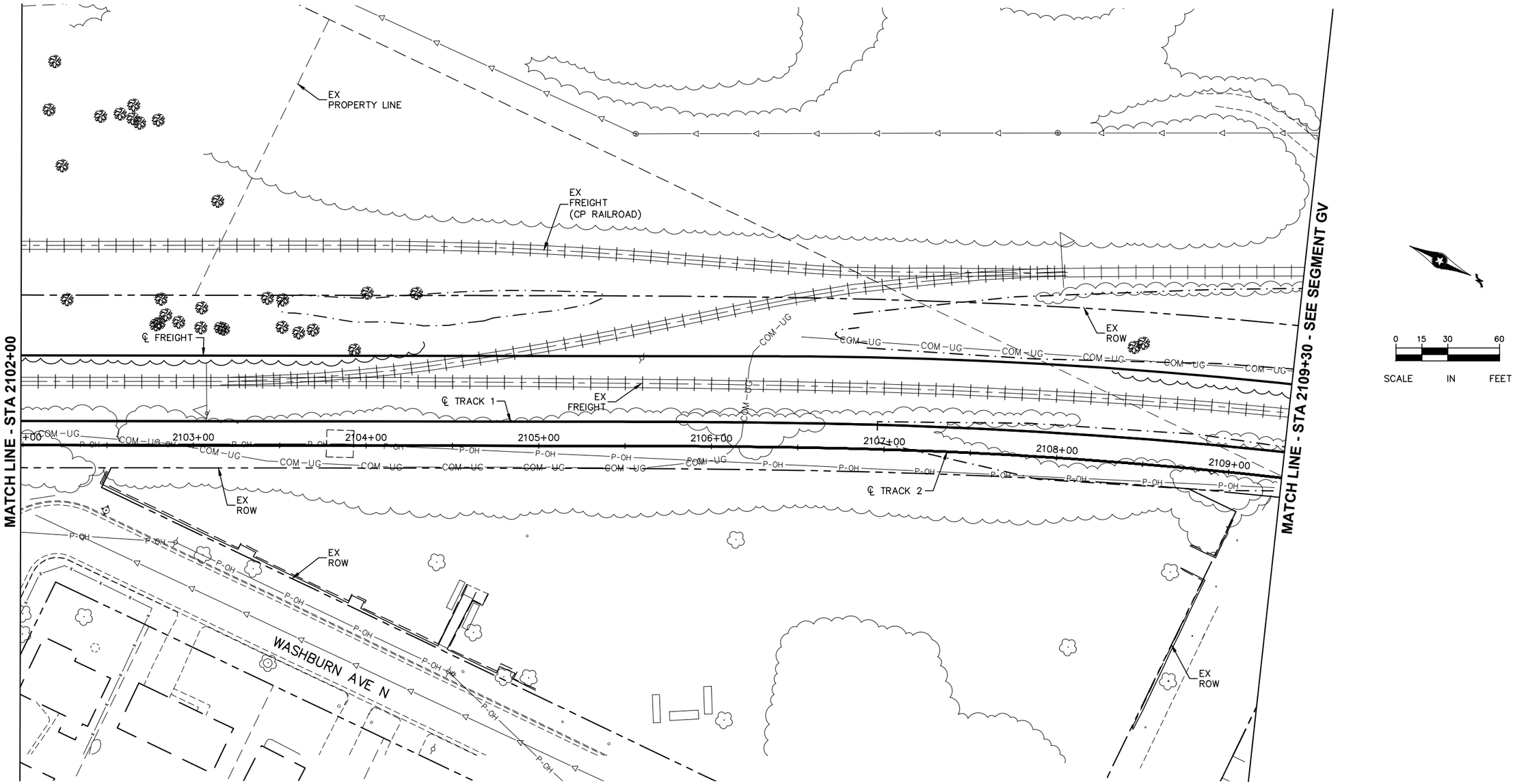
SEGMENT M
RAIL CORRIDOR
EXISTING CONDITIONS
STA 2095+50 TO STA 2102+00

DISCIPLINE: SURVEY

SHEET NAME: M-EXCON-PLN-015

SHEET 18 OF 107

Dec, 02 2015 03:21 pm H:\BPO\550_Design_Consultant\CAD\006-SEGMENT-M\MC\PLAN SHEETS\CIVIL\M-EXCON-PLN.dwg By: V-MuelleAL



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NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION
Bottineau LRT

METROPOLITAN COUNCIL

SEGMENT M
RAIL CORRIDOR
EXISTING CONDITIONS
STA 2102+00 TO STA 2109+30

DISCIPLINE: SURVEY

SHEET NAME: M-EXCON-PLN-016

SHEET 19 OF 107

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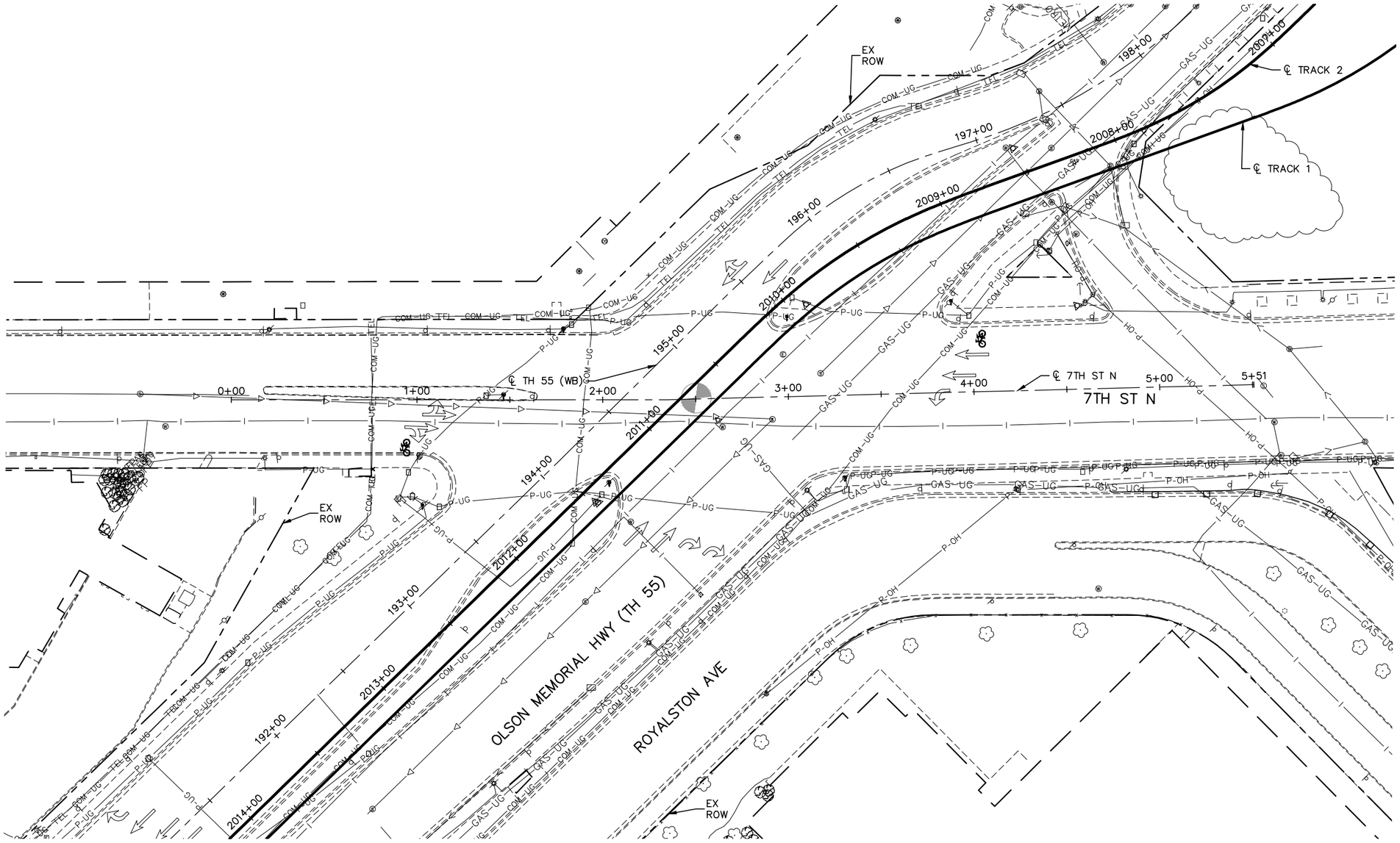

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SCALE IN FEET

DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION
Bottineau LRT

METROPOLITAN COUNCIL

SEGMENT M
7TH ST N
EXISTING CONDITIONS
STA 0+00 TO STA 5+51

DISCIPLINE: SURVEY

SHEET NAME: M-EXCON-PLN-017

SHEET 20 OF 107

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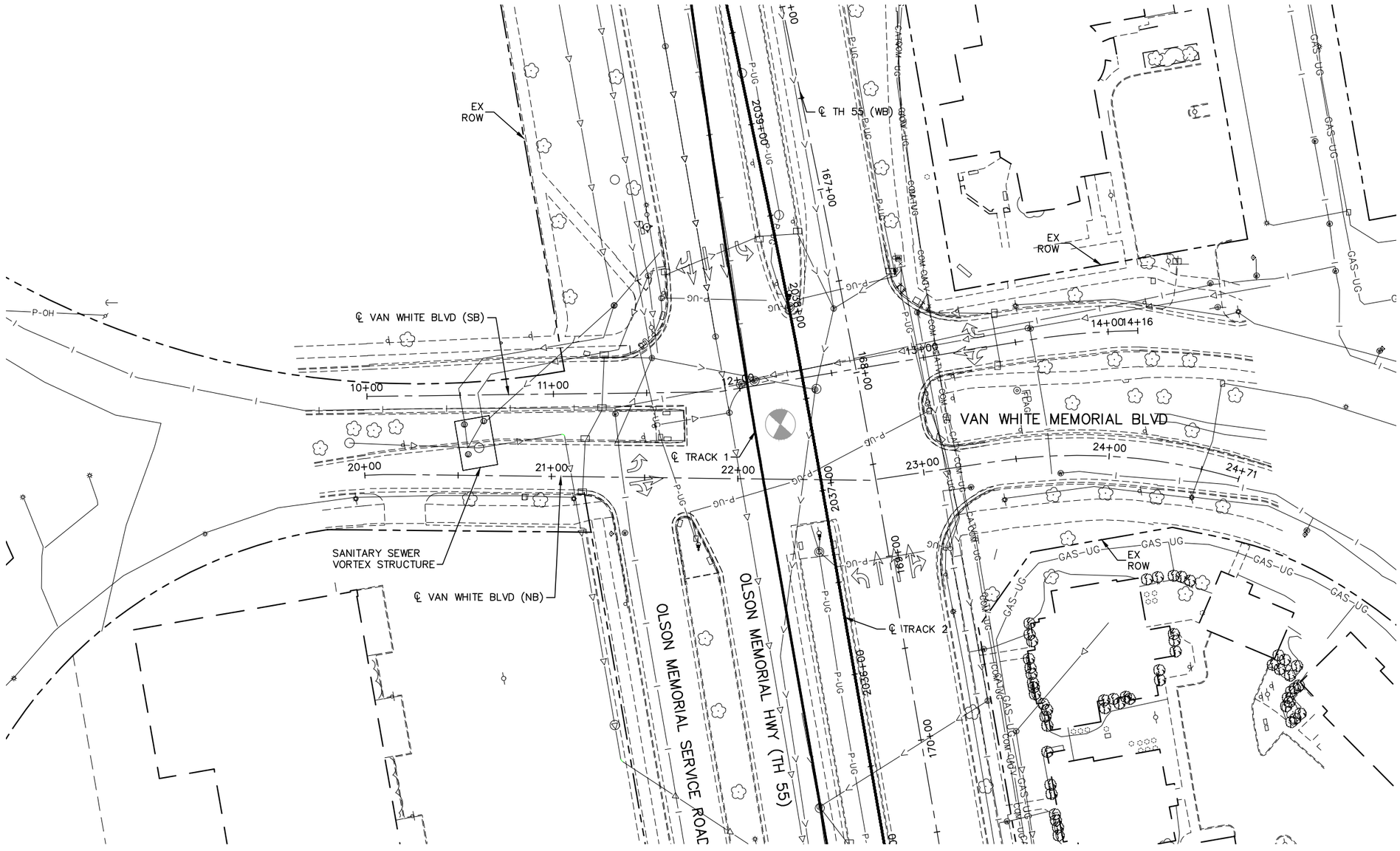

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SCALE IN FEET

DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION
Bottineau LRT

METROPOLITAN COUNCIL

SEGMENT M
VAN WHITE BLVD
EXISTING CONDITIONS
STA 0+00 TO STA 4+71

DISCIPLINE: SURVEY

SHEET NAME: M-EXCON-PLN-018

SHEET 21 OF 107

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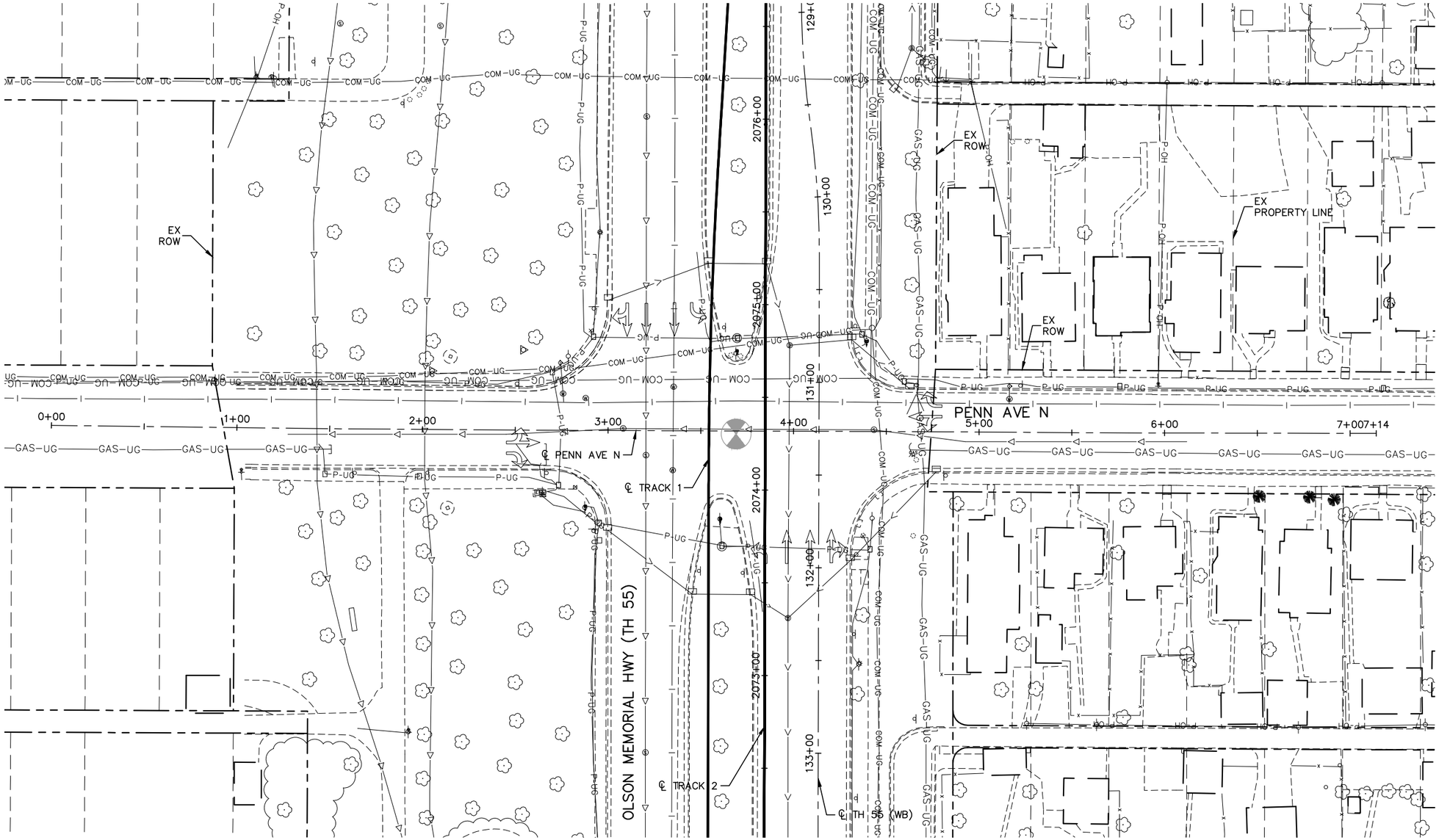

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NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

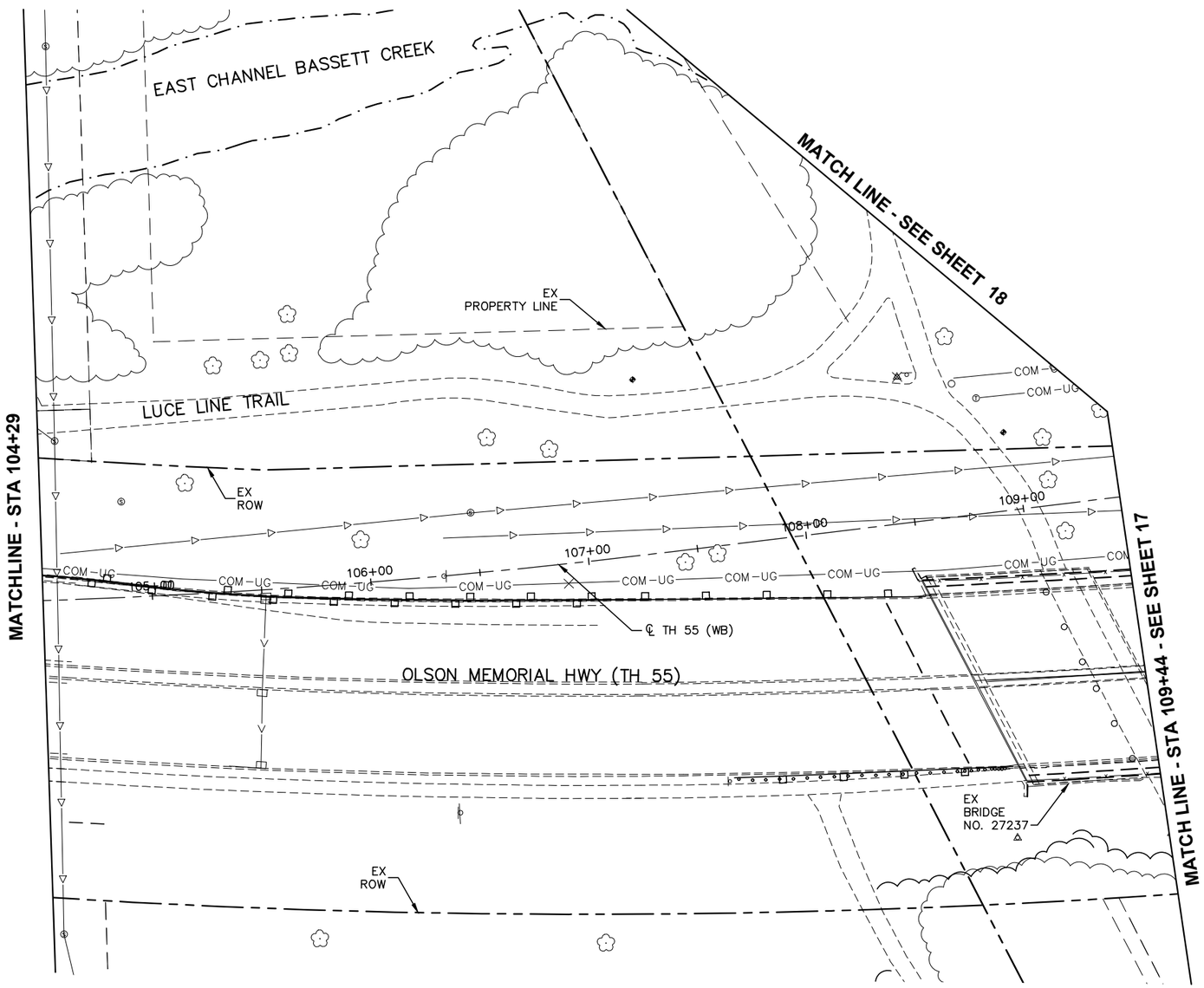
SEGMENT M
PENN AVE N
EXISTING CONDITIONS
STA 0+00 TO STA 7+14

DISCIPLINE: SURVEY

SHEET NAME: M-EXCON-PLN-019

SHEET 22 OF 107

Dec, 02 2015 03:24 pm H:\BPO\550_Design_Consultant\CAD\006-SEGMENT-M\MC\PLAN SHEETS\CIVIL\M-EXCON-PLN.dwg By: V-MuelleAL



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SCALE IN FEET

DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

SEGMENT M
OLSON MEMORIAL HWY (TH55)
EXISTING CONDITIONS
STA 104+29 TO STA 109+44

DISCIPLINE: SURVEY

SHEET NAME: M-EXCON-PLN-020

SHEET 23 OF 107

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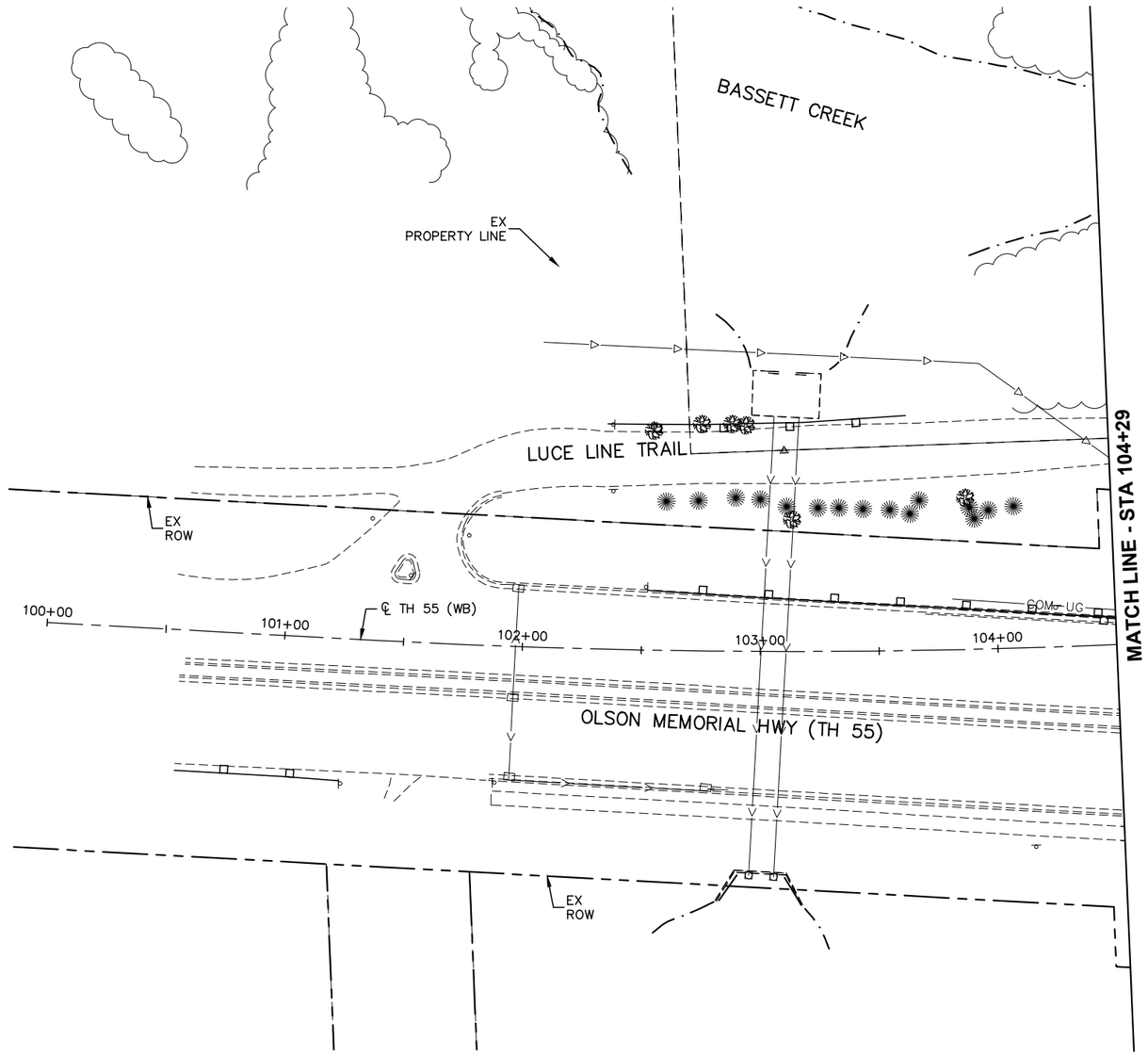

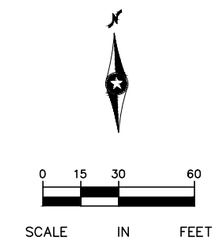

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MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION
Bottineau LRT

METROPOLITAN COUNCIL

SEGMENT M
OLSON MEMORIAL HWY (TH55)
EXISTING CONDITIONS
STA 100+00 TO STA 104+29

DISCIPLINE: SURVEY

SHEET NAME: M-EXCON-PLN-021

SHEET 24 OF 107

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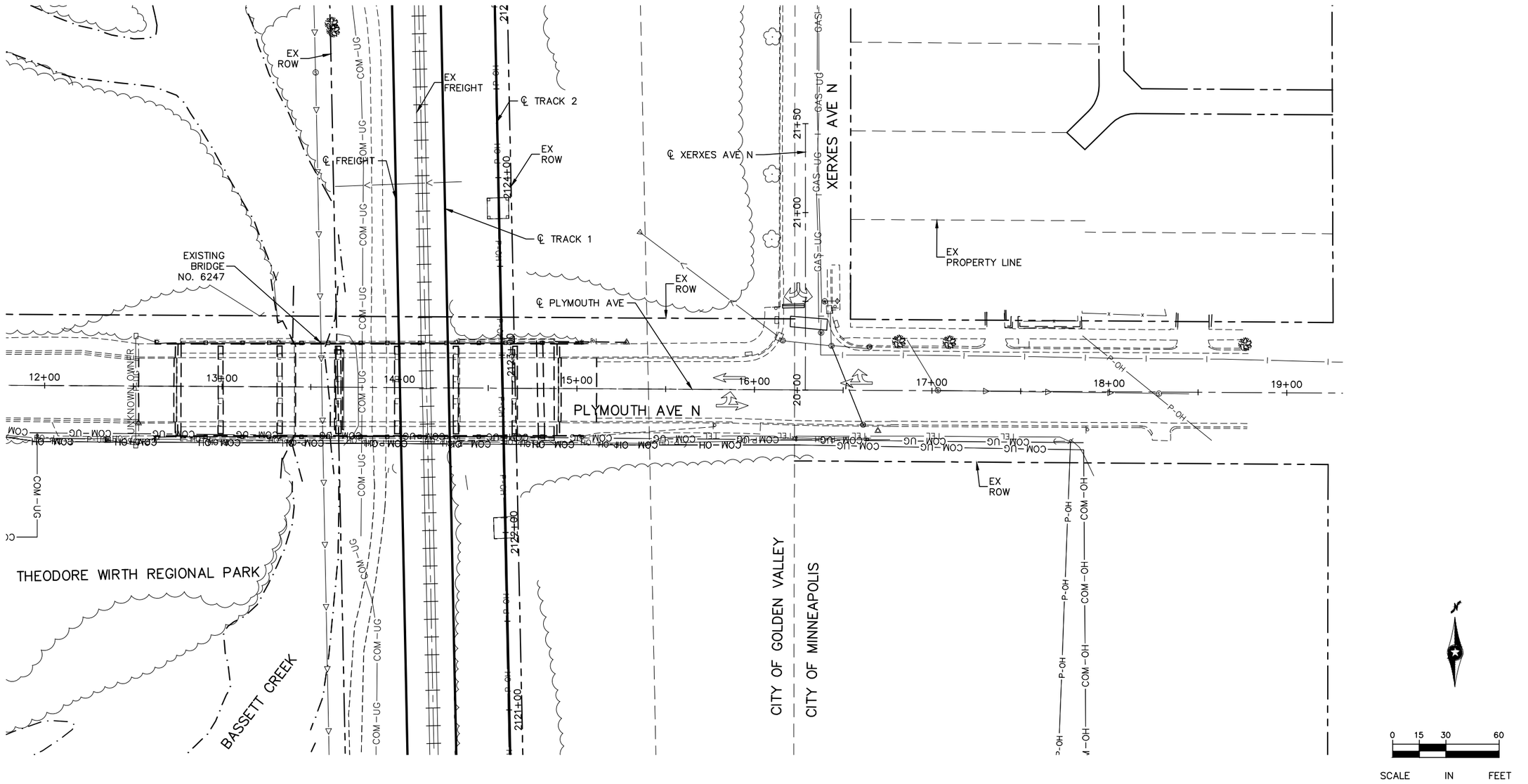

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NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

SEGMENT M
PLYMOUTH AVE N
EXISTING CONDITIONS
STA 11+78 TO STA 19+32

DISCIPLINE: SURVEY

SHEET NAME: M-EXCON-PLN-022

SHEET 25 OF 107

Dec, 02 2015 03:26 pm H:\BPO\550_Design_Consultant\CAD\005-SEGMENT-GV\MC\PLAN SHEETS\CIVIL\GV-EXCON-PLN.dwg By: V-MuelleAL

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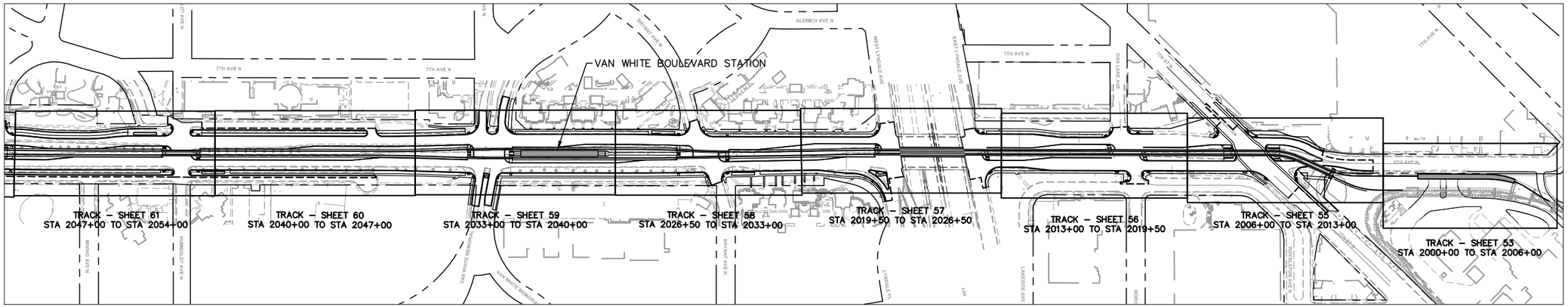

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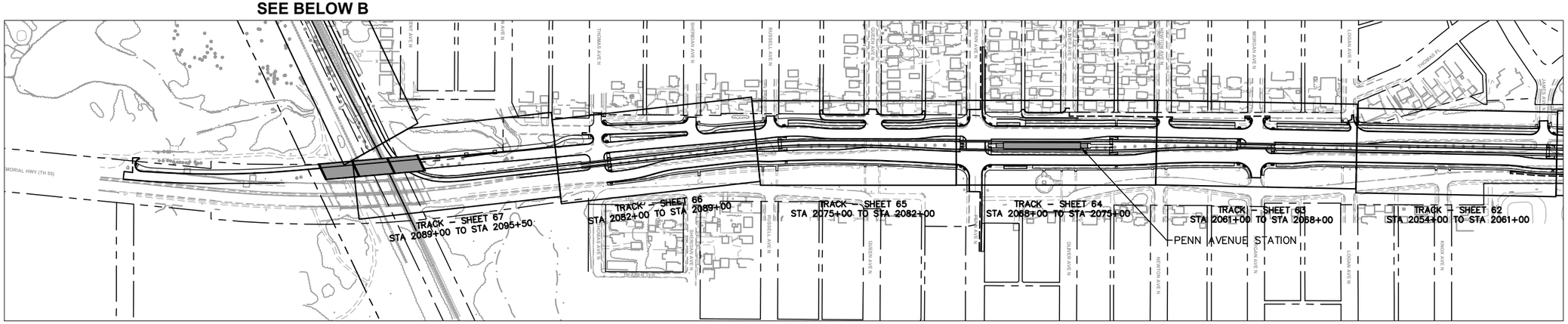
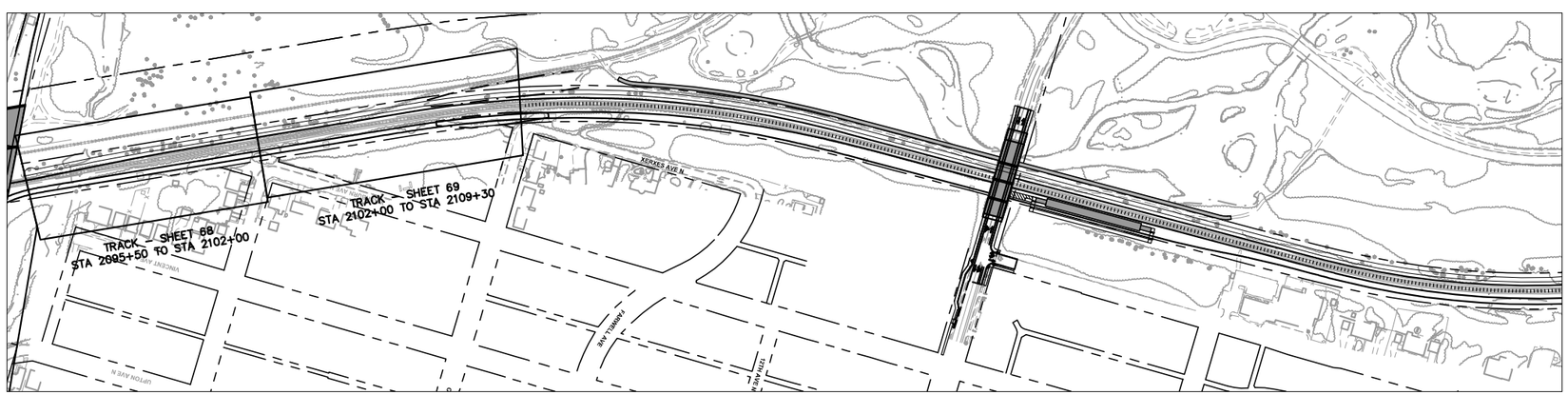


SEE ABOVE A

SEE ABOVE B



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HORIZONTAL
SCALE IN FEET

DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn

MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

SEGMENT M
TRACK
SHEET LAYOUT INDEX

DISCIPLINE: TRACK

SHEET NAME: M-TRK-IDX-001

SHEET 26 OF 107

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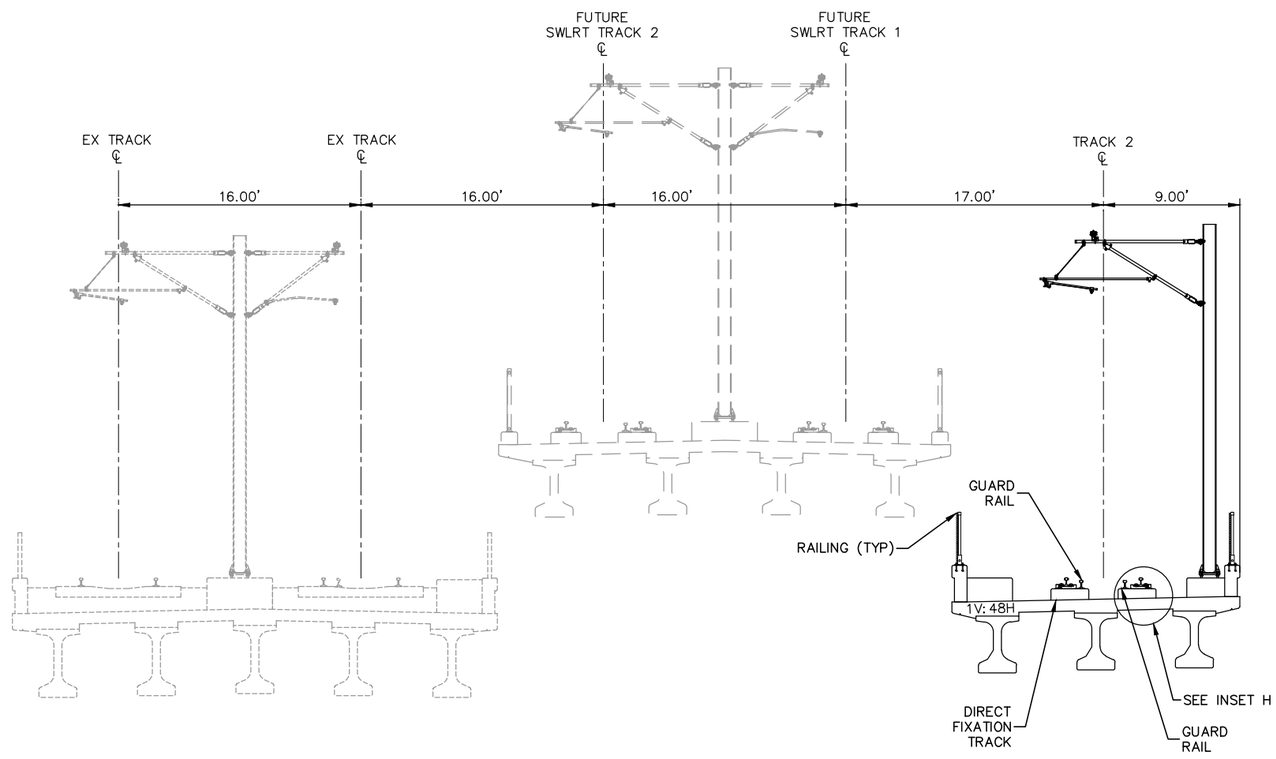

TYPICAL SECTION
BRIDGE OVER HERC DRIVEWAY
STA. 2000+00 TO 2004+79

NOTE:
1. FOR INSETS, SEE SHEET 52
2. PROPOSED RIGHT-OF-WAY NOT DETERMINED
3. EXISTING RIGHT-OF-WAY LOCATION VARIES, TYPICALLY LOCATED OUTSIDE OF SECTION EXTENTS

0 2.5 5 10
SCALE

DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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WSP | PARSONS BRINCKERHOFF

MUNICIPAL CONSENT

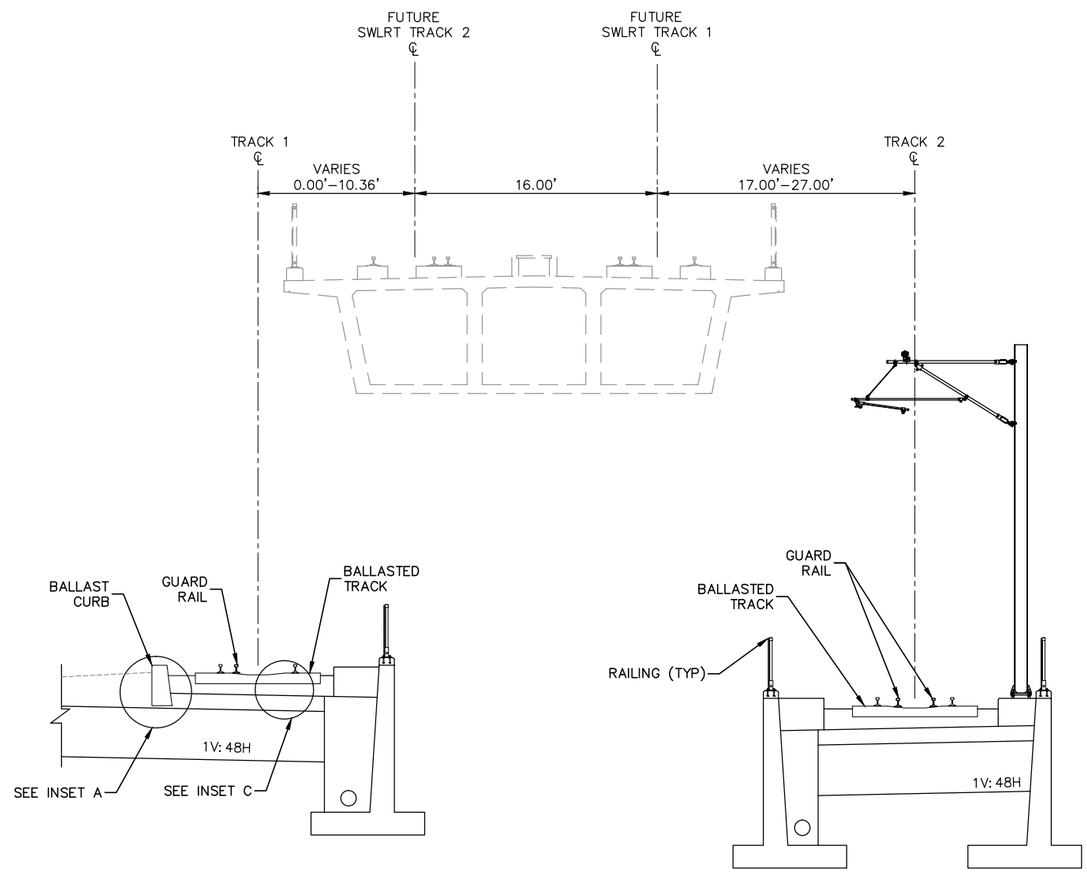
METRO BLUE LINE EXTENSION Bottineau LRT
METROPOLITAN COUNCIL

SEGMENT M
TRACK
TYPICAL SECTIONS

DISCIPLINE: TRACK
SHEET NAME: M-TRK-TYPS-001

SHEET 27 OF 107

Dec, 03 2015 03:21 pm H:\BPO\550_design_consultant\CAD\006-segment-m\MC\plan sheets\TRACK\M-TRK-TYPS.dwg By: V-MatajM



NOTE:
1. FOR INSETS, SEE SHEET 52
2. PROPOSED RIGHT–OF–WAY NOT DETERMINED
3. EXISTING RIGHT–OF–WAY LOCATION VARIES, TYPICALLY LOCATED OUTSIDE OF SECTION EXTENTS

TYPICAL SECTION
STA. 2004+79 TO 2007+70

0 2.5 5 10
SCALE

DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn
WSP | PARSONS BRINCKERHOFF

MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION
Bassett LRT
METROPOLITAN COUNCIL

SEGMENT M
TRACK
TYPICAL SECTIONS

DISCIPLINE: TRACK
SHEET NAME: M-TRK-TYPS-002

SHEET 28 OF 107

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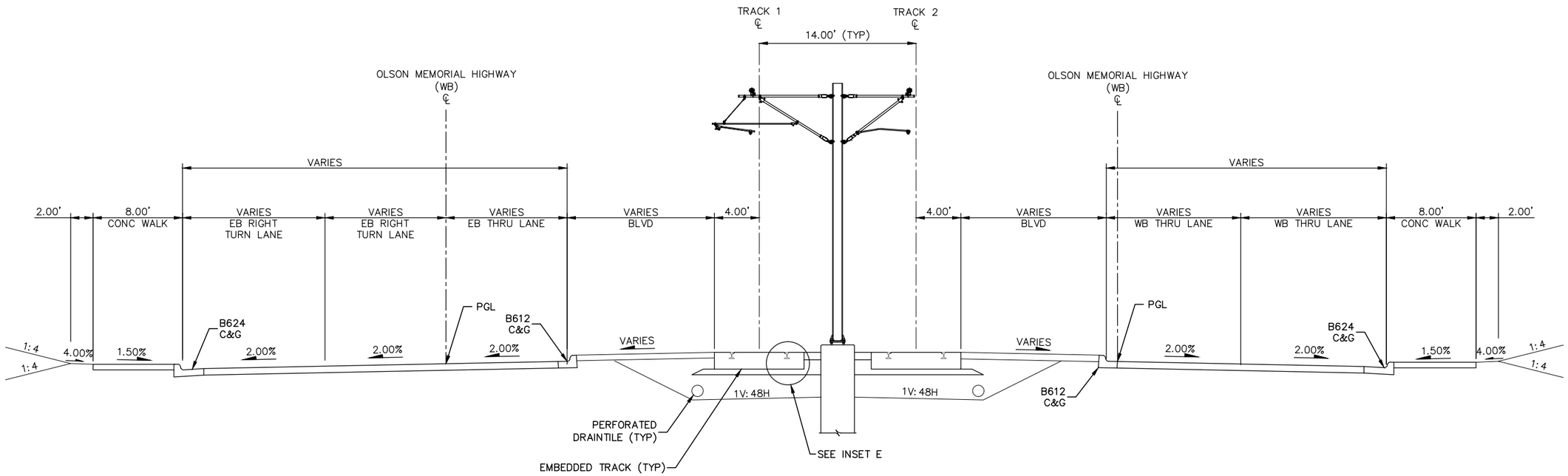

TYPICAL SECTION
STA. 2007+70 TO 2012+14

NOTE:
1. FOR INSETS, SEE SHEET 52
2. PROPOSED RIGHT-OF-WAY NOT DETERMINED
3. LIMITS OF SECTION INCLUDE AT-GRADE CROSSINGS THAT ARE NOT DEPICTED
4. EXISTING RIGHT-OF-WAY LOCATION VARIES, TYPICALLY LOCATED OUTSIDE OF SECTION EXTENTS

0 2.5 5 10
SCALE

DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

SEGMENT M
TRACK
TYPICAL SECTIONS

DISCIPLINE: TRACK

SHEET NAME: M-TRK-TYPS-003

SHEET 29 OF 107

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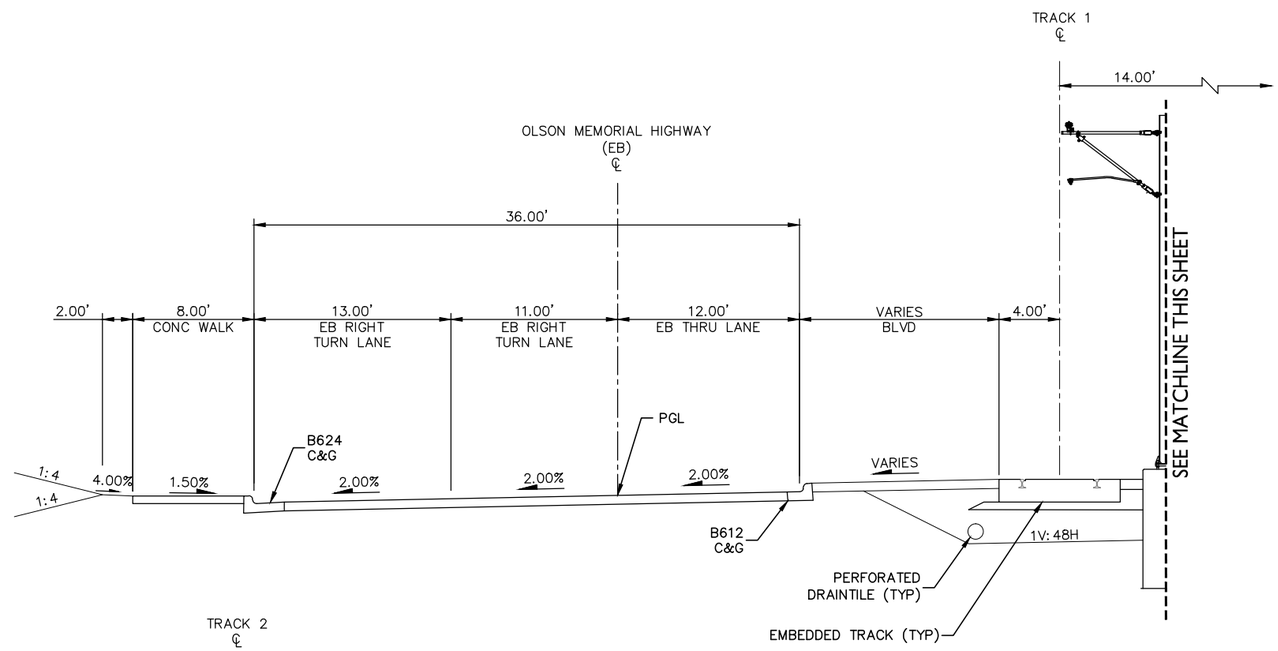

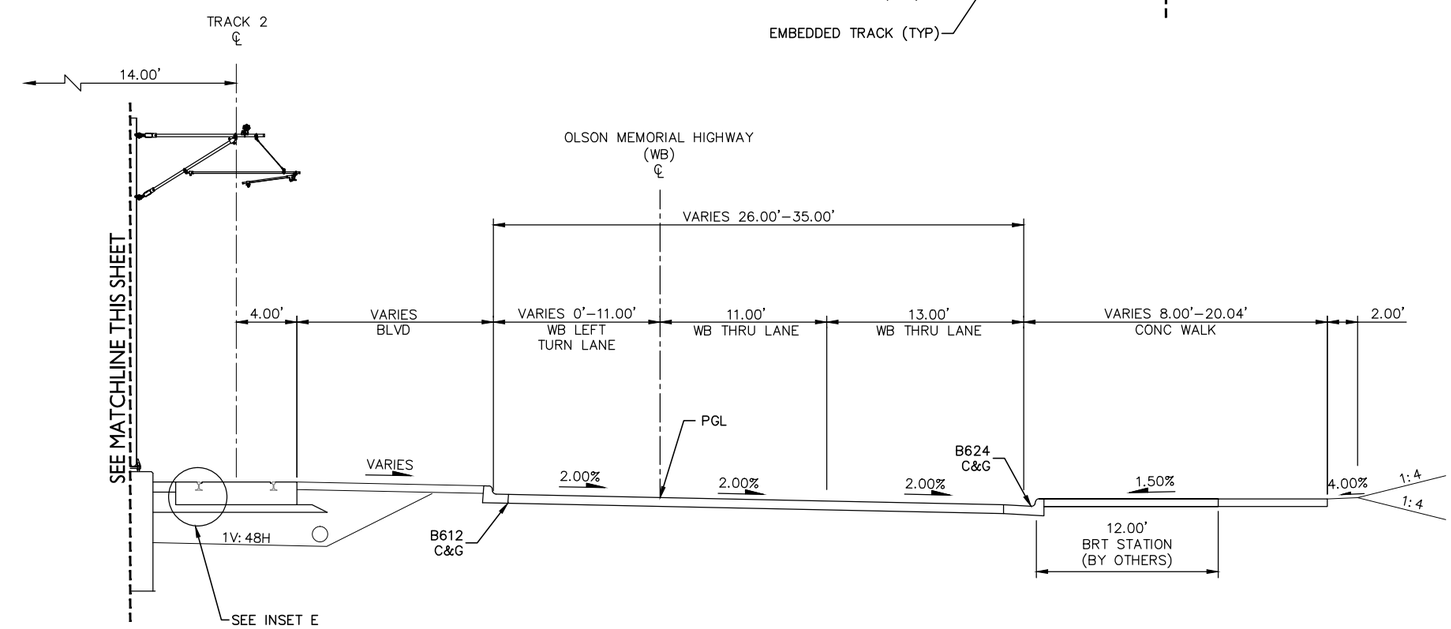

NOTE:
1. FOR INSETS, SEE SHEET 52
2. PROPOSED RIGHT–OF–WAY NOT DETERMINED
3. EXISTING RIGHT–OF–WAY LOCATION VARIES, TYPICALLY LOCATED OUTSIDE OF SECTION EXTENTS

TYPICAL SECTION
STA. 2012+14 TO 2013+20

0 2.5 5 10
SCALE

DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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MUNICIPAL CONSENT

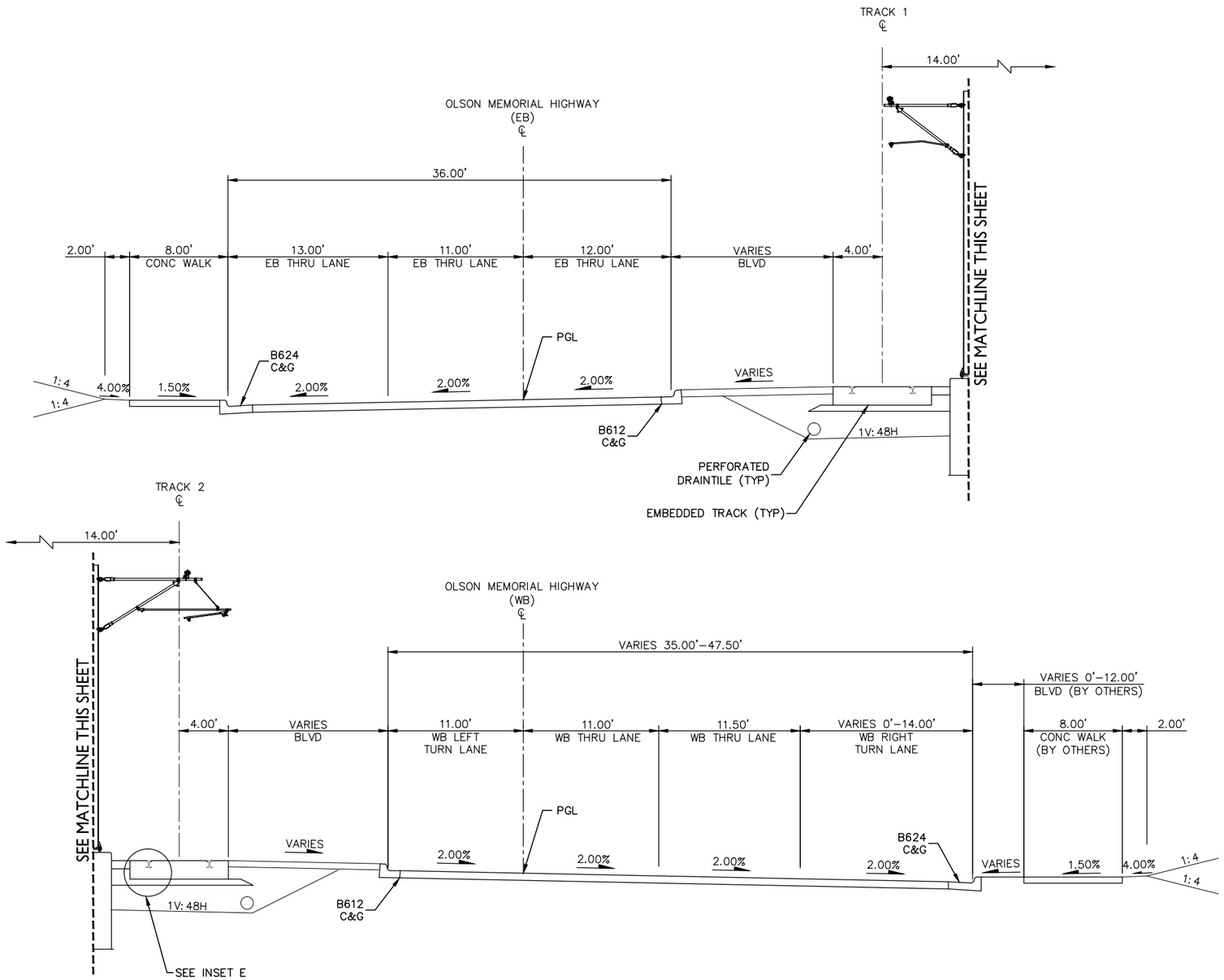
METRO BLUE LINE EXTENSION
Bassett LRT
METROPOLITAN COUNCIL

SEGMENT M
TRACK
TYPICAL SECTIONS

DISCIPLINE: **TRACK**
SHEET NAME: **M-TRK-TYPS-004**

SHEET 30 OF 107

Dec, 03 2015 03:23 pm H:\BPO\550_design_consultant\CAD\006-segment-m\MC\plan sheets\TRACK\M-TRK-TYPS.dwg By: V-MataJM



NOTE:
1. FOR INSETS, SEE SHEET 52
2. PROPOSED RIGHT–OF–WAY NOT DETERMINED
3. LIMITS OF SECTION INCLUDE AT–GRADE CROSSINGS THAT ARE NOT DEPICTED
4. EXISTING RIGHT–OF–WAY LOCATION VARIES, TYPICALLY LOCATED OUTSIDE OF SECTION EXTENTS

TYPICAL SECTION
STA. 2013+20 TO 2015+50

0 2.5 5 10
SCALE

DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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MUNICIPAL CONSENT

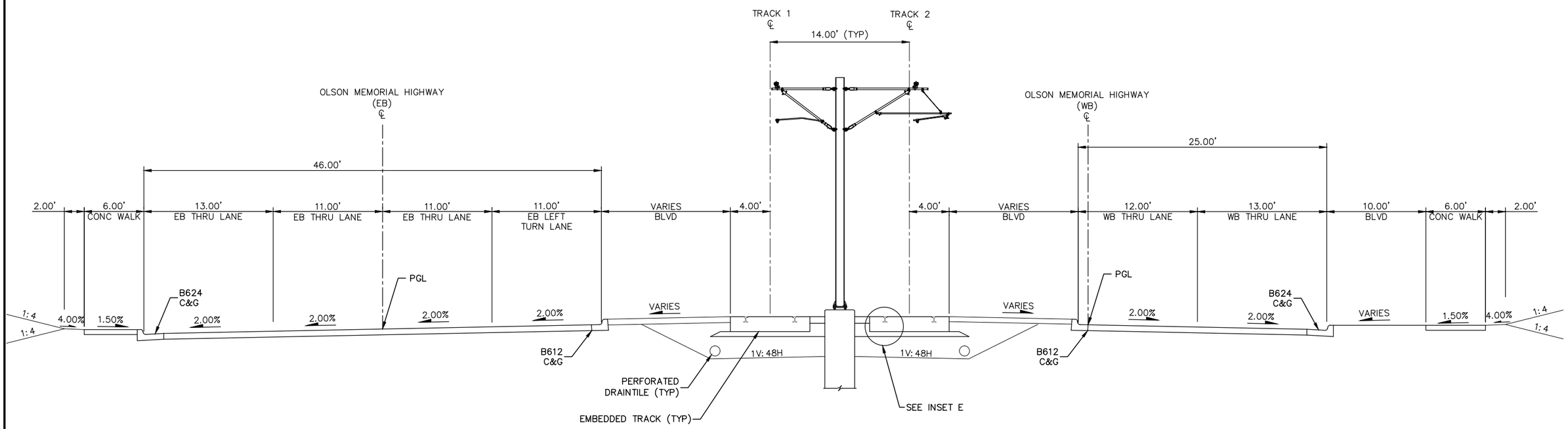
METRO BLUE LINE EXTENSION
Bottineau LRT
METROPOLITAN COUNCIL

SEGMENT M
TRACK
TYPICAL SECTIONS

DISCIPLINE: **TRACK**
SHEET NAME: **M-TRK-TYPS-005**

SHEET 31 OF 107

Dec, 04 2015 09:18 am H:\BPO\550_Design_Consultant\CAD\006-SEGMENT-M\MC\PLAN SHEETS\TRACK\M-TRK-TYPS.dwg By: V-Prudho



TYPICAL SECTION
STA. 2015+50 TO 2017+41

NOTE:
1. FOR INSETS, SEE SHEET 52
2. PROPOSED RIGHT-OF-WAY NOT DETERMINED
3. EXISTING RIGHT-OF-WAY LOCATION VARIES, TYPICALLY LOCATED OUTSIDE OF SECTION EXTENTS

0 2.5 5 10
SCALE

DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn
WSP | PARSONS BRINCKERHOFF

MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

SEGMENT M
TRACK
TYPICAL SECTIONS

DISCIPLINE: TRACK

SHEET NAME: M-TRK-TYPS-006

SHEET 32 OF 107

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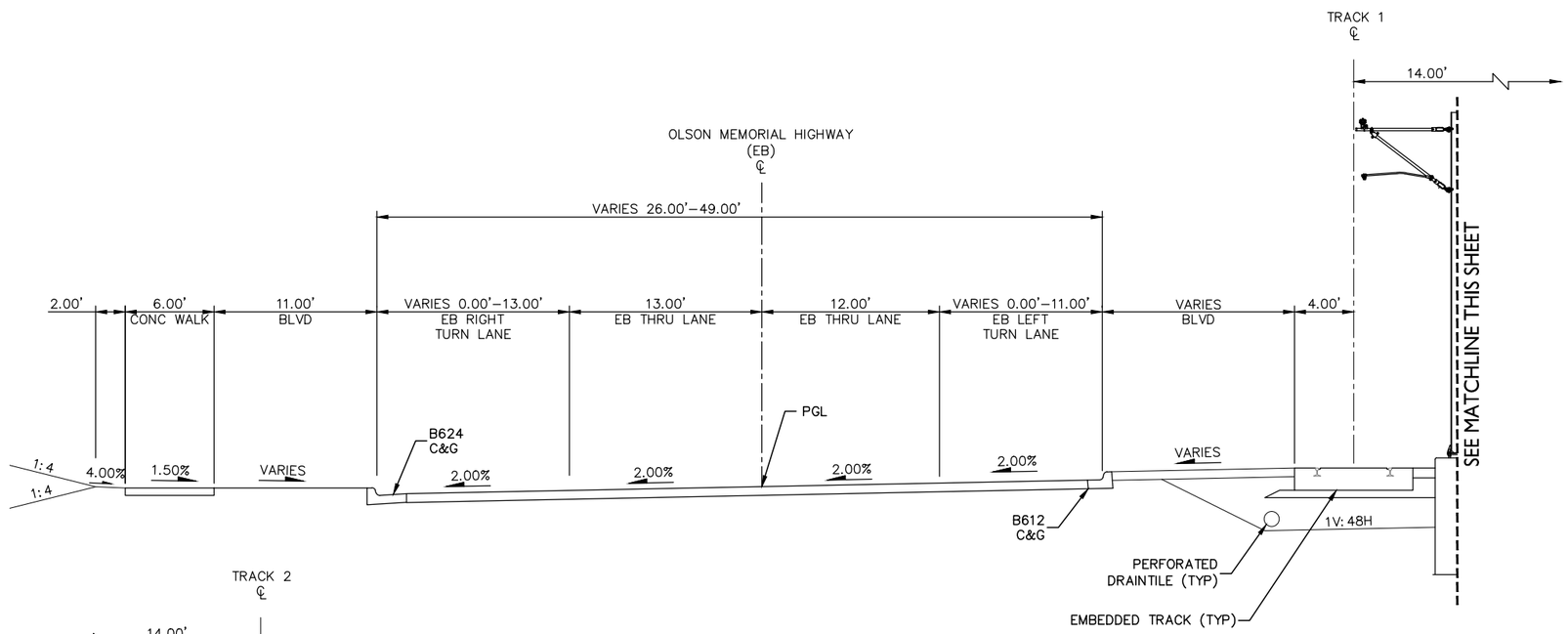
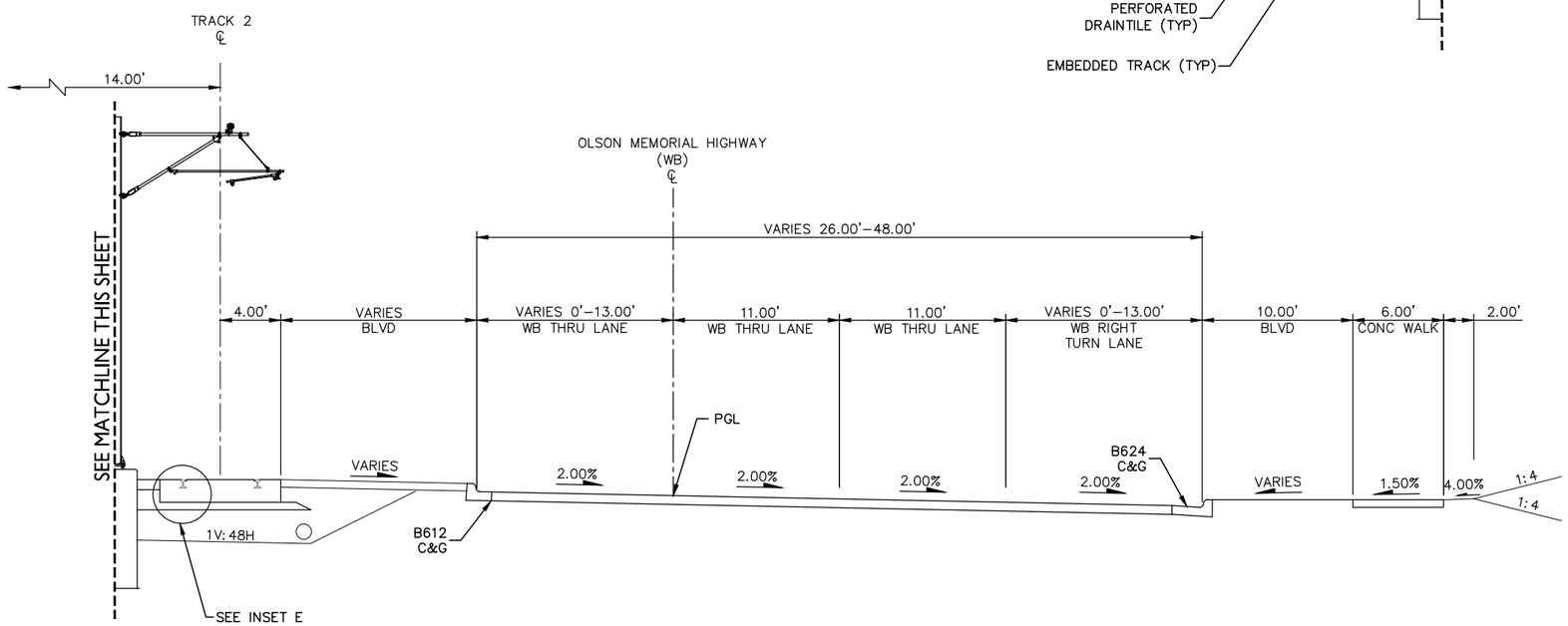




NOTE:
1. FOR INSETS, SEE SHEET 52
2. PROPOSED RIGHT-OF-WAY NOT DETERMINED
3. EXISTING RIGHT-OF-WAY LOCATION VARIES, TYPICALLY LOCATED OUTSIDE OF SECTION EXTENTS

TYPICAL SECTION
STA. 2017+41 TO 2018+40

0 2.5 5 10
SCALE

DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn
WSP | PARSONS BRINCKERHOFF

MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

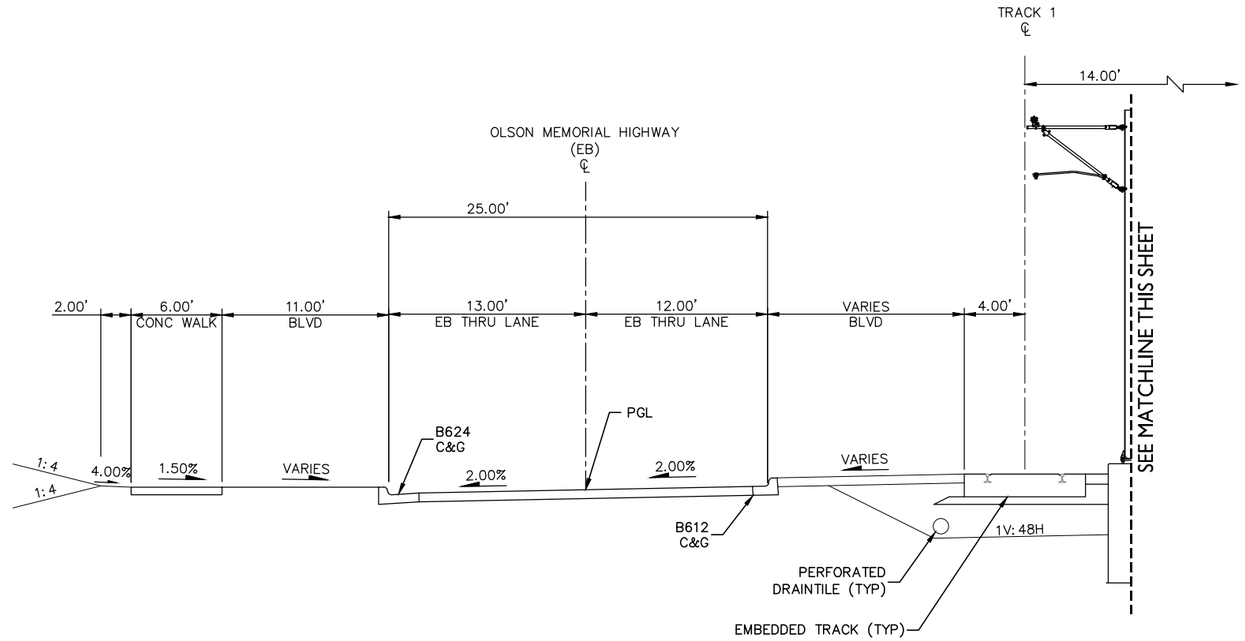
SEGMENT M
TRACK
TYPICAL SECTIONS

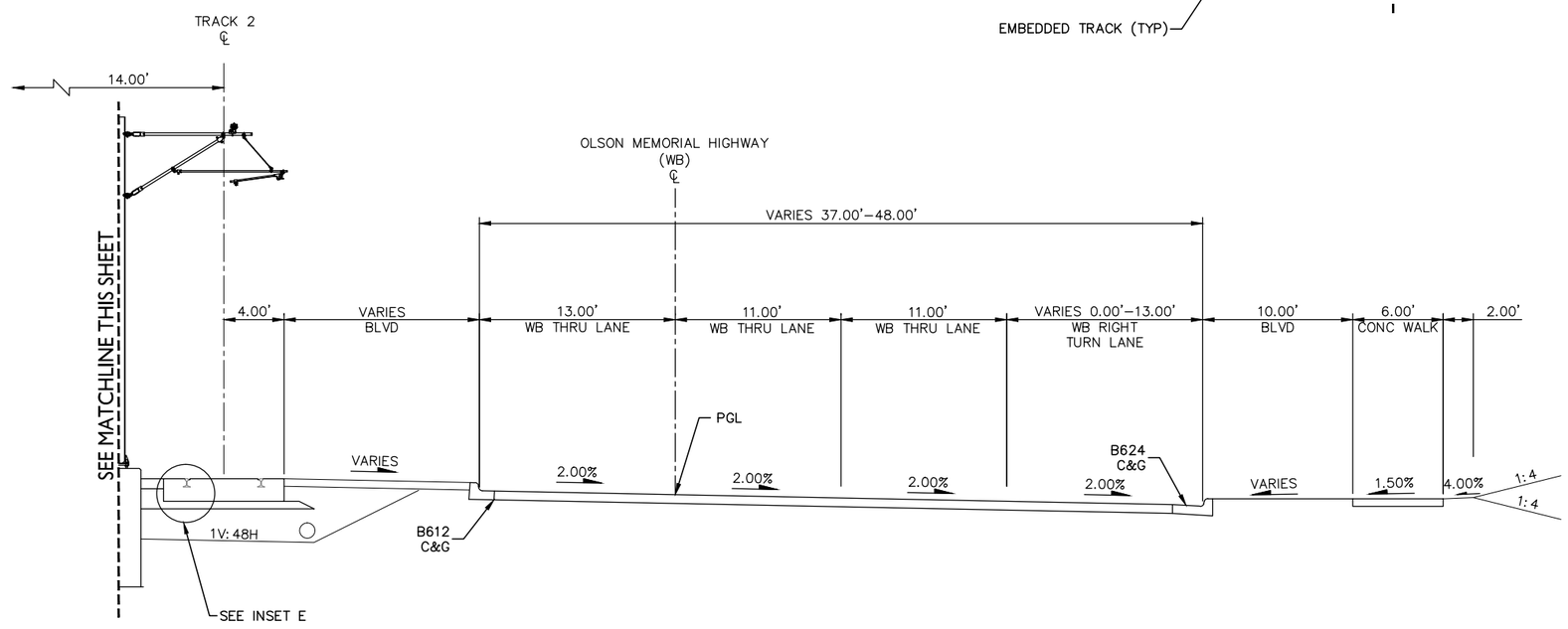
DISCIPLINE: TRACK

SHEET NAME: M-TRK-TYPS-007

SHEET 33 OF 107

Dec, 03 2015 03:25 pm H:\BPO\550_design_consultant\CAD\006-segment-m\MC\plan sheets\TRACK\M-TRK-TYPS.dwg By: V-MataJM





NOTE:
1. FOR INSETS, SEE SHEET 52
2. PROPOSED RIGHT-OF-WAY NOT DETERMINED
3. LIMITS OF SECTION INCLUDE AT-GRADE CROSSINGS THAT ARE NOT DEPICTED
4. EXISTING RIGHT-OF-WAY LOCATION VARIES, TYPICALLY LOCATED OUTSIDE OF SECTION EXTENTS

TYPICAL SECTION
STA. 2018+40 TO 2020+84
STA. 2023+95 TO 2025+88

0 2.5 5 10
SCALE

DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn
WSP | PARSONS BRINCKERHOFF

MUNICIPAL CONSENT

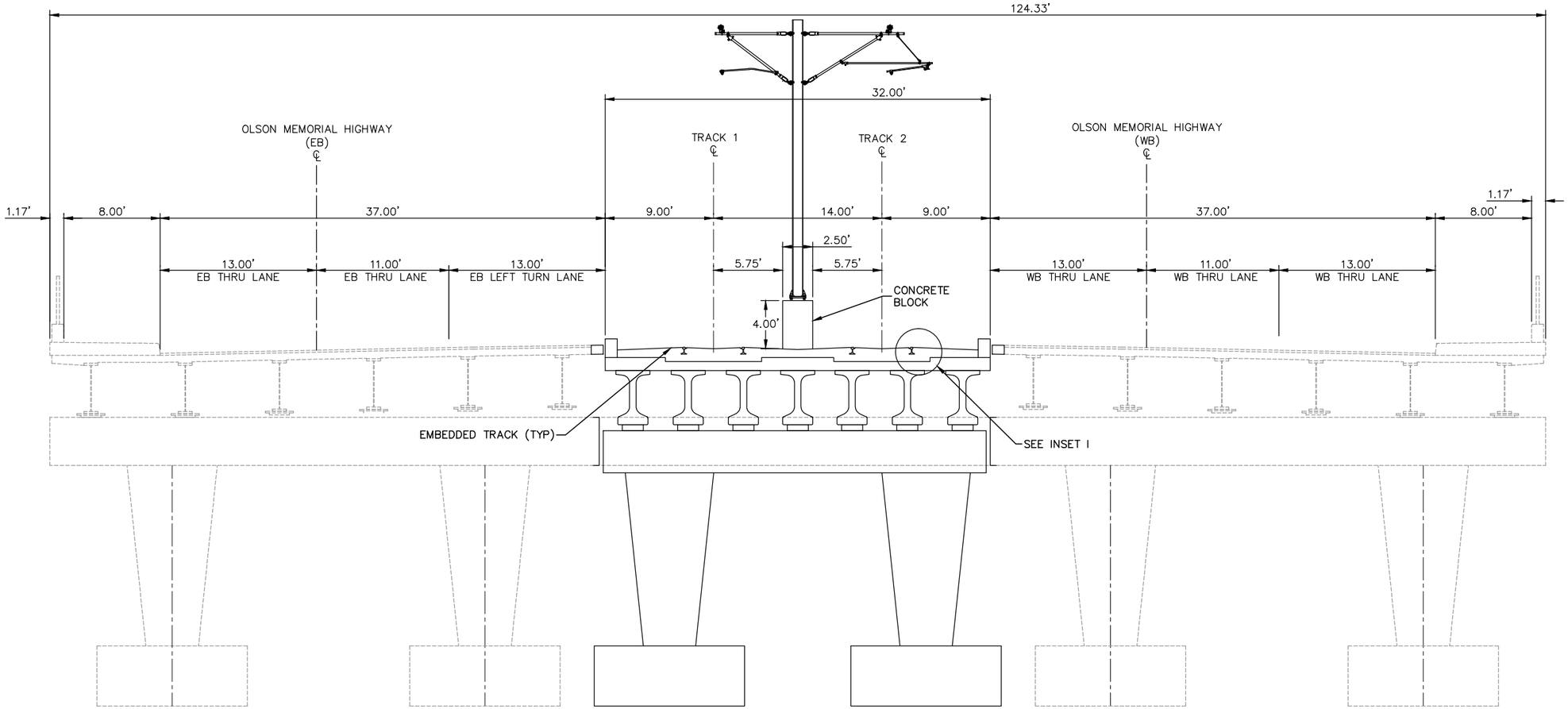
METRO BLUE LINE EXTENSION Bottineau LRT
METROPOLITAN COUNCIL

SEGMENT M
TRACK
TYPICAL SECTIONS

DISCIPLINE: TRACK
SHEET NAME: M-TRK-TYPS-008

SHEET 34 OF 107

Dec, 03 2015 03:25 pm H:\BPO\550_design_consultant\CAD\006-segment-m\MC\plan sheets\TRACK\M-TRK-TYPS.dwg By: V-MataJM



TYPICAL SECTION
HIGHWAY 55 BRIDGE OVER I-94
STA. 2020+84 TO 2023+06

NOTE:
1. FOR INSETS, SEE SHEET 52
2. PROPOSED RIGHT-OF-WAY NOT DETERMINED
3. EXISTING RIGHT-OF-WAY LOCATION VARIES, TYPICALLY LOCATED OUTSIDE OF SECTION EXTENTS

0 2.5 5 10
SCALE

DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn
WSP | PARSONS BRINCKERHOFF

MUNICIPAL CONSENT

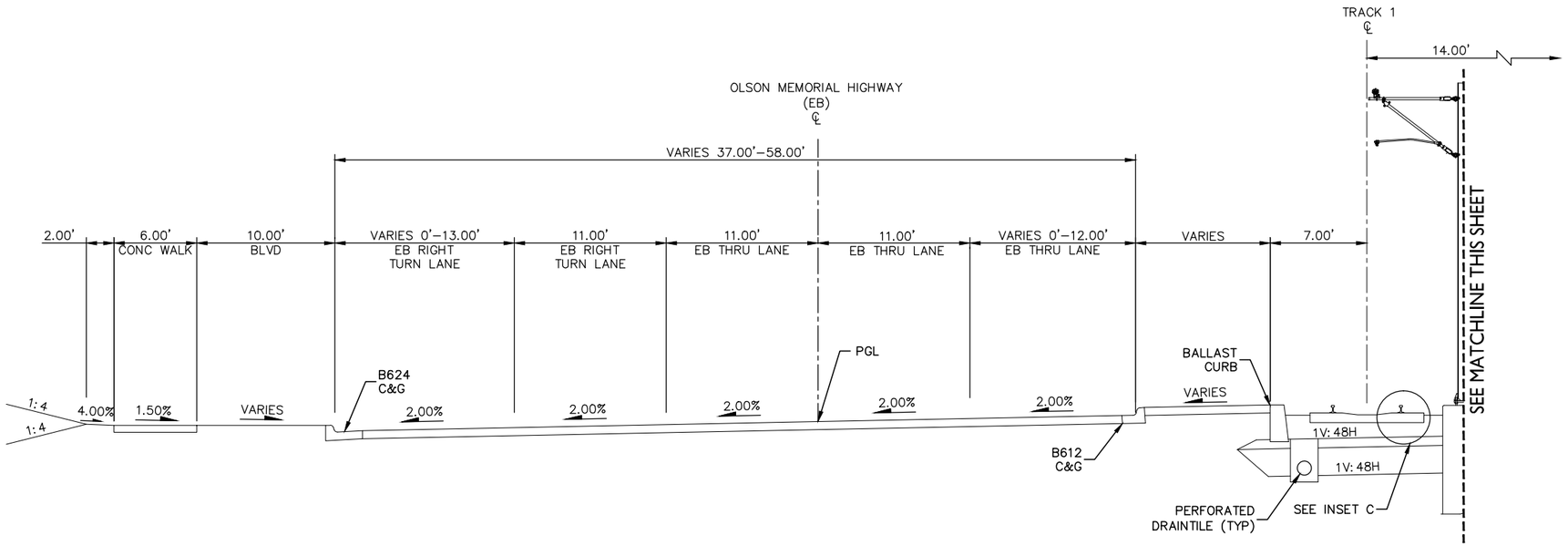
METRO BLUE LINE EXTENSION Bottineau LRT
METROPOLITAN COUNCIL

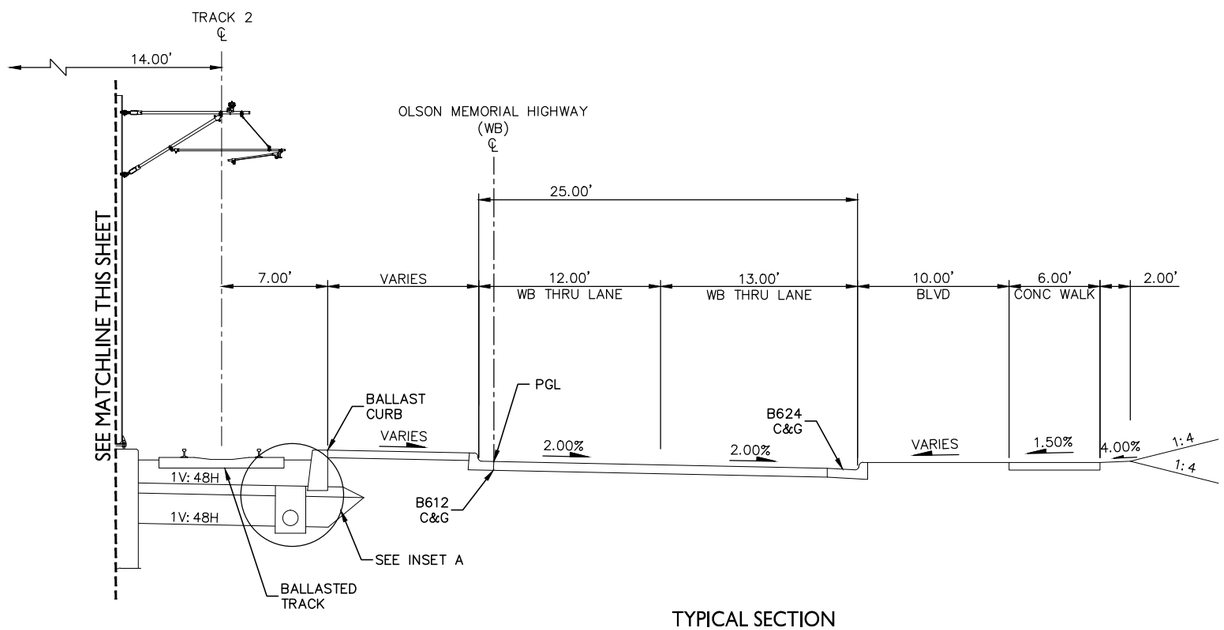
SEGMENT M
TRACK
TYPICAL SECTIONS

DISCIPLINE: TRACK
SHEET NAME: M-TRK-TYPS-009

SHEET 35 OF 107

Dec, 03 2015 03:26 pm H:\BPO\550_design_consultant\CAD\006-segment-m\MC\plan sheets\TRACK\M-TRK-TYPS.dwg By: V-MataJM





TYPICAL SECTION
STA. 2023+95 TO 2025+88

NOTE:
1. FOR INSETS, SEE SHEET 52
2. PROPOSED RIGHT–OF–WAY NOT DETERMINED
3. LIMITS OF SECTION INCLUDE AT–GRADE CROSSINGS THAT ARE NOT DEPICTED
4. EXISTING RIGHT–OF–WAY LOCATION VARIES, TYPICALLY LOCATED OUTSIDE OF SECTION EXTENTS

0 2.5 5 10
SCALE

DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn
WSP | PARSONS BRINCKERHOFF

MUNICIPAL CONSENT

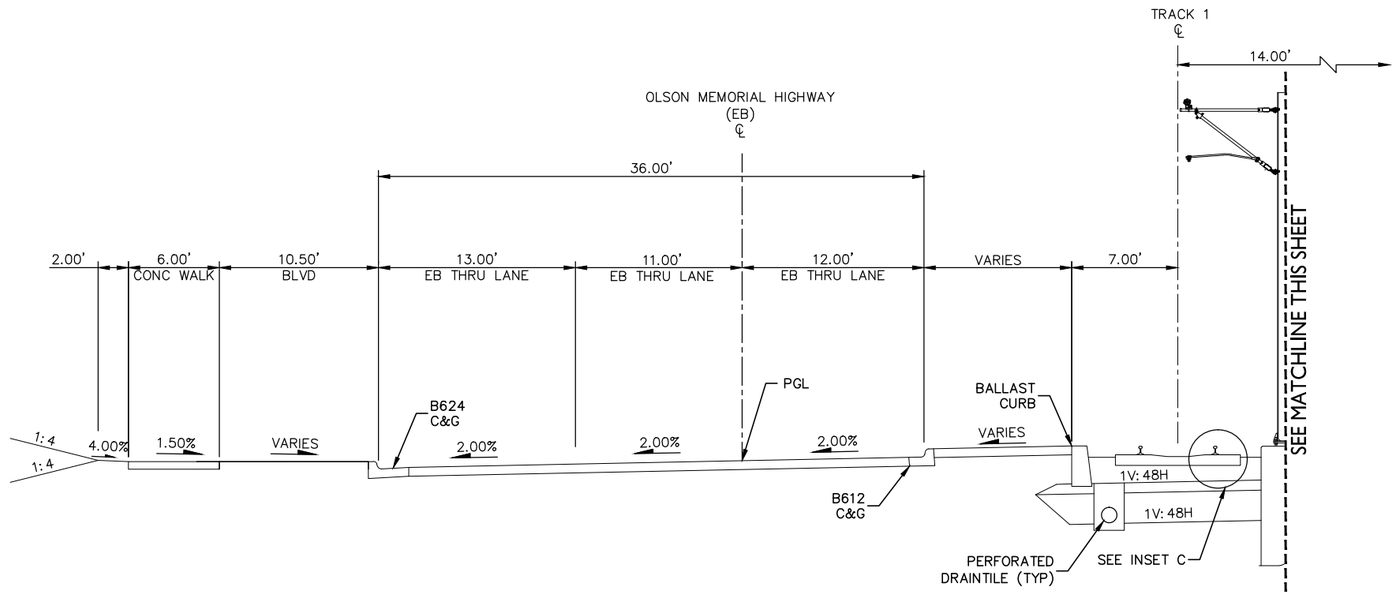
METRO BLUE LINE EXTENSION Bottineau LRT
METROPOLITAN COUNCIL

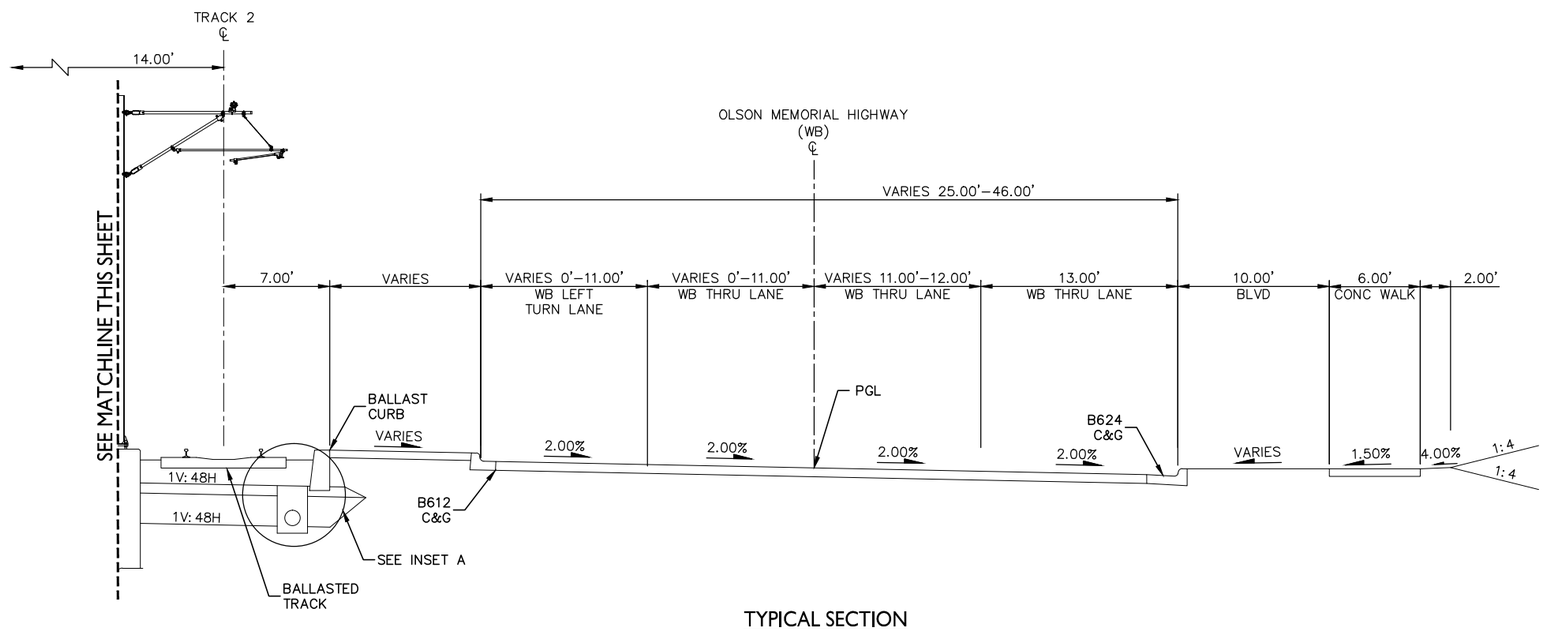
SEGMENT M
TRACK
TYPICAL SECTIONS

DISCIPLINE: TRACK
SHEET NAME: M-TRK-TYPS-010

SHEET 36 OF 107

Dec, 03 2015 03:27 pm H:\BPO\550_design_consultant\CAD\006-segment-m\MC\plan sheets\TRACK\M-TRK-TYPS.dwg By: V-MataJM





NOTE:
1. FOR INSETS, SEE SHEET 52
2. PROPOSED RIGHT-OF-WAY NOT DETERMINED
3. EXISTING RIGHT-OF-WAY LOCATION VARIES, TYPICALLY LOCATED OUTSIDE OF SECTION EXTENTS

TYPICAL SECTION
STA. 2025+88 TO 2028+03

0 2.5 5 10
SCALE

DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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MUNICIPAL CONSENT

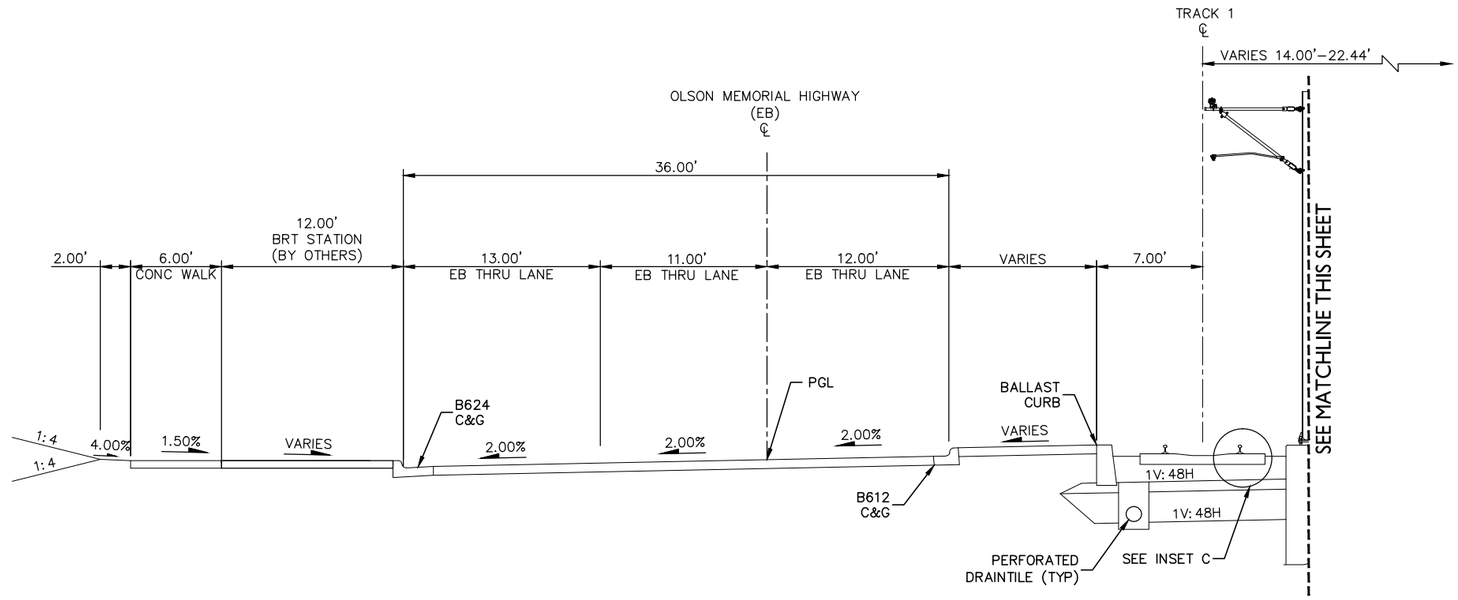
METRO BLUE LINE EXTENSION Bottineau LRT
METROPOLITAN COUNCIL

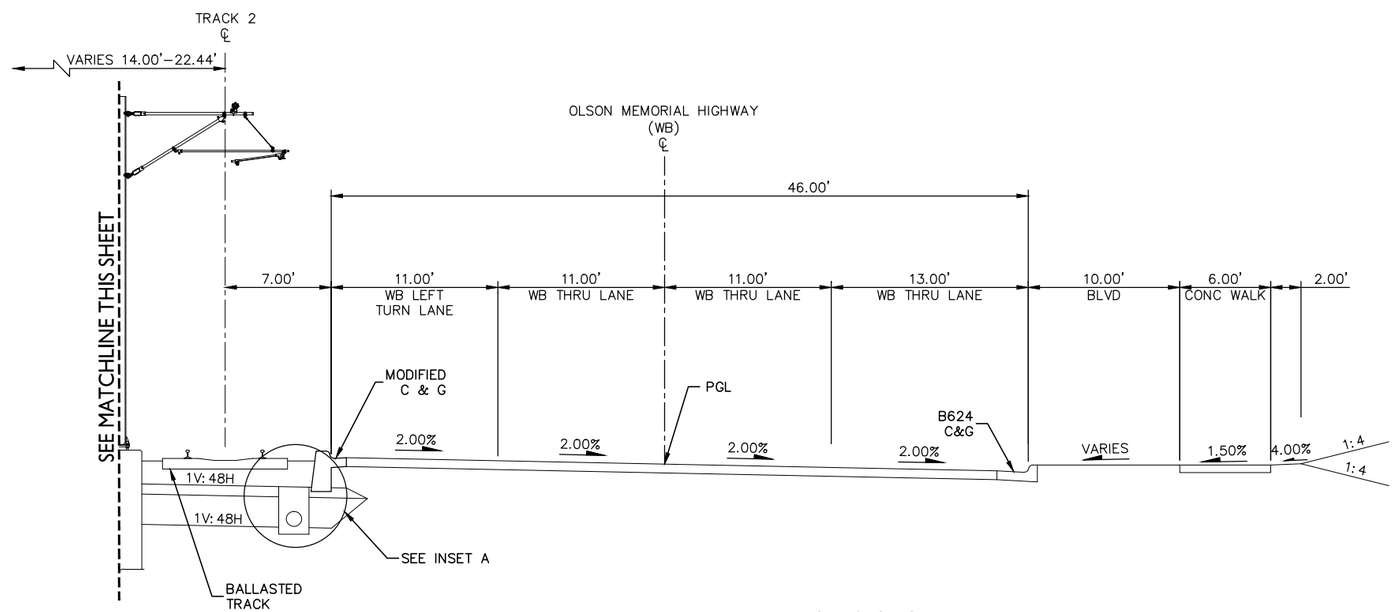
SEGMENT M
TRACK
TYPICAL SECTIONS

DISCIPLINE: TRACK
SHEET NAME: M-TRK-TYPS-011

SHEET 37 OF 107

Dec, 03 2015 03:27 pm H:\BPO\550_design_consultant\CAD\006-segment-m\MC\plan sheets\TRACK\M-TRK-TYPS.dwg By: V-MataJM





NOTE:
1. FOR INSETS, SEE SHEET 52
2. PROPOSED RIGHT-OF-WAY NOT DETERMINED
3. LIMITS OF SECTION INCLUDE AT-GRADE CROSSINGS THAT ARE NOT DEPICTED
4. EXISTING RIGHT-OF-WAY LOCATION VARIES, TYPICALLY LOCATED OUTSIDE OF SECTION EXTENTS

TYPICAL SECTION
STA. 2028+03 TO 2030+28

0 2.5 5 10
SCALE

DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn
WSP | PARSONS BRINCKERHOFF

MUNICIPAL CONSENT

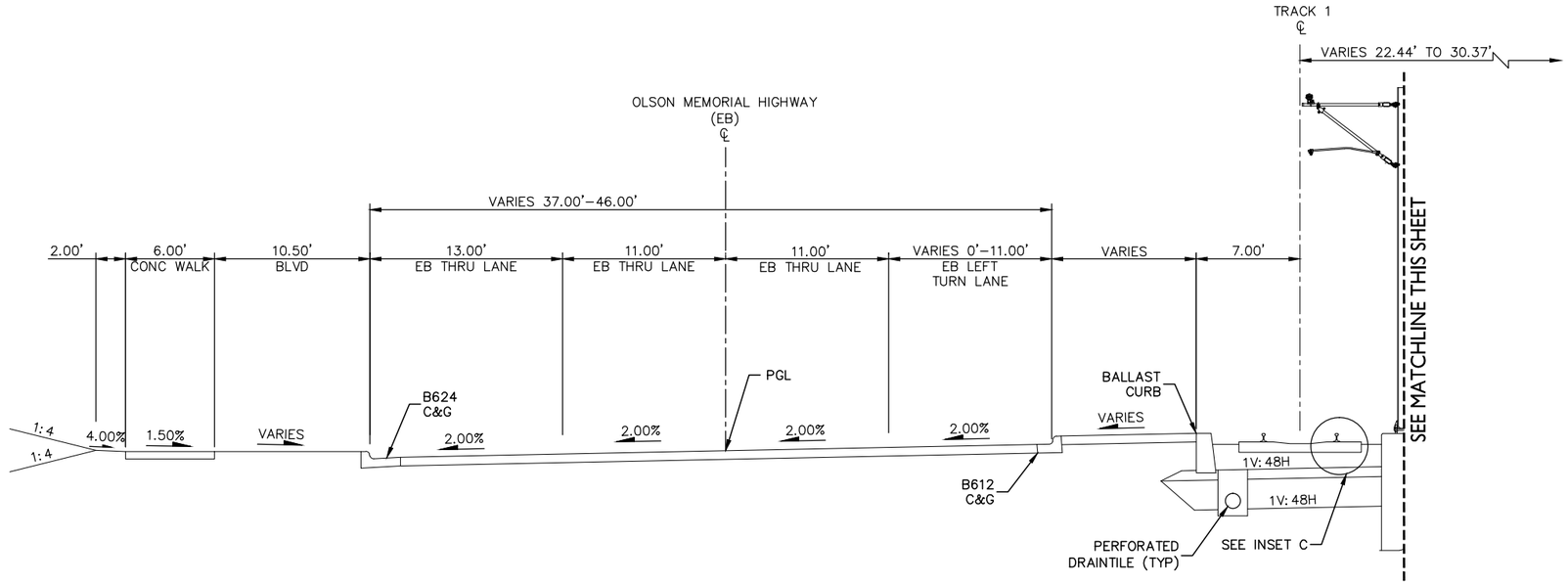
METRO BLUE LINE EXTENSION Bottineau LRT
METROPOLITAN COUNCIL

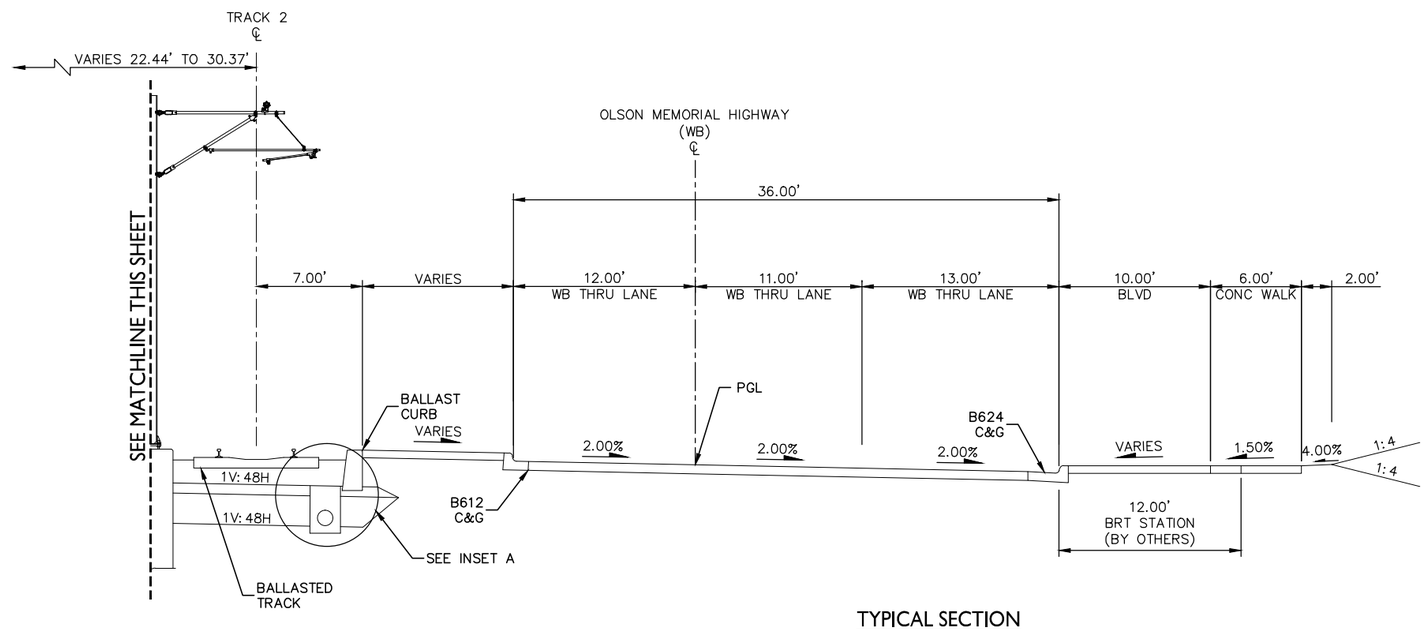
SEGMENT M
TRACK
TYPICAL SECTIONS

DISCIPLINE: **TRACK**
SHEET NAME: **M-TRK-TYPS-012**

SHEET 38 OF 107

Dec, 04 2015 09:18 am H:\BPO\550_Design_Consultant\CAD\006-SEGMENT-M\MC\PLAN SHEETS\TRACK\M-TRK-TYPS.dwg By: V-Prudho





NOTE:
1. FOR INSETS, SEE SHEET 52
2. PROPOSED RIGHT-OF-WAY NOT DETERMINED
3. EXISTING RIGHT-OF-WAY LOCATION VARIES, TYPICALLY LOCATED OUTSIDE OF SECTION EXTENTS

TYPICAL SECTION
STA. 2030+28 TO 2033+15

0 2.5 5 10
SCALE

DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn
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MUNICIPAL CONSENT

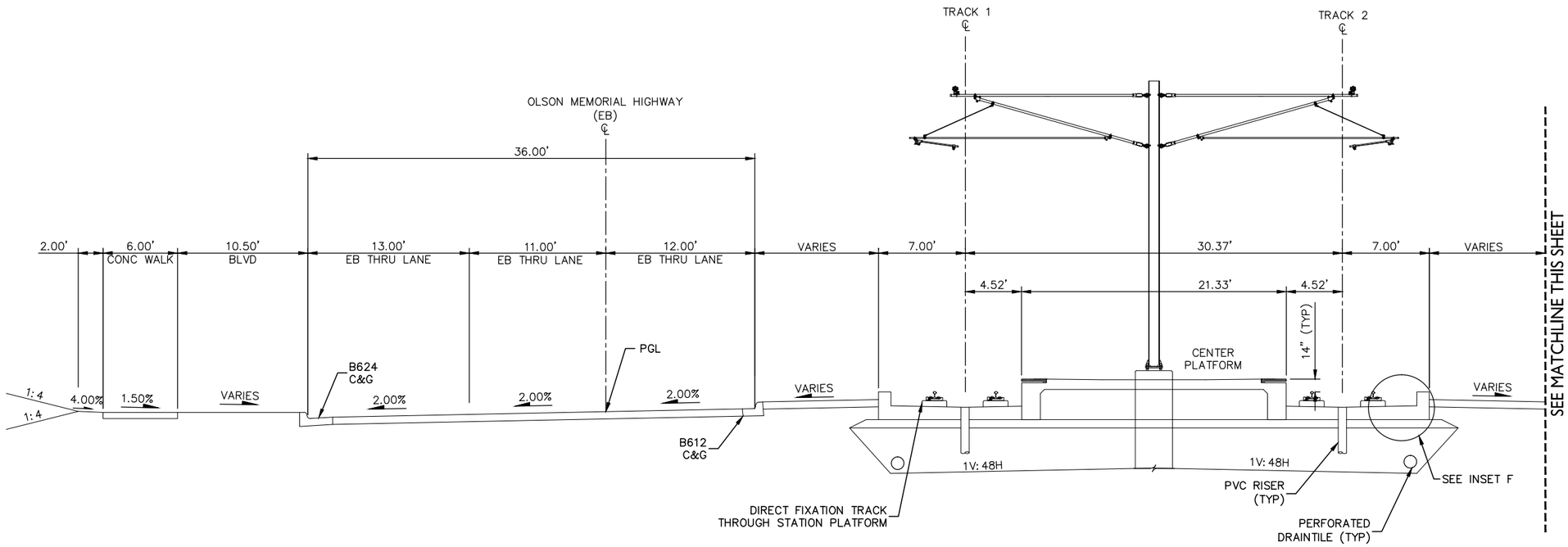
METRO BLUE LINE EXTENSION Bottineau LRT
METROPOLITAN COUNCIL

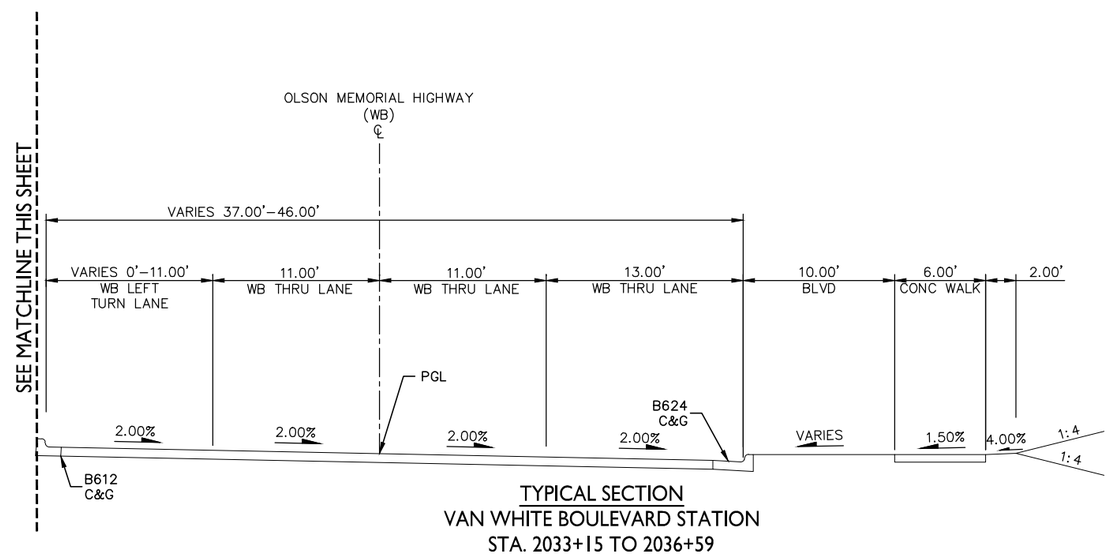
SEGMENT M
TRACK
TYPICAL SECTIONS

DISCIPLINE: **TRACK**
SHEET NAME: **M-TRK-TYPS-013**

SHEET **39** OF **107**

Dec, 03 2015 03:28 pm H:\BPO\550_design_consultant\CAD\006-segment-m\MC\plan sheets\TRACK\M-TRK-TYPS.dwg By: V-MataJM





TYPICAL SECTION
VAN WHITE BOULEVARD STATION
STA. 2033+15 TO 2036+59

NOTE:
1. FOR INSETS, SEE SHEET 52
2. PROPOSED RIGHT-OF-WAY NOT DETERMINED
3. EXISTING RIGHT-OF-WAY LOCATION VARIES, TYPICALLY LOCATED OUTSIDE OF SECTION EXTENTS

0 2.5 5 10
SCALE

DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn
WSP | PARSONS BRINCKERHOFF

MUNICIPAL CONSENT

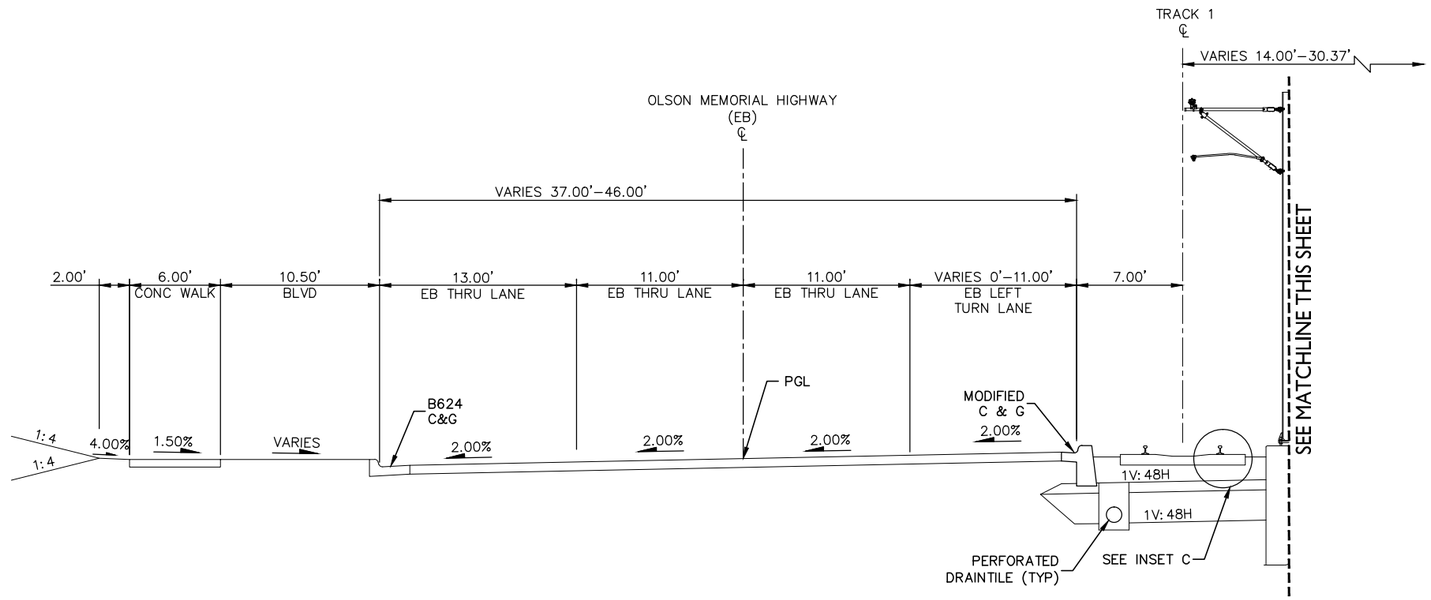
METRO BLUE LINE EXTENSION Bottineau LRT
METROPOLITAN COUNCIL

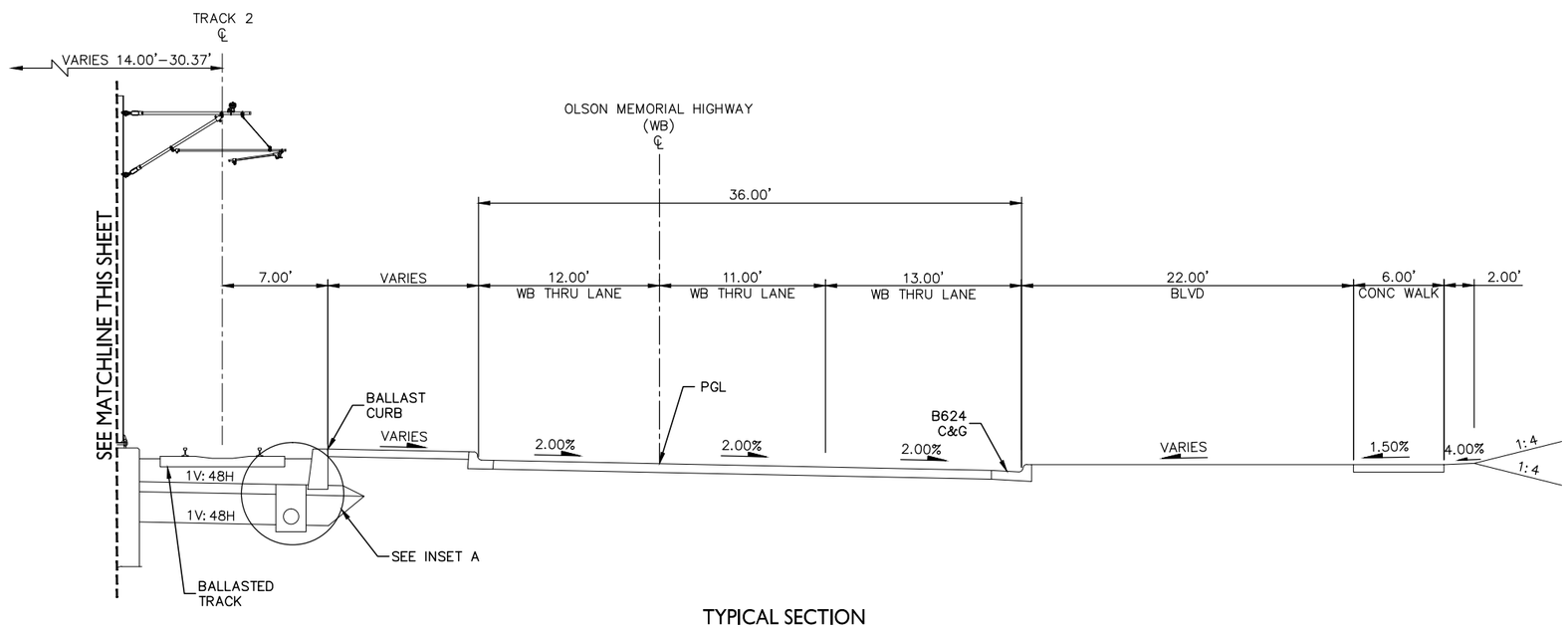
SEGMENT M
TRACK
TYPICAL SECTIONS

DISCIPLINE: TRACK
SHEET NAME: M-TRK-TYPS-014

SHEET 40 OF 107

Dec, 03 2015 03:29 pm H:\BPO\550_design_consultant\CAD\006-segment-m\MC\plan sheets\TRACK\M-TRK-TYPS.dwg By: V-MataJM





NOTE:
1. FOR INSETS, SEE SHEET 52
2. PROPOSED RIGHT–OF–WAY NOT DETERMINED
3. LIMITS OF SECTION INCLUDE AT–GRADE CROSSINGS THAT ARE NOT DEPICTED
4. EXISTING RIGHT–OF–WAY LOCATION VARIES, TYPICALLY LOCATED OUTSIDE OF SECTION EXTENTS

TYPICAL SECTION
STA. 2036+59 TO 2042+16

0 2.5 5 10
SCALE

DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn
WSP | PARSONS BRINCKERHOFF

MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

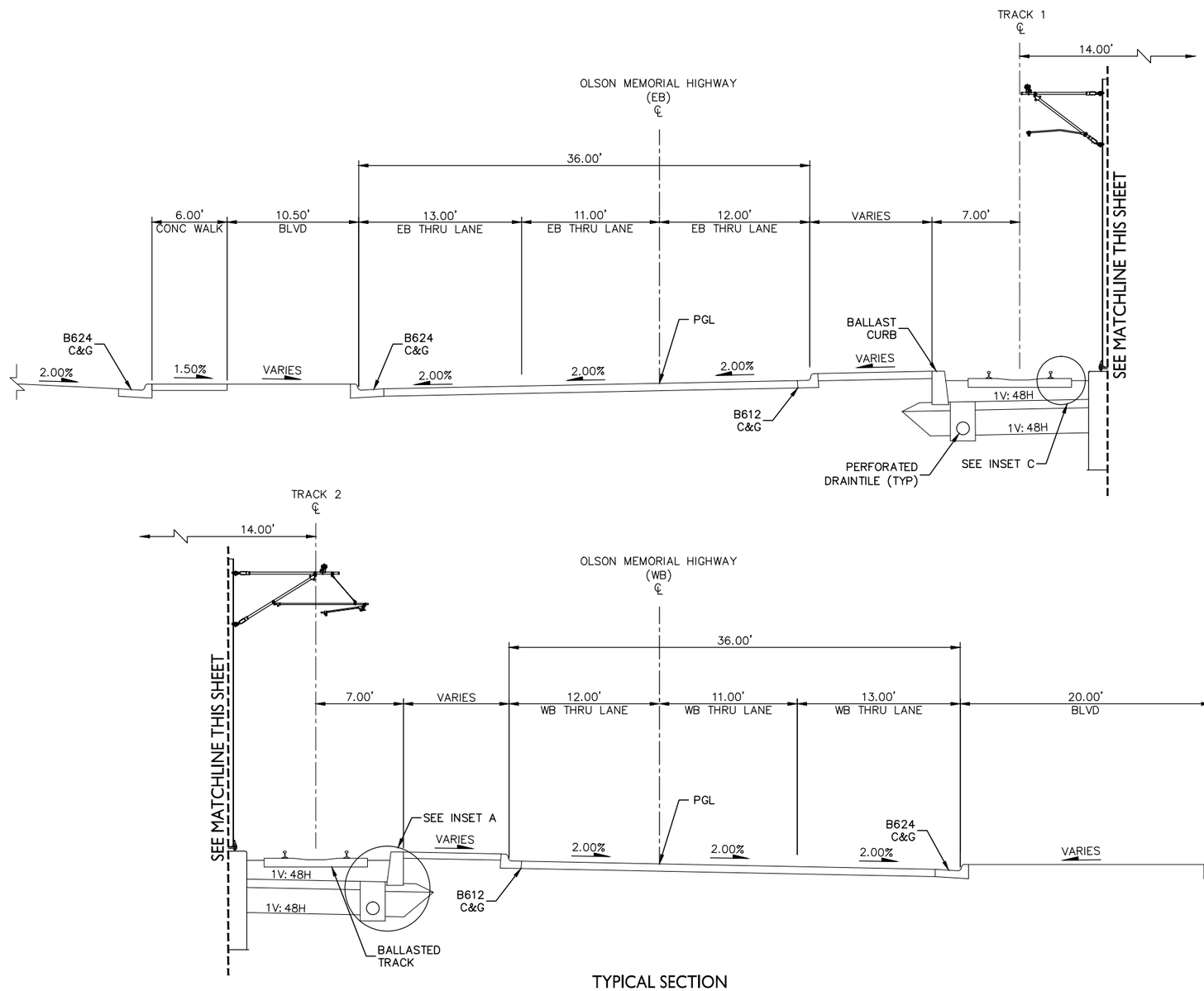
SEGMENT M
TRACK
TYPICAL SECTIONS

DISCIPLINE: TRACK

SHEET NAME: M-TRK-TYPS-015

SHEET 41 OF 107

Dec, 03 2015 03:30 pm H:\BPO\550_design_consultant\CAD\006-segment-m\MC\plan sheets\TRACK\M-TRK-TYPS.dwg By: V-MataJM



NOTE:
1. FOR INSETS, SEE SHEET 52
2. PROPOSED RIGHT-OF-WAY NOT DETERMINED
3. EXISTING RIGHT-OF-WAY LOCATION VARIES, TYPICALLY LOCATED OUTSIDE OF SECTION EXTENTS

TYPICAL SECTION
STA. 2042+16 TO 2043+55

0 2.5 5 10
SCALE

DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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MUNICIPAL CONSENT

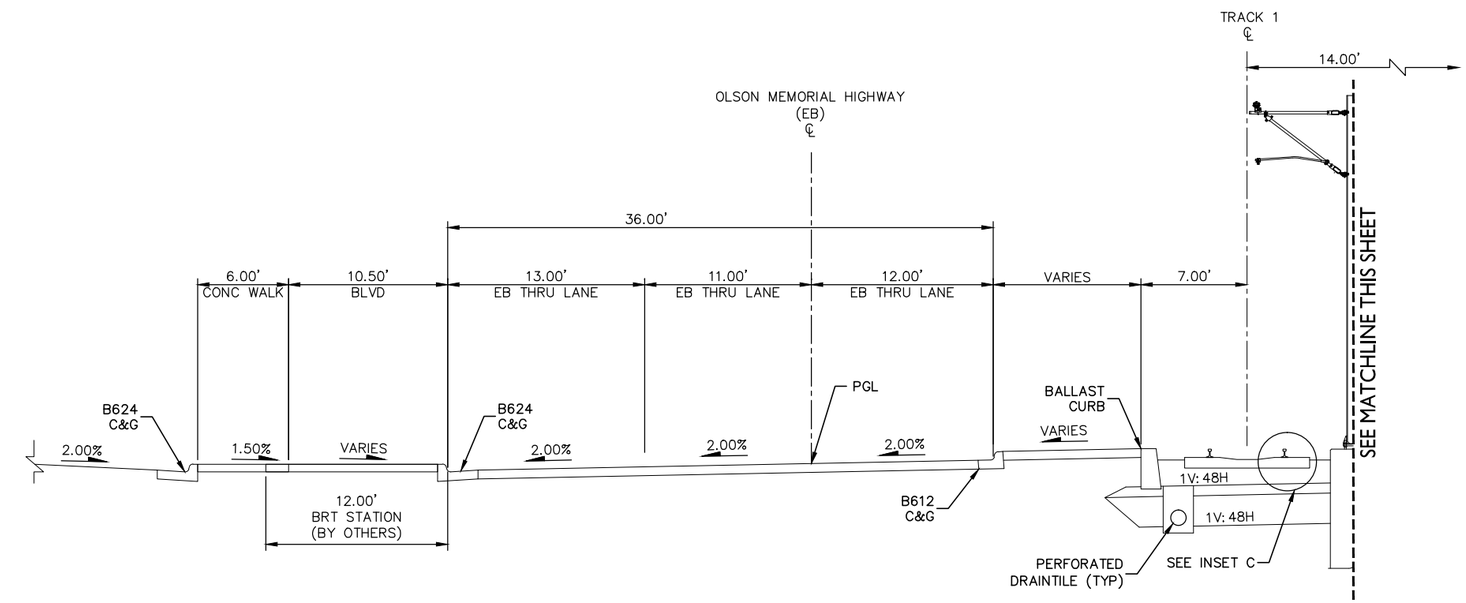
METRO BLUE LINE EXTENSION
Bottineau LRT
METROPOLITAN COUNCIL

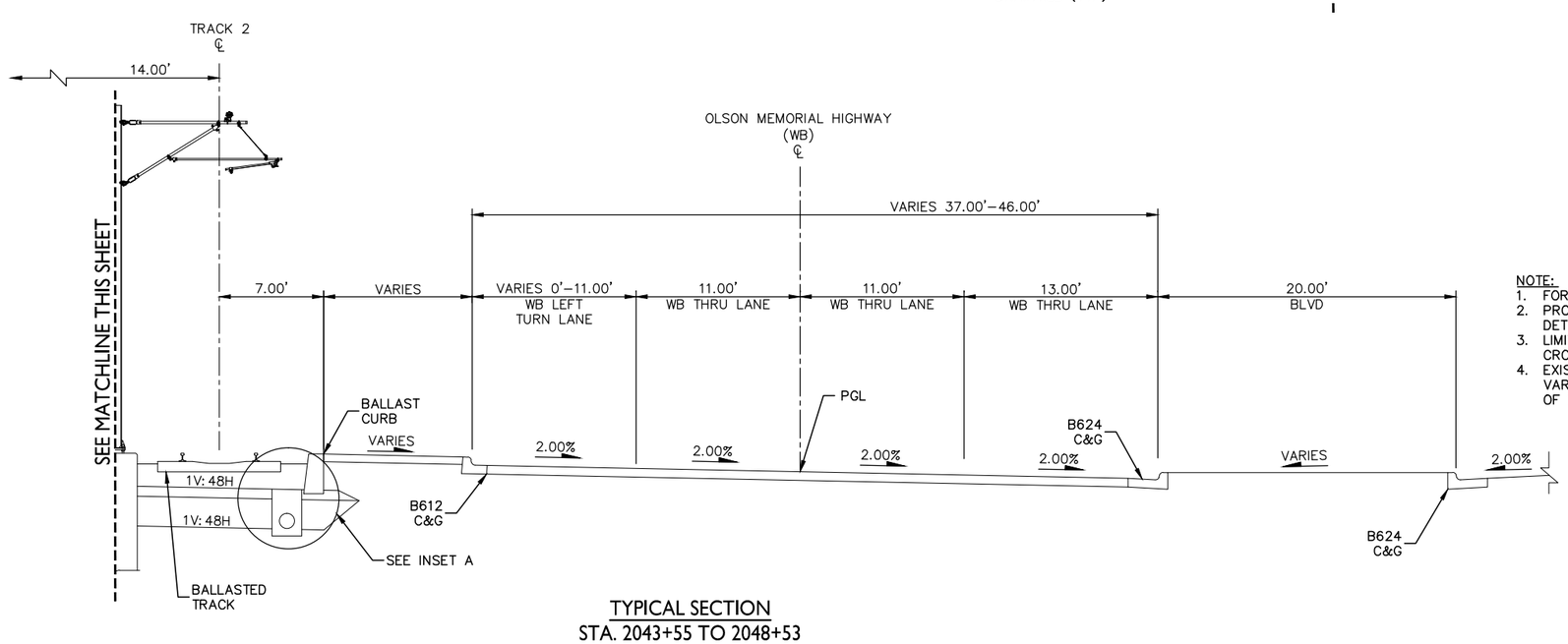
SEGMENT M
TRACK
TYPICAL SECTIONS

DISCIPLINE: TRACK
SHEET NAME: M-TRK-TYPS-016

SHEET 42 OF 107

Dec, 03 2015 03:30 pm H:\BPO\550_design_consultant\CAD\006-segment-m\MC\plan sheets\TRACK\M-TRK-TYPS.dwg By: V-MataJM





NOTE:
1. FOR INSETS, SEE SHEET 52
2. PROPOSED RIGHT-OF-WAY NOT DETERMINED
3. LIMITS OF SECTION INCLUDE AT-GRADE CROSSINGS THAT ARE NOT DEPICTED
4. EXISTING RIGHT-OF-WAY LOCATION VARIES, TYPICALLY LOCATED OUTSIDE OF SECTION EXTENTS

TYPICAL SECTION
STA. 2043+55 TO 2048+53

0 2.5 5 10
SCALE

DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn
WSP | PARSONS BRINCKERHOFF

MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION Bottineau LRT
METROPOLITAN COUNCIL

SEGMENT M
TRACK
TYPICAL SECTIONS

DISCIPLINE: TRACK
SHEET NAME: M-TRK-TYPS-017

SHEET 43 OF 107

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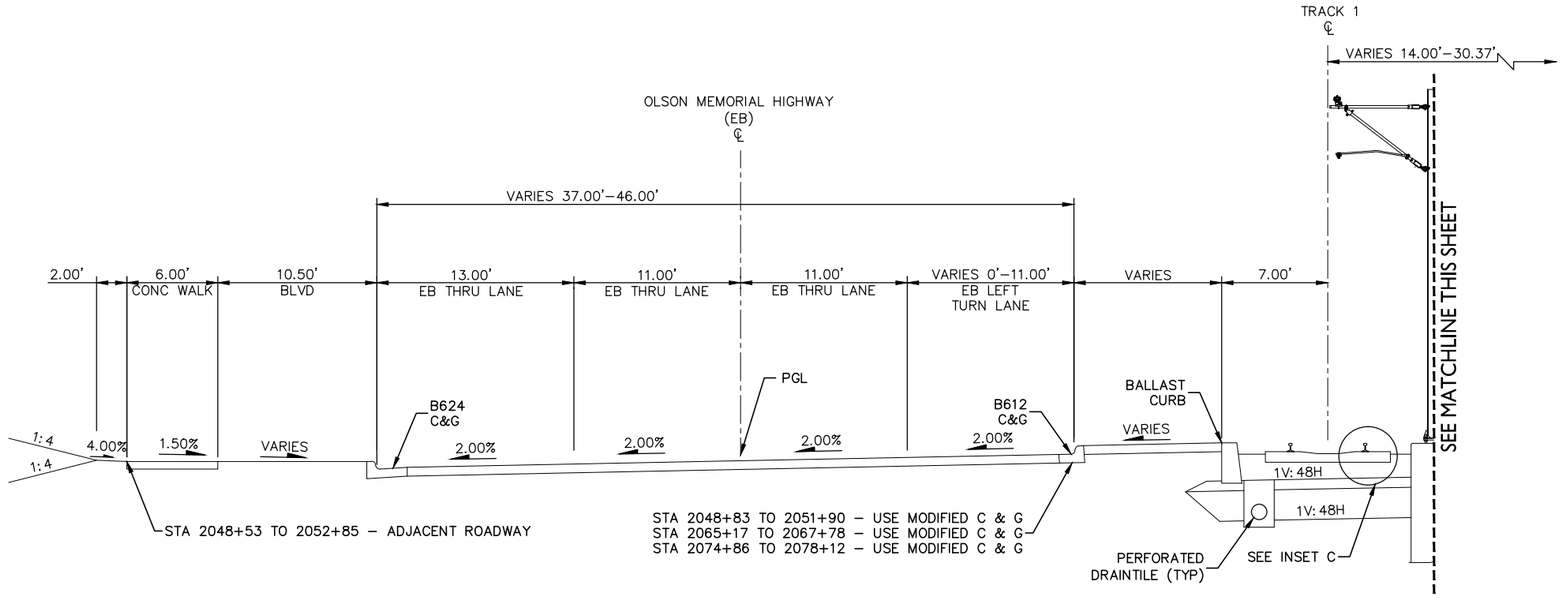

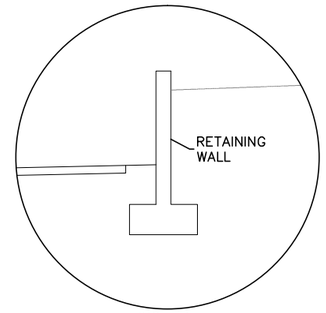

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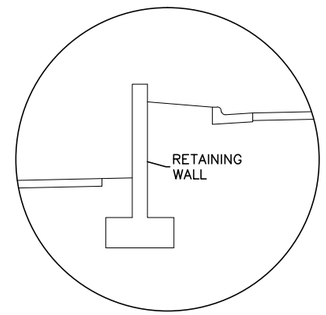

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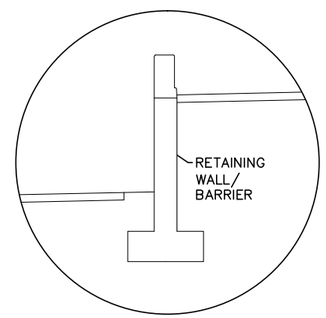

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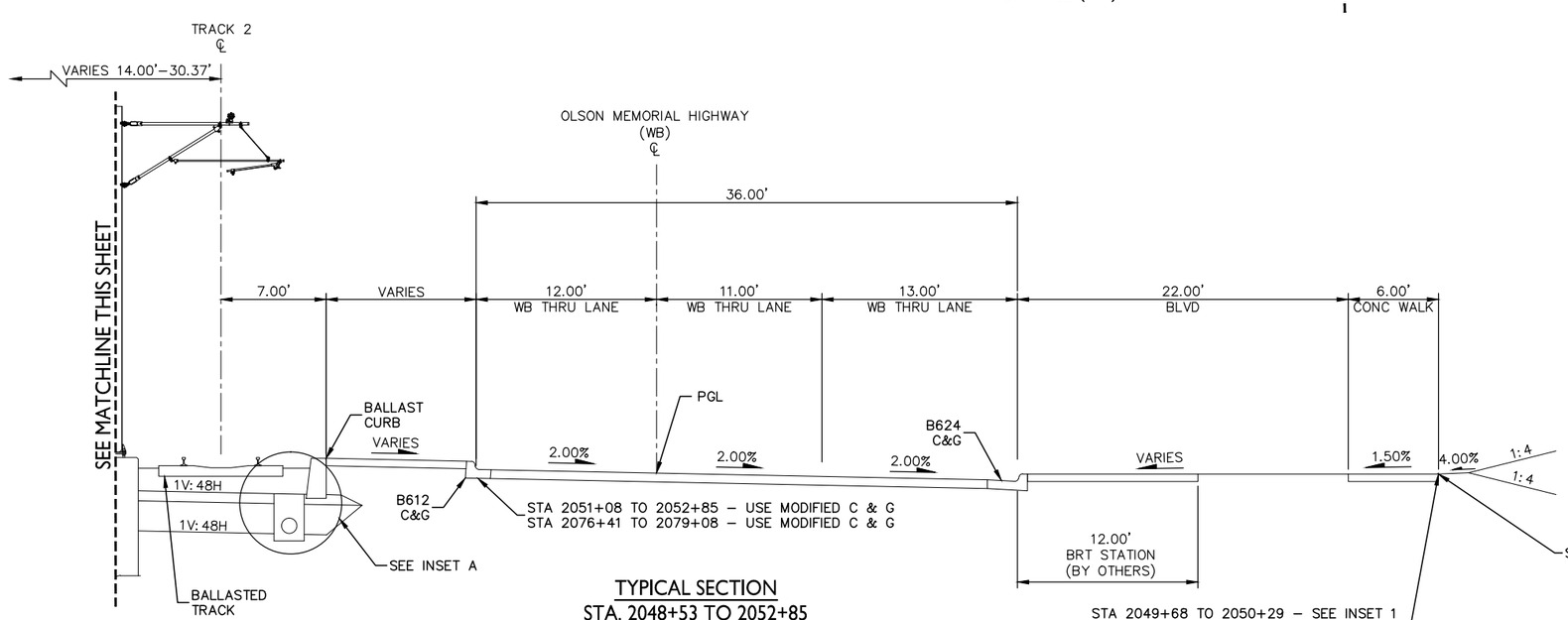

TYPICAL SECTION
STA. 2048+53 TO 2052+85
STA. 2064+85 TO 2068+75
STA. 2073+76 TO 2079+08

NOTE:
1. FOR INSETS, SEE SHEET 52
2. PROPOSED RIGHT–OF–WAY NOT DETERMINED
3. EXISTING RIGHT–OF–WAY LOCATION VARIES, TYPICALLY LOCATED OUTSIDE OF SECTION EXTENTS

0 2.5 5 10
SCALE

DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn
WSP | PARSONS BRINCKERHOFF

MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION
Bottineau LRT
METROPOLITAN COUNCIL

SEGMENT M
TRACK
TYPICAL SECTIONS

DISCIPLINE: TRACK
SHEET NAME: M-TRK-TYPS-018

SHEET 44 OF 107

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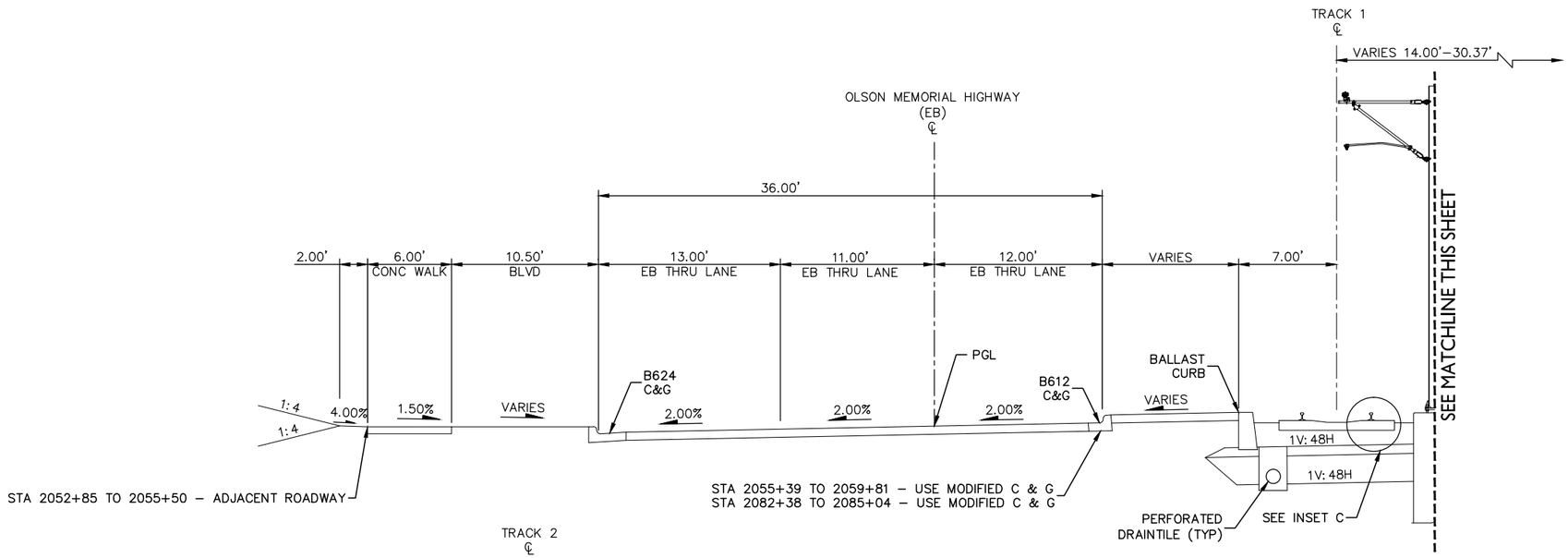
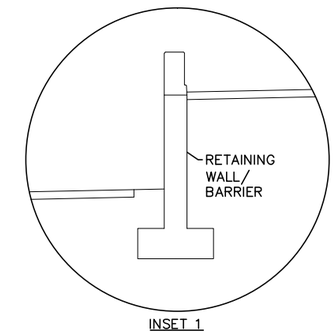
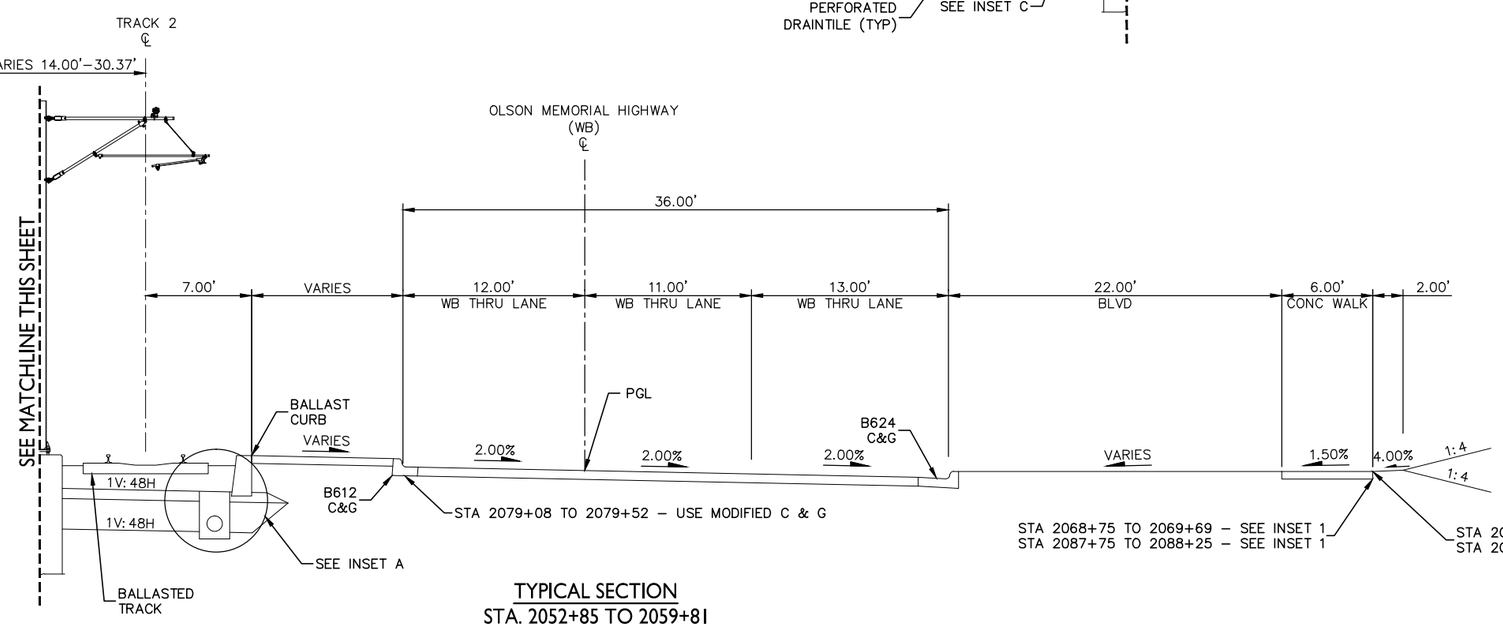






NOTE:
1. FOR INSETS, SEE SHEET 52
2. PROPOSED RIGHT–OF–WAY NOT DETERMINED
3. EXISTING RIGHT–OF–WAY LOCATION VARIES, TYPICALLY LOCATED OUTSIDE OF SECTION EXTENTS

TYPICAL SECTION
STA. 2052+85 TO 2059+81
STA. 2068+75 TO 2069+69
STA. 2079+08 TO 2088+25

0 2.5 5 10
SCALE

DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn
WSP | PARSONS BRINCKERHOFF

MUNICIPAL CONSENT

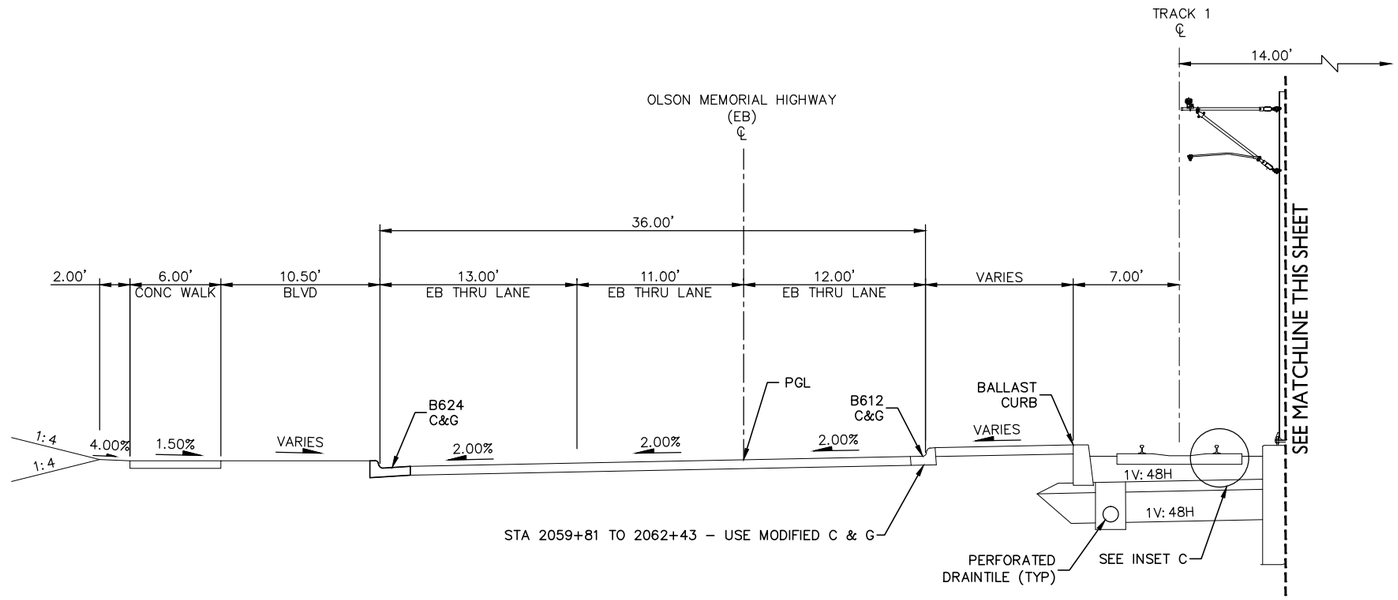
METRO BLUE LINE EXTENSION Bottineau LRT
METROPOLITAN COUNCIL

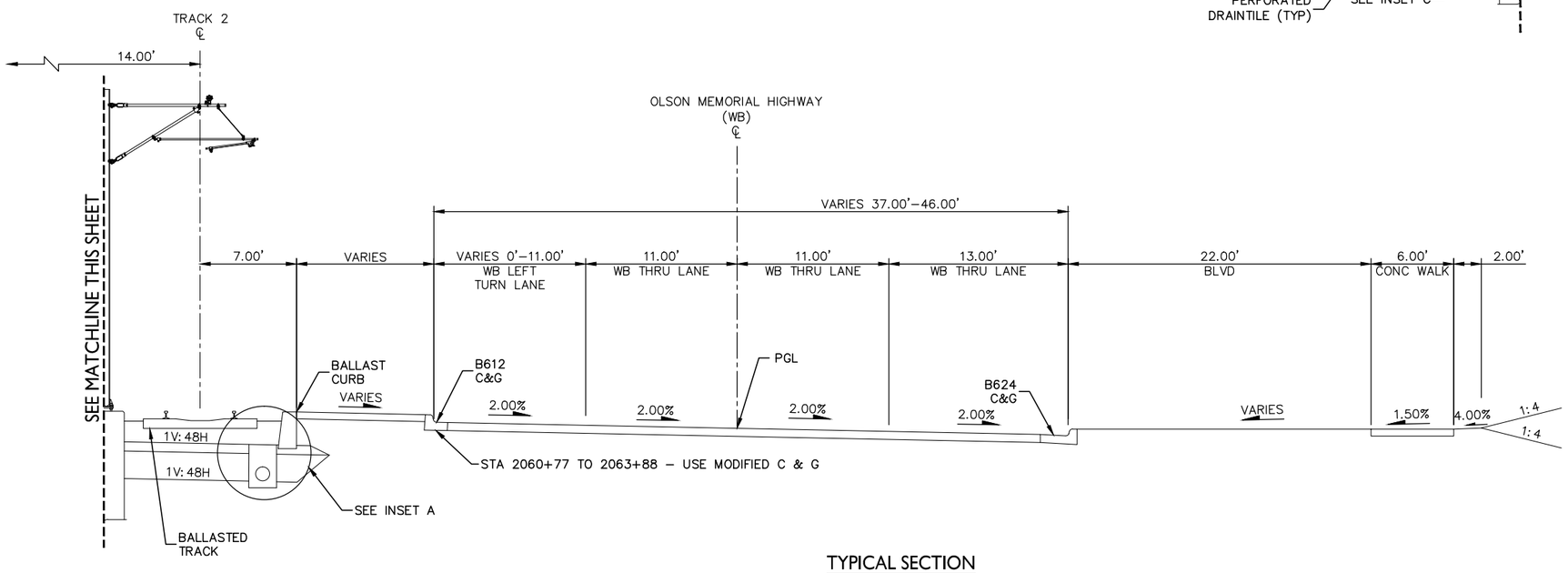
SEGMENT M
TRACK
TYPICAL SECTIONS

DISCIPLINE: TRACK
SHEET NAME: M-TRK-TYPS-019

SHEET 45 OF 107

Dec, 03 2015 03:32 pm H:\BPO\550_design_consultant\CAD\006-segment-m\MC\plan sheets\TRACK\M-TRK-TYPS.dwg By: V-MataJM





NOTE:
1. FOR INSETS, SEE SHEET 52
2. PROPOSED RIGHT–OF–WAY NOT DETERMINED
3. LIMITS OF SECTION INCLUDE AT–GRADE CROSSINGS THAT ARE NOT DEPICTED
4. EXISTING RIGHT–OF–WAY LOCATION VARIES, TYPICALLY LOCATED OUTSIDE OF SECTION EXTENTS

TYPICAL SECTION
STA. 2059+81 TO 2064+85

0 2.5 5 10
SCALE

DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn
WSP | PARSONS BRINCKERHOFF

MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

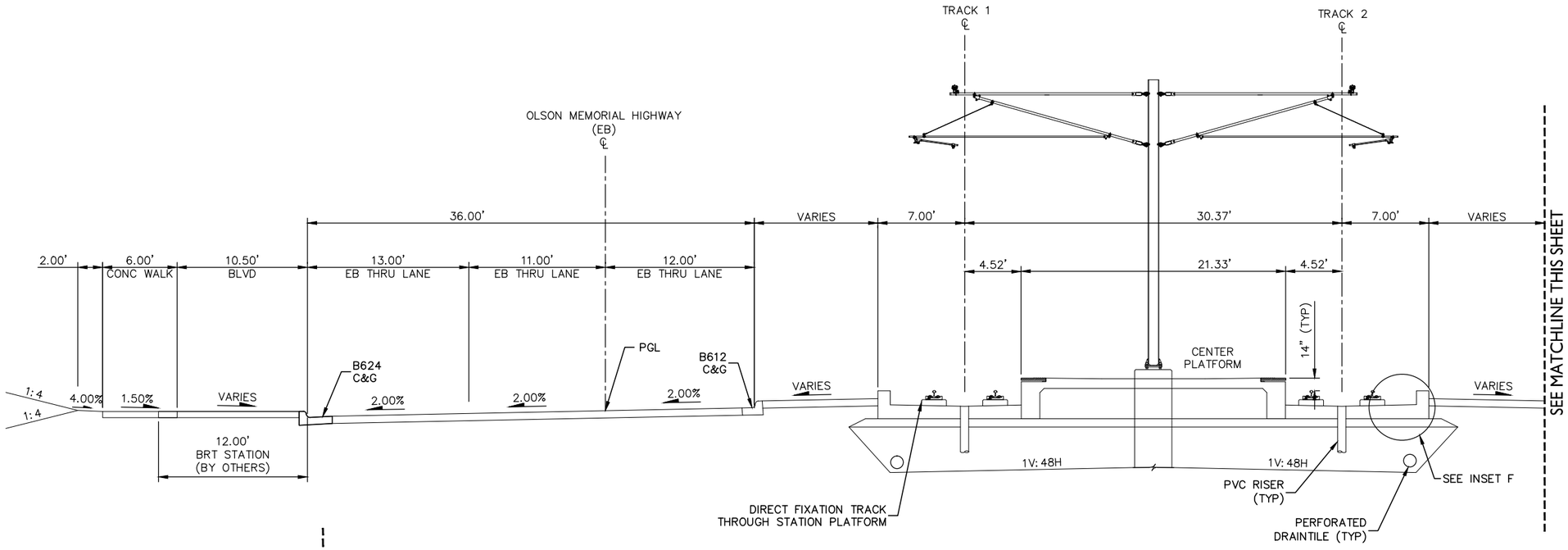
SEGMENT M
TRACK
TYPICAL SECTIONS

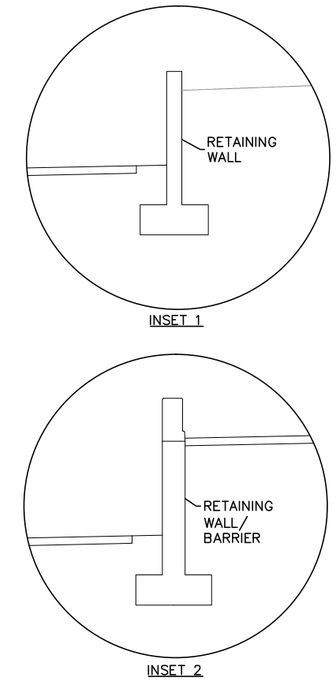
DISCIPLINE: TRACK

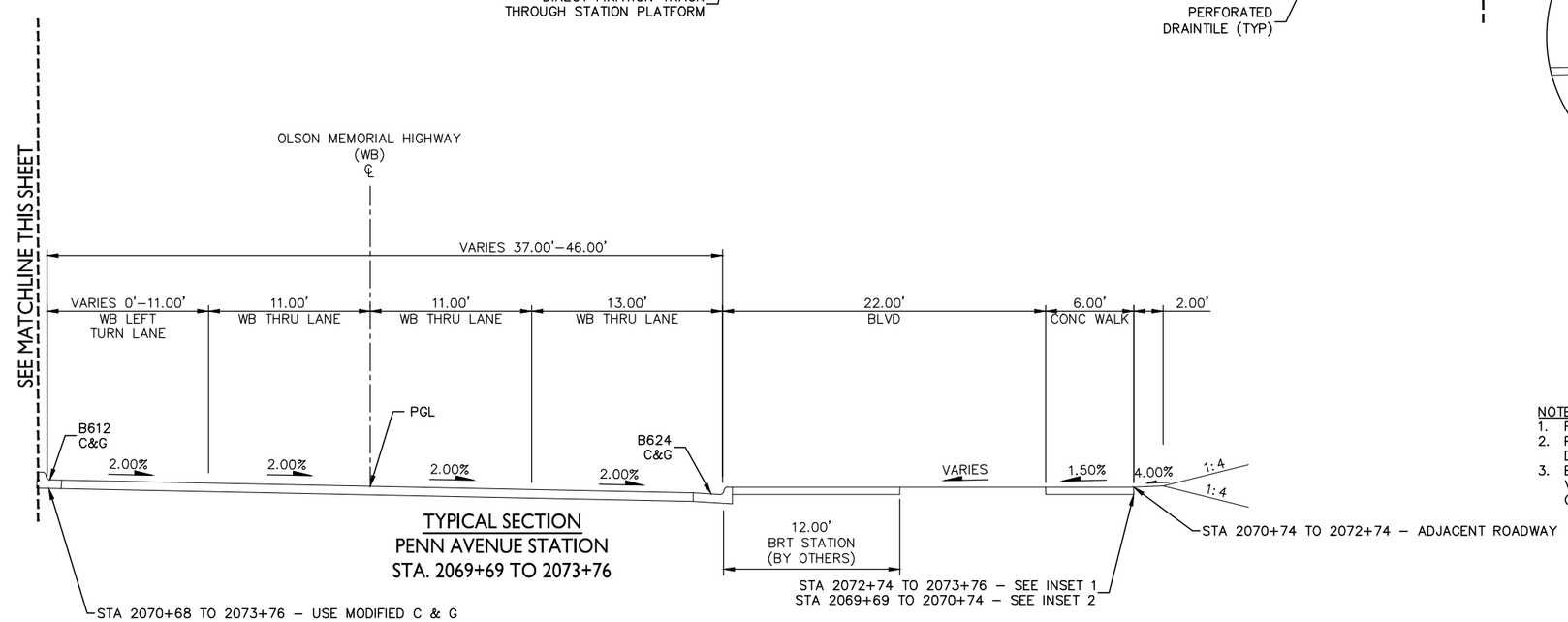
SHEET NAME: M-TRK-TYPS-020

SHEET 46 OF 107

Dec, 03 2015 03:33 pm H:\BPO\550_design_consultant\CAD\006-segment-m\MC\plan sheets\TRACK\M-TRK-TYPS.dwg By: V-MataJM







TYPICAL SECTION
PENN AVENUE STATION
STA. 2069+69 TO 2073+76

NOTE:
1. FOR INSETS, SEE SHEET 52
2. PROPOSED RIGHT–OF–WAY NOT DETERMINED
3. EXISTING RIGHT–OF–WAY LOCATION VARIES, TYPICALLY LOCATED OUTSIDE OF SECTION EXTENTS

0 2.5 5 10
SCALE

DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn
WSP | PARSONS BRINCKERHOFF

MUNICIPAL CONSENT

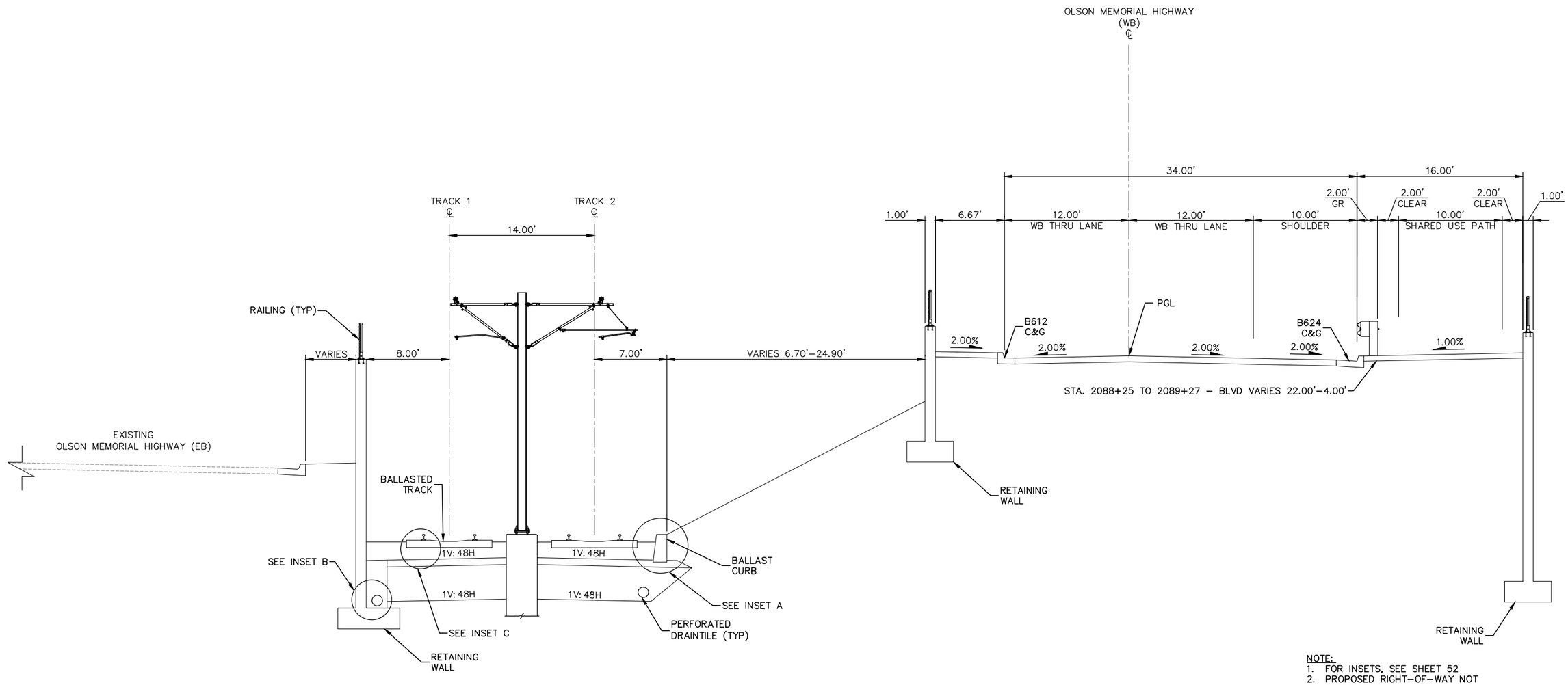
METRO BLUE LINE EXTENSION Bottineau LRT
METROPOLITAN COUNCIL

SEGMENT M
TRACK
TYPICAL SECTIONS

DISCIPLINE: **TRACK**
SHEET NAME: **M-TRK-TYPS-021**

SHEET **47** OF **107**

Dec, 03 2015 03.33 pm H:\BPO\550_design_consultant\CAD\006-segment-m\MC\plan sheets\TRACK\M-TRK-TYPS.dwg By: V-MataJM



NOTE:
1. FOR INSETS, SEE SHEET 52
2. PROPOSED RIGHT–OF–WAY NOT DETERMINED
3. EXISTING RIGHT–OF–WAY LOCATION VARIES, TYPICALLY LOCATED OUTSIDE OF SECTION EXTENTS

TYPICAL SECTION
STA. 2088+25 TO 2093+97

0 2.5 5 10
SCALE

DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn
WSP | PARSONS BRINCKERHOFF

MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

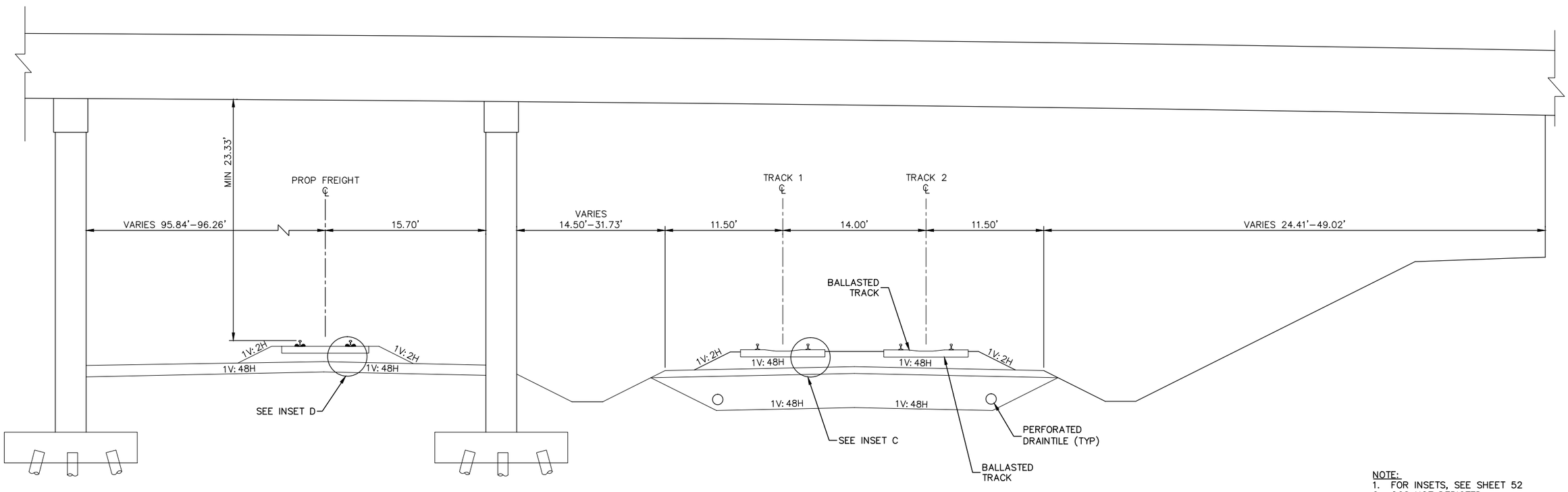
SEGMENT M
TRACK
TYPICAL SECTIONS

DISCIPLINE: TRACK

SHEET NAME: M-TRK-TYPS-022

SHEET 48 OF 107

Dec, 03 2015 03:34 pm H:\BPO\550_design_consultant\CAD\006-segment-m\MC\plan sheets\TRACK\M-TRK-TYPS.dwg By: V-MataJM



NOTE:
1. FOR INSETS, SEE SHEET 52
2. OCS NOT DEPICTED
3. PROPOSED RIGHT–OF–WAY NOT DETERMINED
4. EXISTING RIGHT–OF–WAY LOCATION VARIES, TYPICALLY LOCATED OUTSIDE OF SECTION EXTENTS

TYPICAL SECTION
OLSON MEMORIAL HIGHWAY BRIDGE
STA. 2093+97 TO 2094+82

0 2.5 5 10
SCALE

DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn
WSP | PARSONS BRINCKERHOFF

MUNICIPAL CONSENT

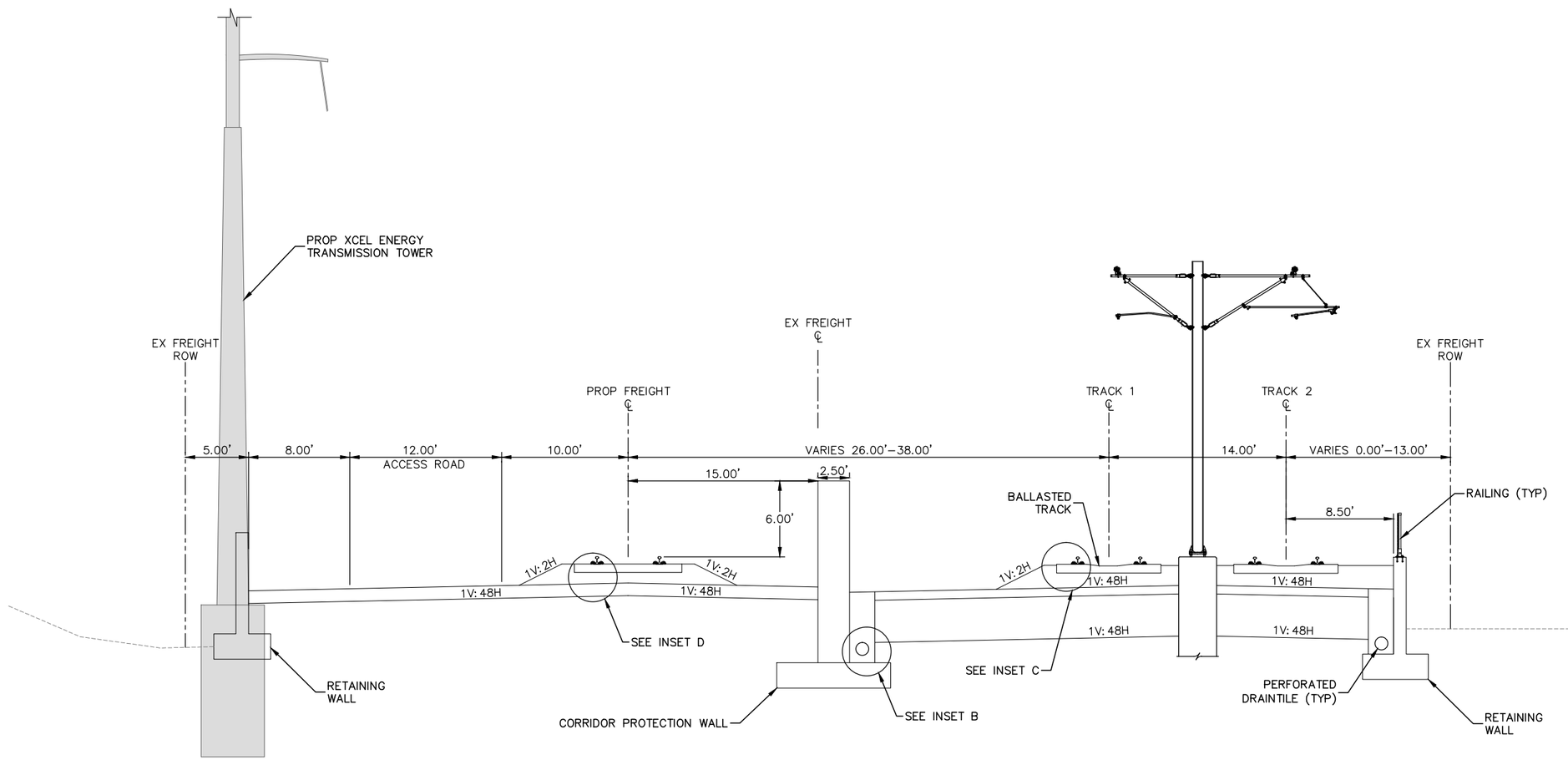
METRO BLUE LINE EXTENSION Bottineau LRT
METROPOLITAN COUNCIL

SEGMENT M
TRACK
TYPICAL SECTIONS

DISCIPLINE: TRACK
SHEET NAME: M-TRK-TYPS-023

SHEET 49 OF 107

Dec, 03 2015 03:34 pm H:\BPO\550_design_consultant\CAD\006-segment-m\MC\plan sheets\TRACK\M-TRK-TYPS.dwg By: V-MataJM



TYPICAL SECTION
STA. 2094+82 TO 2098+20

NOTE:
1. FOR INSETS, SEE SHEET 52
2. XCEL TRANSMISSION TOWERS TO BE SHIFTED TO WEST SIDE OF BNSF ROW
3. GROUND IMPROVEMENTS WILL BE NEEDED TO MITIGATE THE EXISTING WEAK AND COMPRESSIBLE SOILS IN THIS SEGMENT
4. PROPOSED RIGHT–OF–WAY NOT DETERMINED

0 2.5 5 10
SCALE

DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn
WSP | PARSONS BRINCKERHOFF

MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

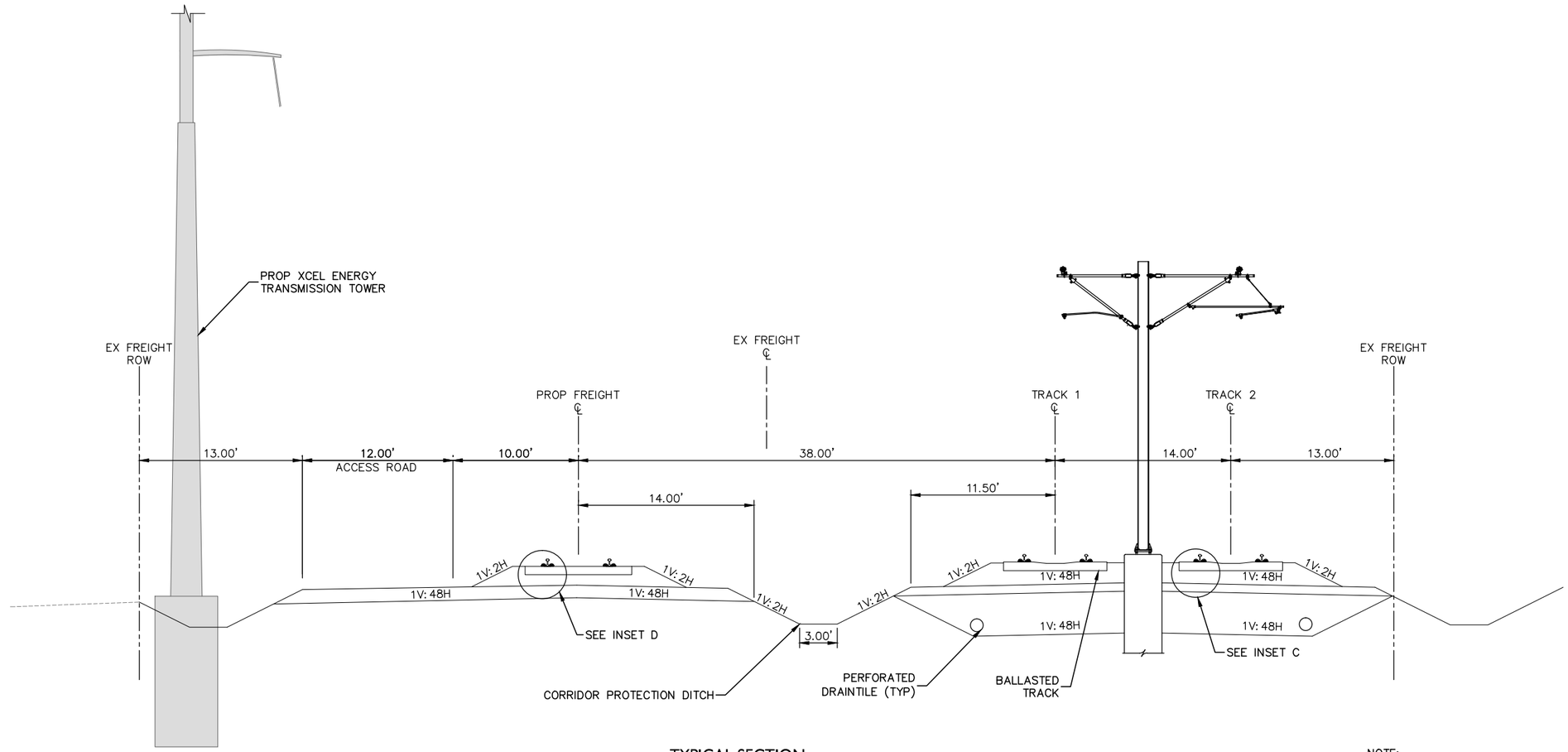
SEGMENT M
TRACK
TYPICAL SECTIONS

DISCIPLINE: TRACK

SHEET NAME: M-TRK-TYPS-024

SHEET 50 OF 107

Dec, 03 2015 03:35 pm H:\BPO\550_design_consultant\CAD\006-segment-m\MC\plan sheets\TRACK\M-TRK-TYPS.dwg By: V-MataJM



TYPICAL SECTION
STA. 2098+20 TO 2109+30 (END OF SEGMENT M)

NOTE:
1. FOR INSETS, SEE SHEET 52
2. XCEL TRANSMISSION TOWERS TO BE SHIFTED TO WEST SIDE OF BNSF ROW
3. GROUND IMPROVEMENTS WILL BE NEEDED TO MITIGATE THE EXISTING WEAK AND COMPRESSIBLE SOILS IN THIS SEGMENT
4. PROPOSED RIGHT-OF-WAY NOT DETERMINED

0 2.5 5 10
SCALE

DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn
WSP | PARSONS BRINCKERHOFF

MUNICIPAL CONSENT

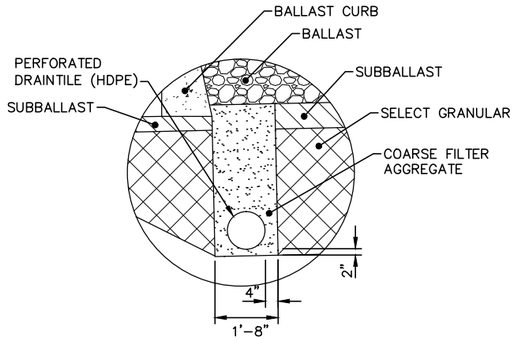
METRO BLUE LINE EXTENSION Bottineau LRT
METROPOLITAN COUNCIL

SEGMENT M
TRACK
TYPICAL SECTIONS

DISCIPLINE: TRACK
SHEET NAME: M-TRK-TYPS-025

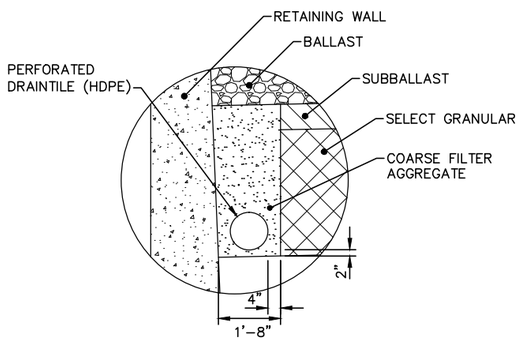
SHEET 51 OF 107

Dec, 03 2015 03:35 pm H:\BPO\550_design_consultant\CAD\006-segment-m\MC\plan sheets\TRACK\M-TRK-TYPS.dwg By: V-MataJM



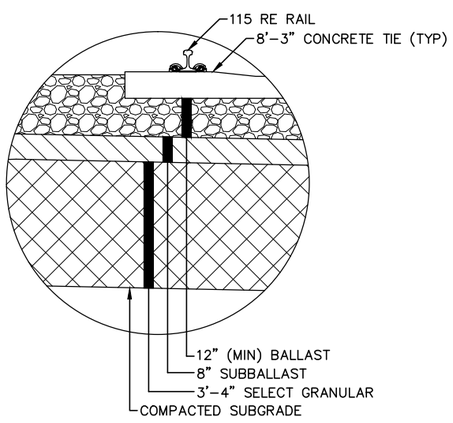
INSET A – BALLAST CURB INTERFACE

NOTE: LEFT SIDE DRAINAGE TRENCH ILLUSTRATED.
FOR RIGHT SIDE, MIRROR SECTION.

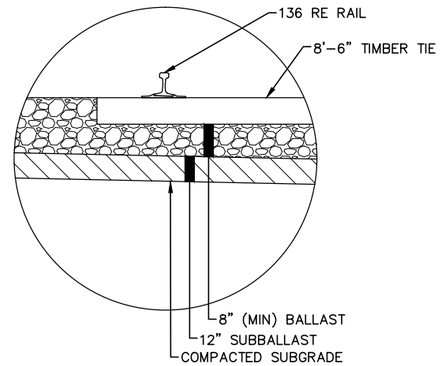


INSET B – RETAINING WALL INTERFACE

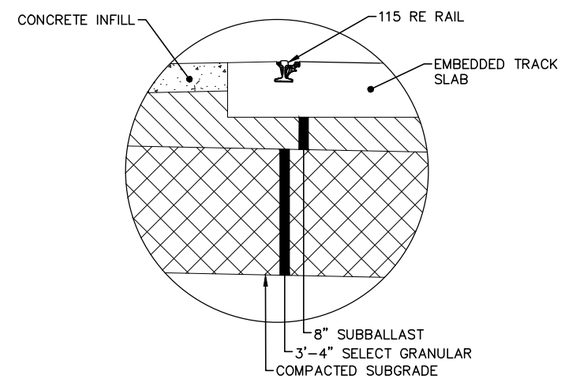
NOTE: LEFT SIDE DRAINAGE TRENCH ILLUSTRATED.
FOR RIGHT SIDE, MIRROR SECTION.



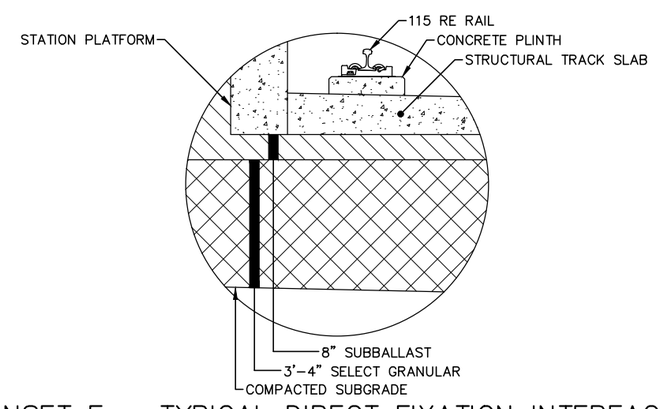
INSET C – TYPICAL BALLASTED TRACK



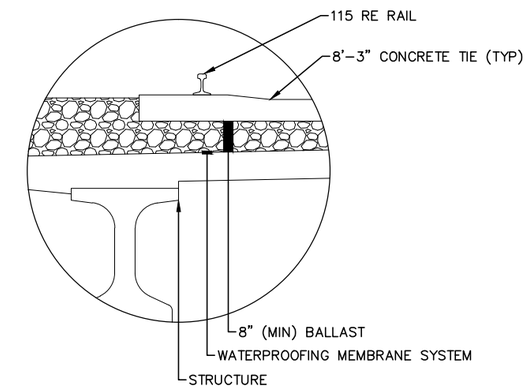
INSET D – TYPICAL BALLASTED FREIGHT TRACK



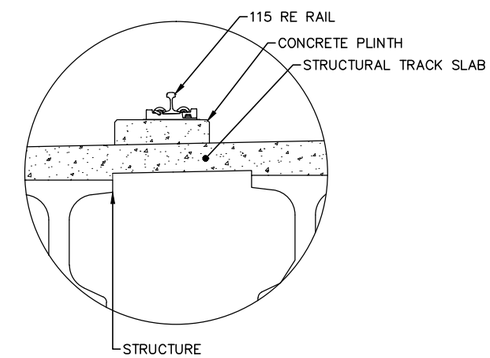
INSET E – TYPICAL EMBEDDED TRACK



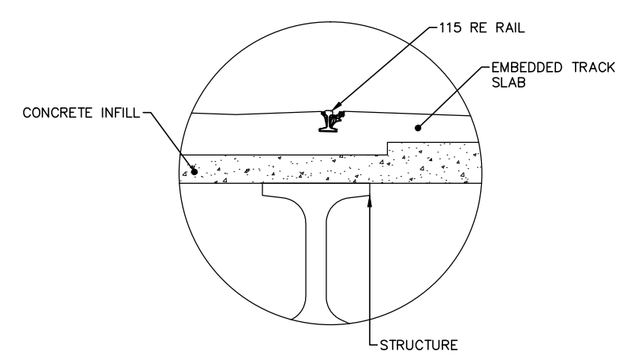
INSET F – TYPICAL DIRECT FIXATION INTERFACE AT STATION PLATFORM



INSET G – BALLASTED LRT TRACK ON STRUCTURE



INSET H – DIRECT FIXATION LRT TRACK ON STRUCTURE



INSET I – EMBEDDED LRT TRACK ON STRUCTURE

DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn
WSP | PARSONS BRINCKERHOFF

MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

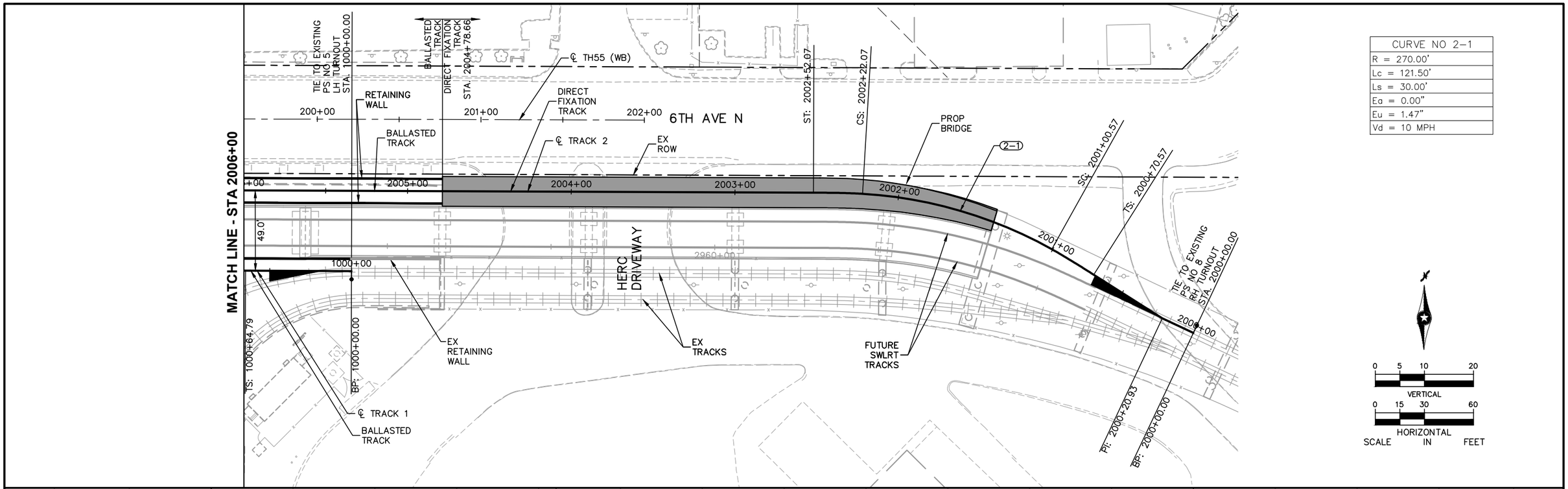
SEGMENT M
TRACK
TYPICAL SECTIONS

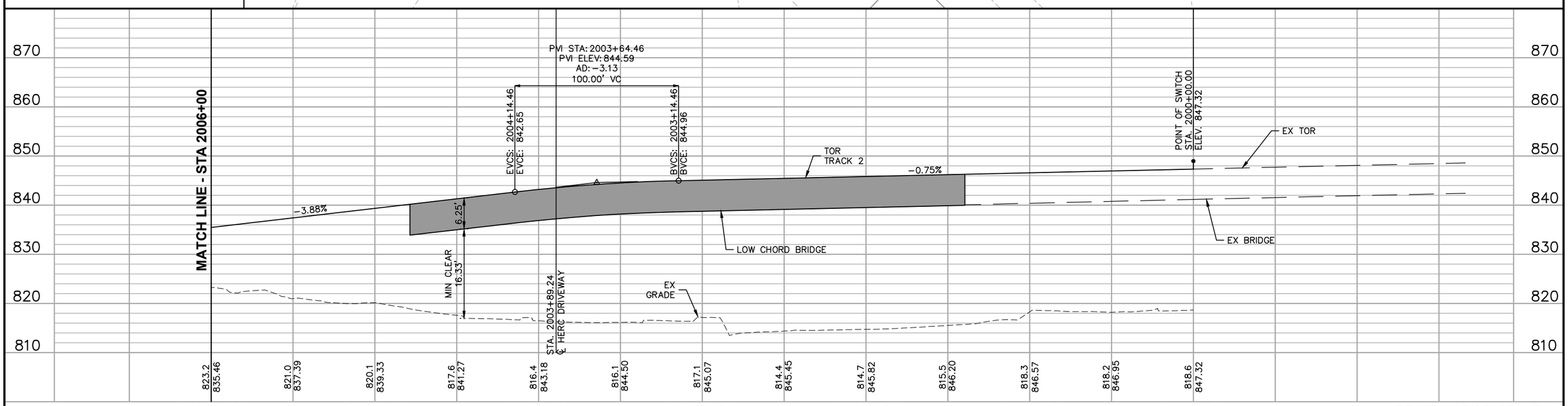
DISCIPLINE: TRACK

SHEET NAME: M-TRK-TYPS-026

SHEET 52 OF 107

Dec, 07 2015 08:36 am H:\BPO\550_Design_Consultant\CAD\006-SEGMENT-M\MC\PLAN SHEETS\TRACK\M-TRK-TYPS.dwg By: V-Prudho





DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn

WSP | PARSONS BRINCKERHOFF

MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

SEGMENT M
6TH AVE N
PLAN AND PROFILE
STA 2000+00 TO STA 2006+00

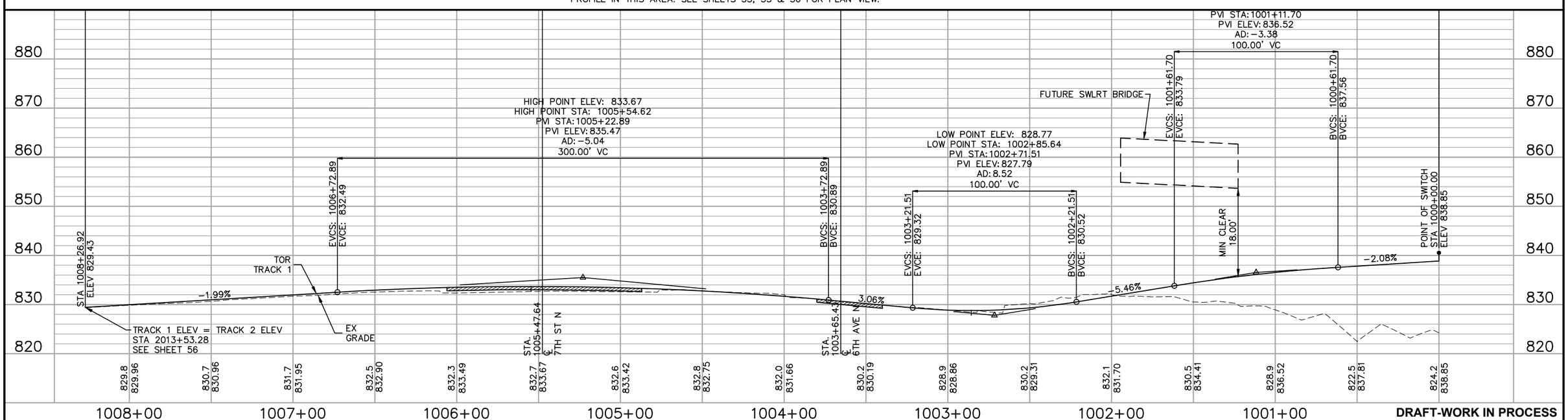
DISCIPLINE: TRACK

SHEET NAME: M-TRK-PPFL-001

SHEET 53 OF 107

Dec, 07 2015 08:18 am H:\BPO\550_Design_Consultant\CAD\006-SEGMENT-M\MC\PLAN SHEETS\TRACK\M-TRK-PPFL.dwg By: V-Prudho

NOTE:
TRACK 1 PROFILE SHOWN BELOW DUE TO DEVIATION FROM TRACK 2 PROFILE IN THIS AREA. SEE SHEETS 53, 55 & 56 FOR PLAN VIEW.



DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn
WSP | PARSONS BRINCKERHOFF

MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION Bottineau LRT
METROPOLITAN COUNCIL

SEGMENT M
6TH AVE N/OLSON MEMORIAL HWY (TH55)
PROFILE
STA 1000+00 TO STA 1008+27

DISCIPLINE: TRACK
SHEET NAME: M-TRK-PPFL-001A

SHEET 54 OF 107

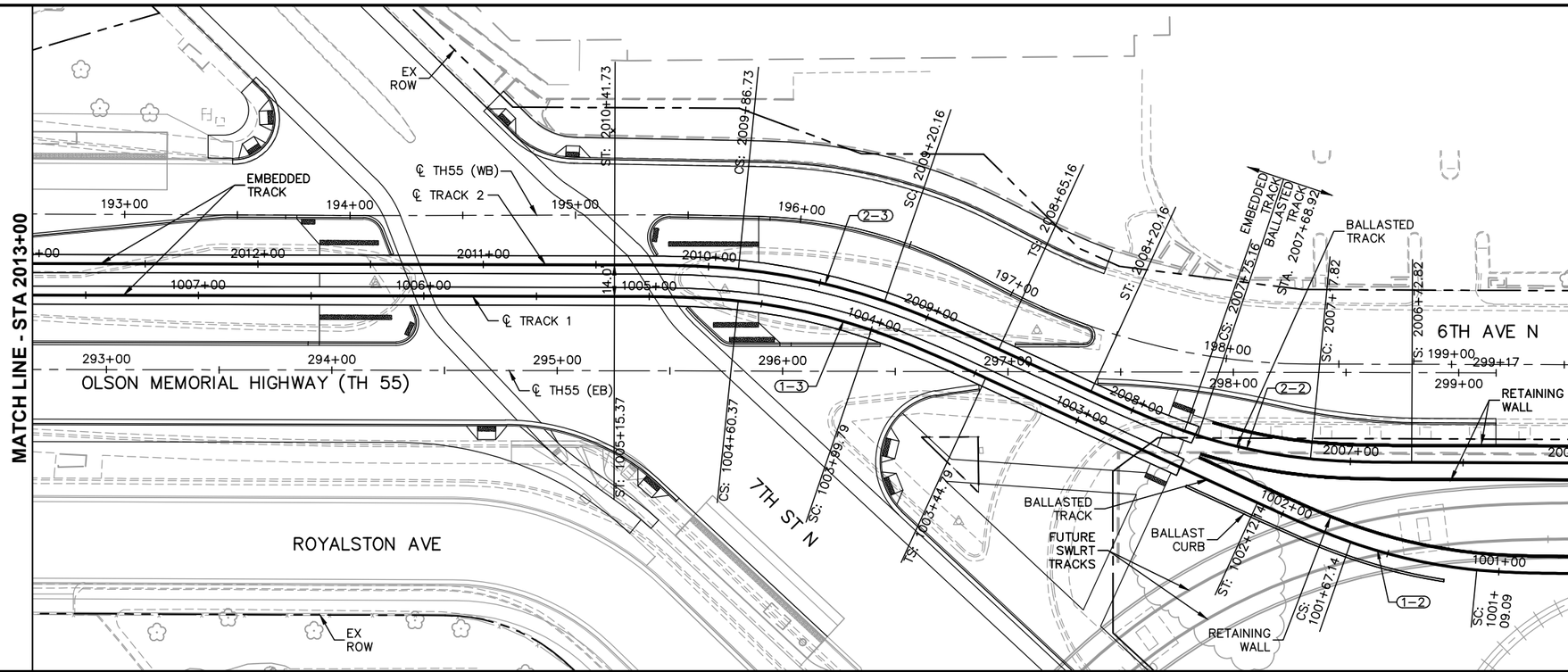
Dec, 07 2015 08:19 am H:\BPO\550_Design_Consultant\CAD\006-SEGMENT-M\MC\PLAN SHEETS\TRACK\M-TRK-PPFL.dwg By: V-Prudho

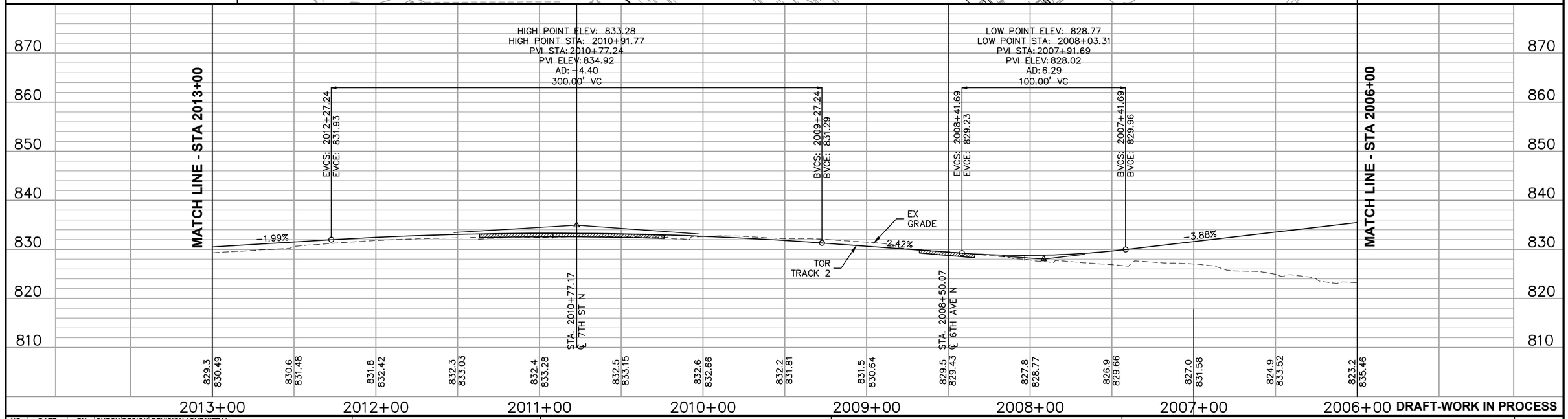
CURVE NO 2–3
R = 284.00'
Lc = 66.57'
Ls = 55.00'
Ea = 0.00"
Eu = 3.14"
Vd = 15 MPH

CURVE NO 1–3
R = 270.00'
Lc = 60.58'
Ls = 55.00'
Ea = 0.00"
Eu = 3.30"
Vd = 15 MPH

CURVE NO 2–2
R = 240.00'
Lc = 57.34'
Ls = 45.00'
Ea = 1.25"
Eu = 2.46"
Vd = 15 MPH

CURVE NO 1–2
R = 240.00'
Lc = 57.35'
Ls = 45.00'
Ea = 1.25"
Eu = 2.46"
Vd = 15 MPH





DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn

WSP | PARSONS BRINCKERHOFF

MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

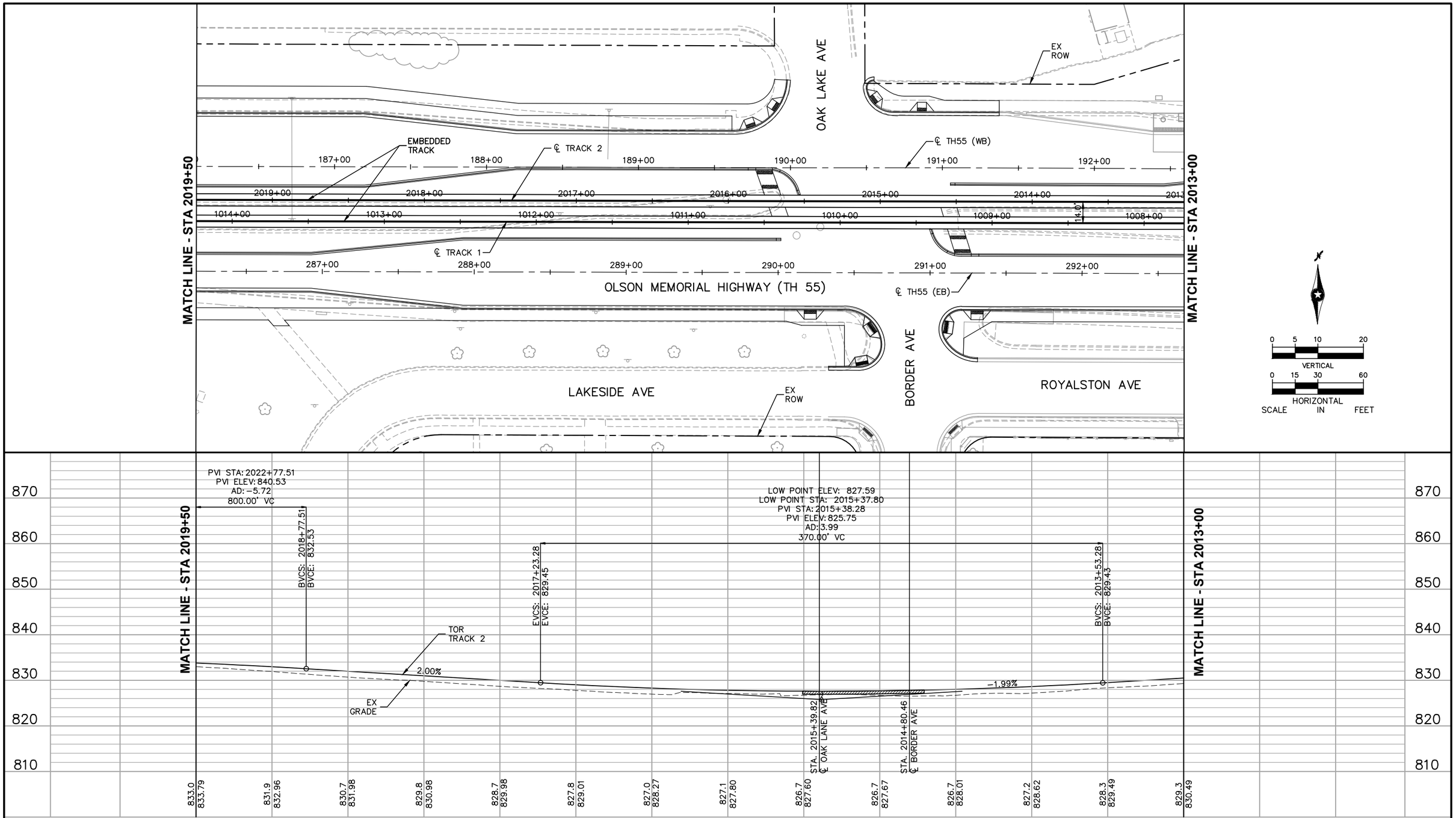
SEGMENT M
6TH AVE N/OLSON MEMORIAL HWY (TH55)
PLAN AND PROFILE
STA 2006+00 TO STA 2013+00

DISCIPLINE: TRACK

SHEET NAME: M-TRK-PPFL-002

SHEET 55 OF 107

Dec, 07 2015 08:23 am H:\BPO\550_Design_Consultant\CAD\006-SEGMENT-M\MC\PLAN SHEETS\TRACK\M-TRK-PPFL.dwg By: V-Prudho



DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn

WSP | PARSONS BRINCKERHOFF

MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

SEGMENT M
OLSON MEMORIAL HWY (TH55)
PLAN AND PROFILE
STA 2013+00 TO STA 2019+50

DISCIPLINE: TRACK

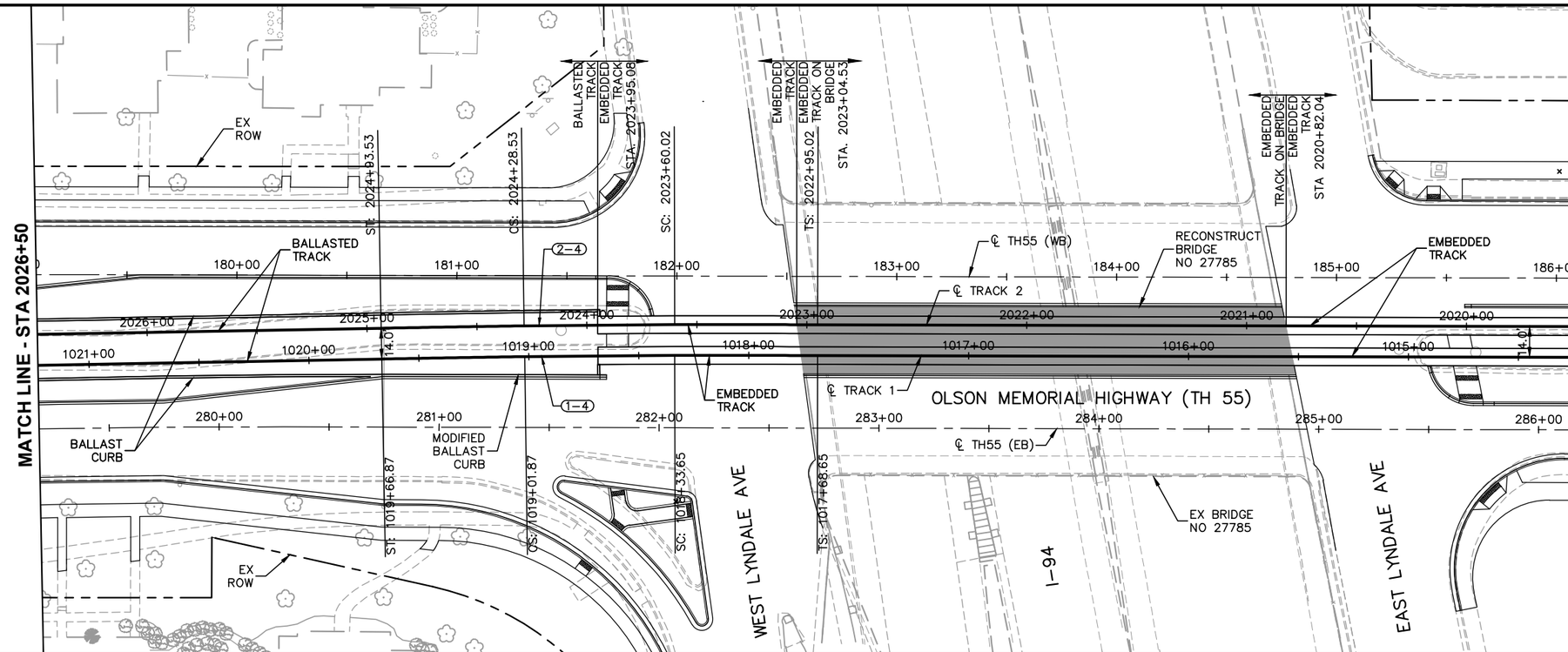
SHEET NAME: M-TRK-PPFL-003

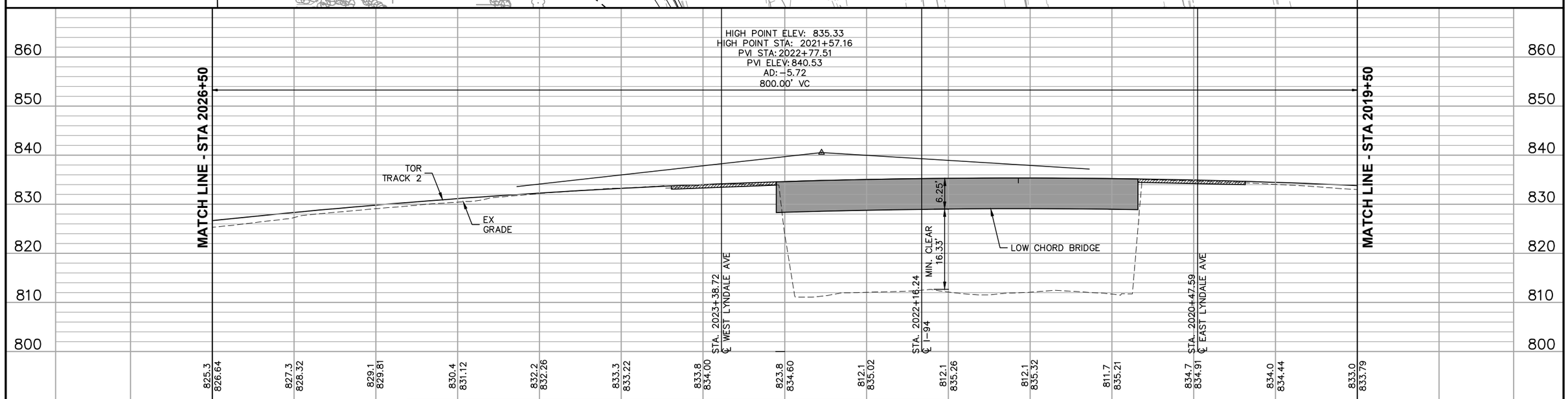
SHEET 56 OF 107

Dec, 07 2015 08:24 am H:\BPO\550_Design_Consultant\CAD\006-SEGMENT-M\MC\PLAN SHEETS\TRACK\M-TRK-PPFL.dwg By: V-Prudho

CURVE NO 2–4
R = 6514.00'
Lc = 68.51'
Ls = 65.00'
Ea = 0.00"
Eu = 1.23"
Vd = 45 MPH

CURVE NO 1–4
R = 6500.00'
Lc = 68.22'
Ls = 65.00'
Ea = 0.00"
Eu = 1.23"
Vd = 45 MPH





DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn
WSP | PARSONS BRINCKERHOFF

MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION Bottineau LRT
METROPOLITAN COUNCIL

SEGMENT M
OLSON MEMORIAL HWY (TH55)
PLAN AND PROFILE
STA 2019+50 TO STA 2026+50

DISCIPLINE: TRACK
SHEET NAME: M-TRK-PPFL-004

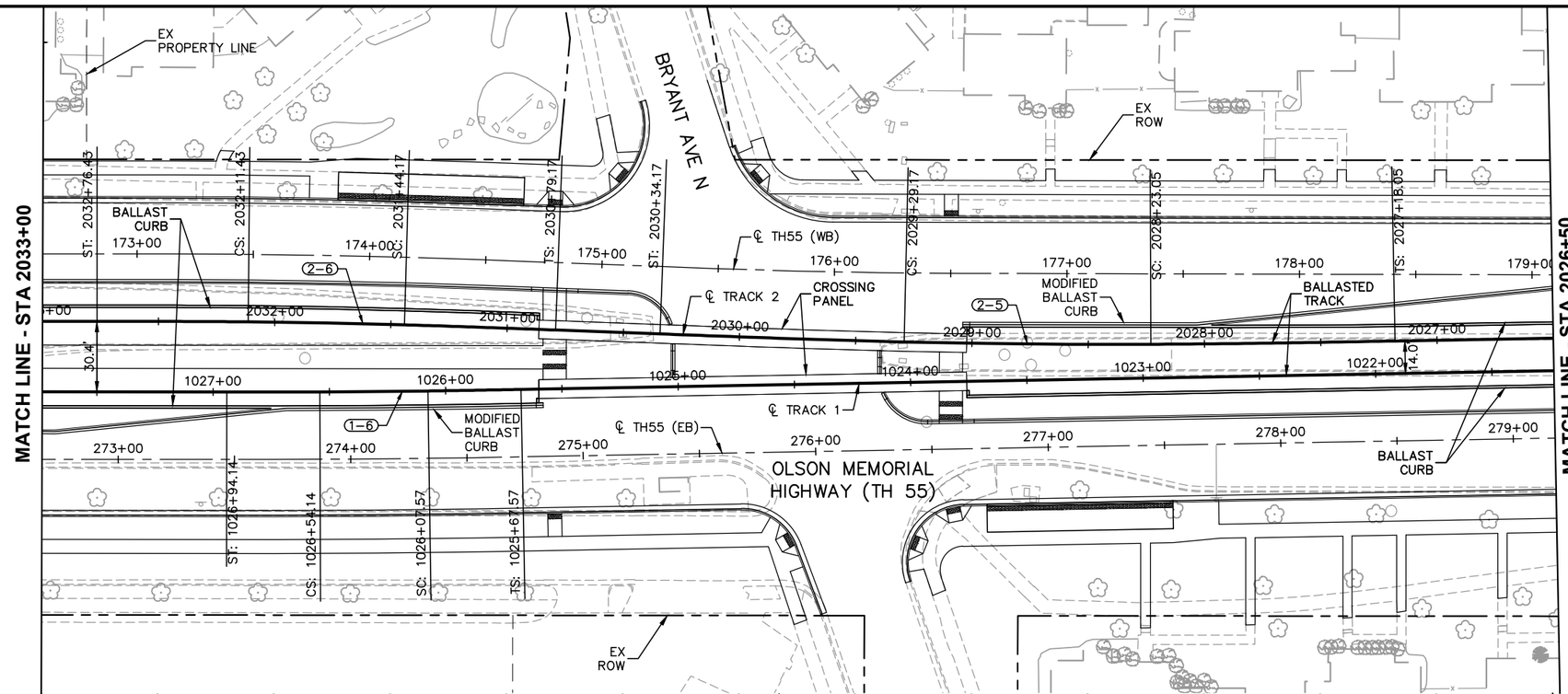
SHEET 57 OF 107

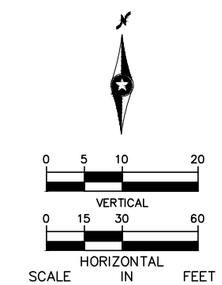
Dec, 07 2015 08:26 am H:\BPO\550_Design_Consultant\CAD\006-SEGMENT-M\MC\PLAN SHEETS\TRACK\M-TRK-PPFL.dwg By: V-Prudho

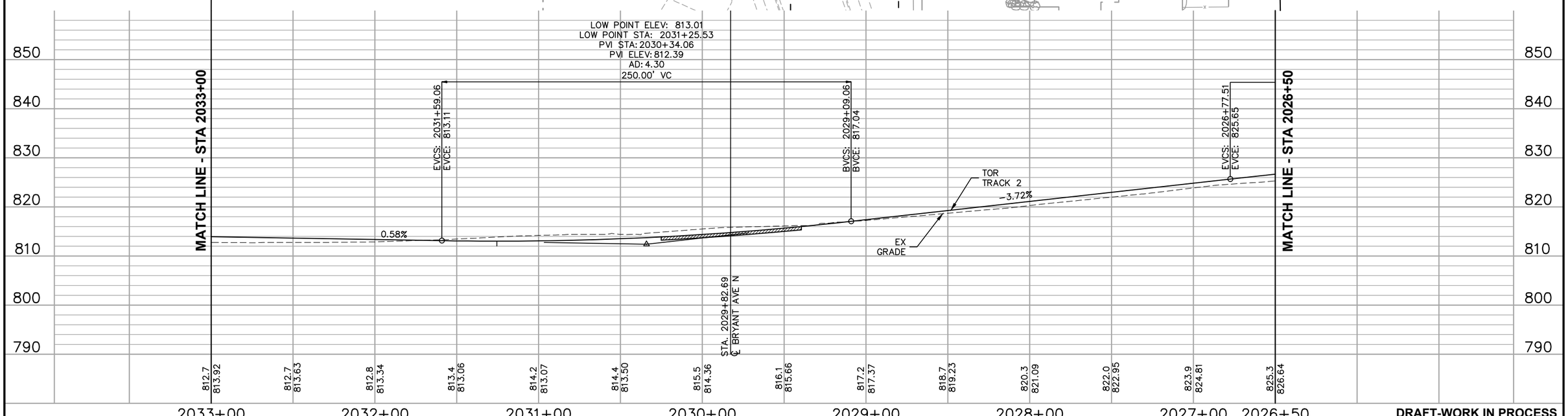
CURVE NO 2–6
R = 3600.00'
Lc = 67.26'
Ls = 65.00'
Ea = 1.00"
Eu = 1.23"
Vd = 45 MPH

CURVE NO 1–6
R = 4600.00'
Lc = 46.57'
Ls = 40.00'
Ea = 0.50"
Eu = 0.88"
Vd = 40 MPH

CURVE NO 2–5
R = 3800.00'
Lc = 106.12'
Ls = 105.00'
Ea = 0.00"
Eu = 2.11"
Vd = 45 MPH







DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn
WSP | PARSONS BRINCKERHOFF

MUNICIPAL CONSENT

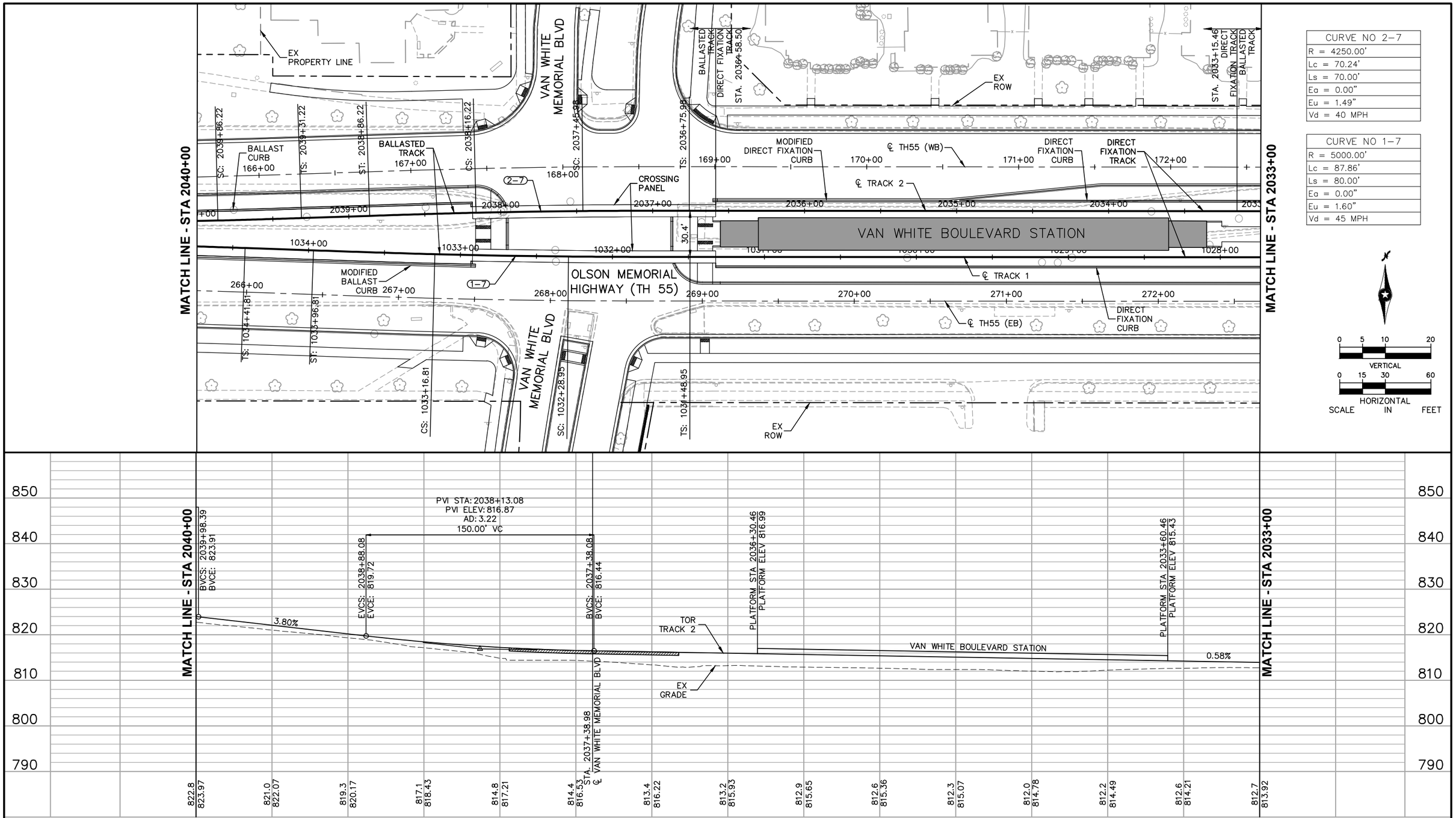
METRO BLUE LINE EXTENSION Bottineau LRT
METROPOLITAN COUNCIL

SEGMENT M
OLSON MEMORIAL HWY (TH55)
PLAN AND PROFILE
STA 2026+50 TO STA 2033+00

DISCIPLINE: TRACK
SHEET NAME: M-TRK-PPFL-005

SHEET 58 OF 107

Dec, 07 2015 08:29 am H:\BPO\550_Design_Consultant\CAD\006-SEGMENT-M\MC\PLAN SHEETS\TRACK\M-TRK-PPFL.dwg By: V-Prudho



DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn

WSP | PARSONS BRINCKERHOFF

MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

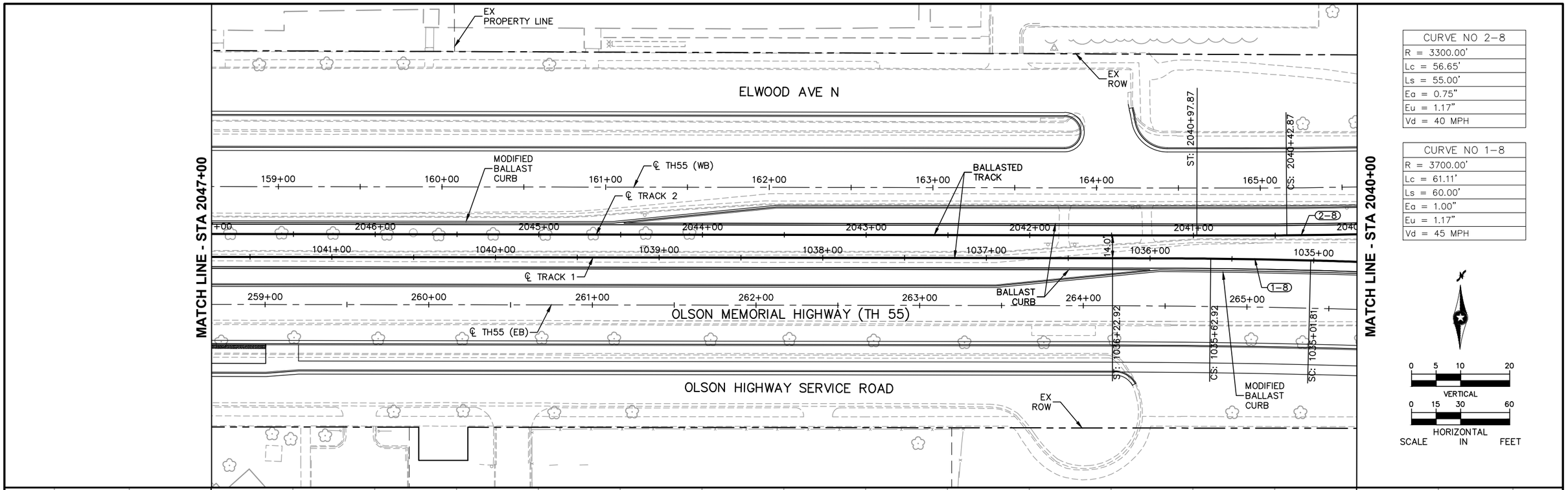
SEGMENT M
OLSON MEMORIAL HWY (TH55)
PLAN AND PROFILE
STA 2033+00 TO STA 2040+00

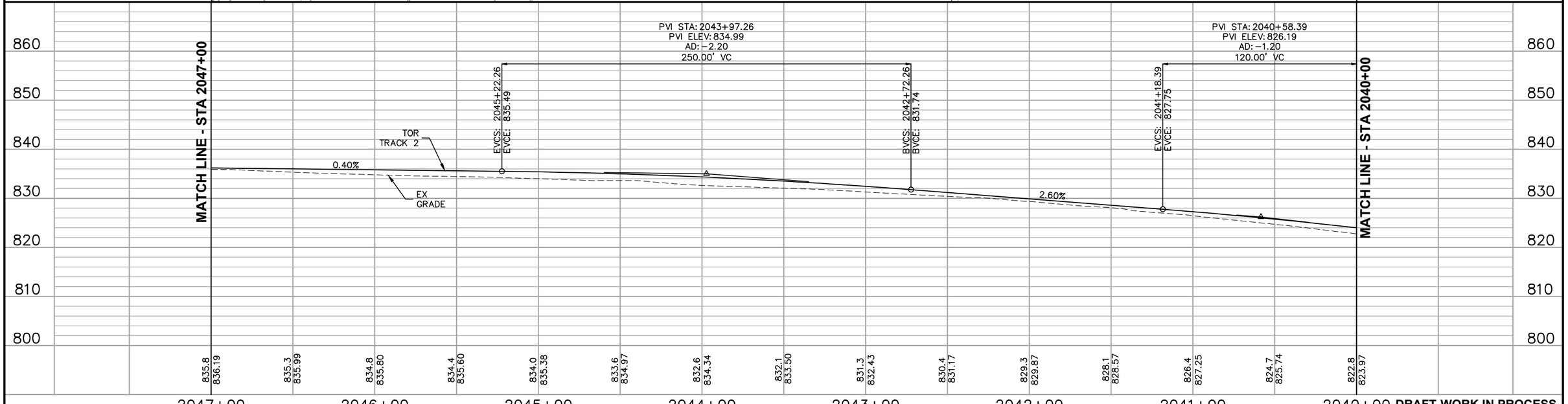
DISCIPLINE: TRACK

SHEET NAME: M-TRK-PPFL-006

SHEET 59 OF 107

Dec, 07 2015 08:32 am H:\BPO\550_Design_Consultant\CAD\006-SEGMENT-M\MC\PLAN SHEETS\TRACK\M-TRK-PPFL.dwg By: V-Prudho





DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn
WSP | PARSONS BRINCKERHOFF

MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION Bottineau LRT
METROPOLITAN COUNCIL

SEGMENT M
OLSON MEMORIAL HWY (TH55)
PLAN AND PROFILE
STA 2040+00 TO STA 2047+00

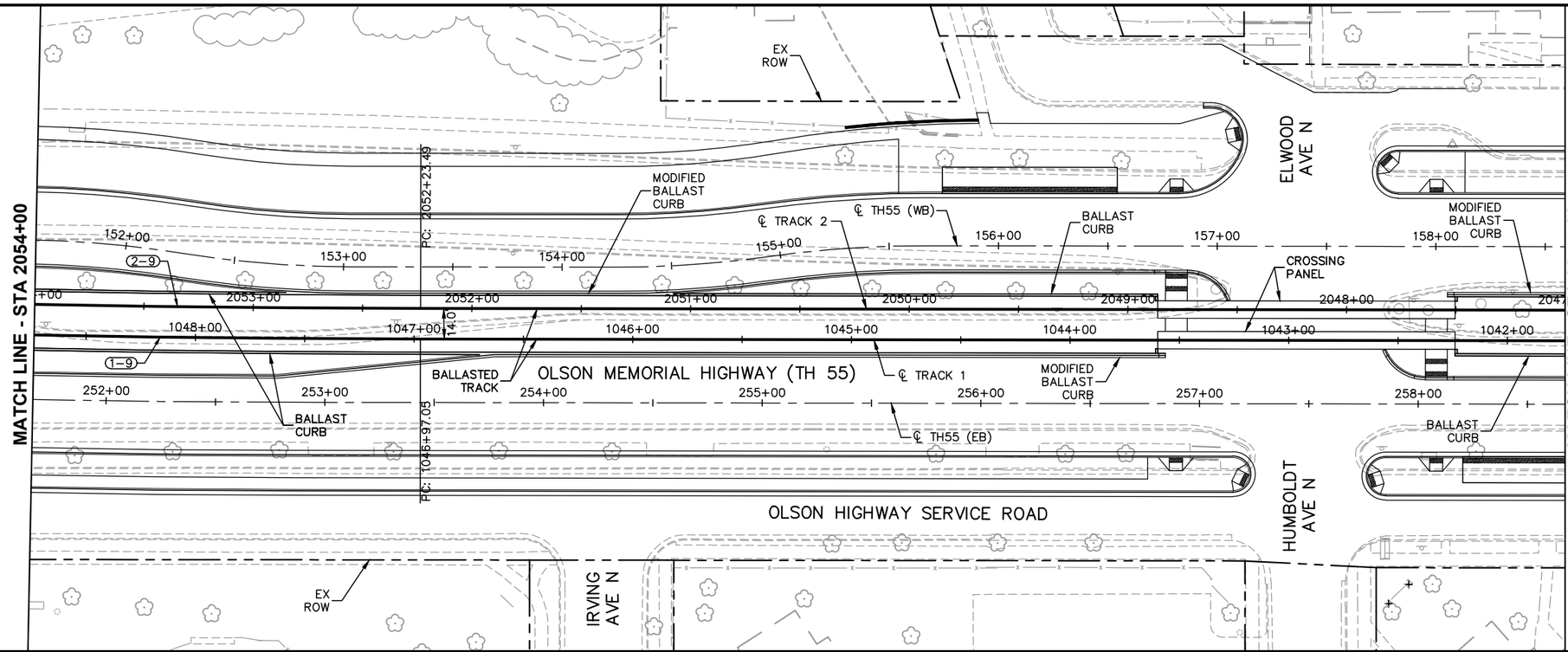
DISCIPLINE: TRACK
SHEET NAME: M-TRK-PPFL-007

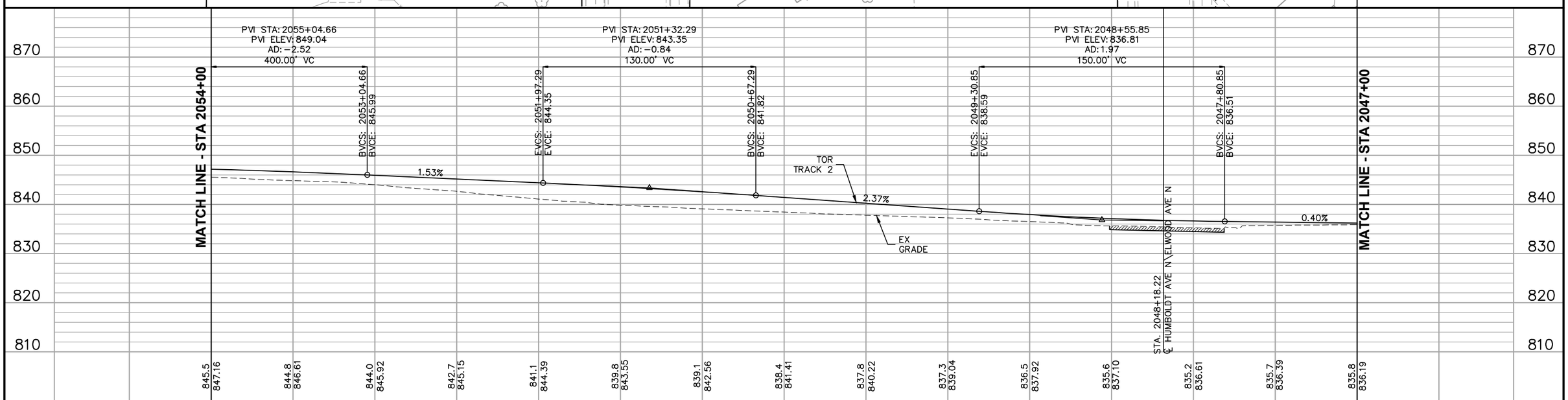
SHEET 60 OF 107

Dec, 07 2015 08:35 am H:\BPO\550_Design_Consultant\CAD\006-SEGMENT-M\MC\PLAN SHEETS\TRACK\M-TRK-PPFL.dwg By: V-Prudho

CURVE NO 2-9
R = 10000.00'
Lc = 181.24'
Ls = 0.00'
Ea = 0.00"
Eu = 1.43"
Vd = 60 MPH

CURVE NO 1-9
R = 10014.00'
Lc = 181.49'
Ls = 0.00'
Ea = 0.00"
Eu = 1.42"
Vd = 60 MPH





DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn

WSP | PARSONS BRINCKERHOFF

MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

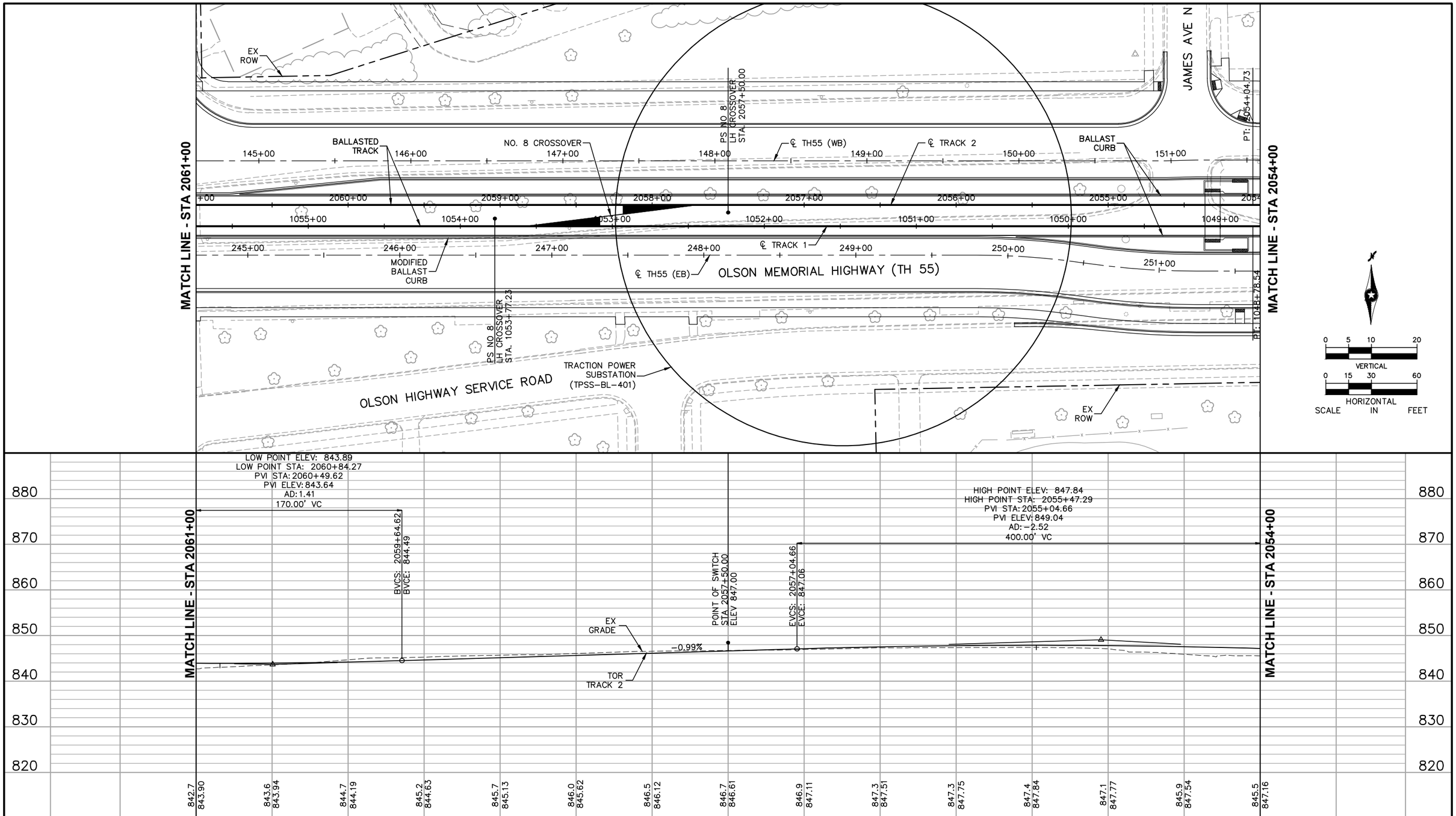
SEGMENT M
OLSON MEMORIAL HWY (TH55)
PLAN AND PROFILE
STA 2047+00 TO STA 2054+00

DISCIPLINE: TRACK

SHEET NAME: M-TRK-PPFL-008

SHEET 61 OF 107

Dec, 07 2015 08:37 am H:\BPO\550_Design_Consultant\CAD\006-SEGMENT-M\MC\PLAN SHEETS\TRACK\M-TRK-PPFL.dwg By: V-Prudho



DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn

WSP | PARSONS BRINCKERHOFF

MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

SEGMENT M
OLSON MEMORIAL HWY (TH55)
PLAN AND PROFILE
STA 2054+00 TO STA 2061+00

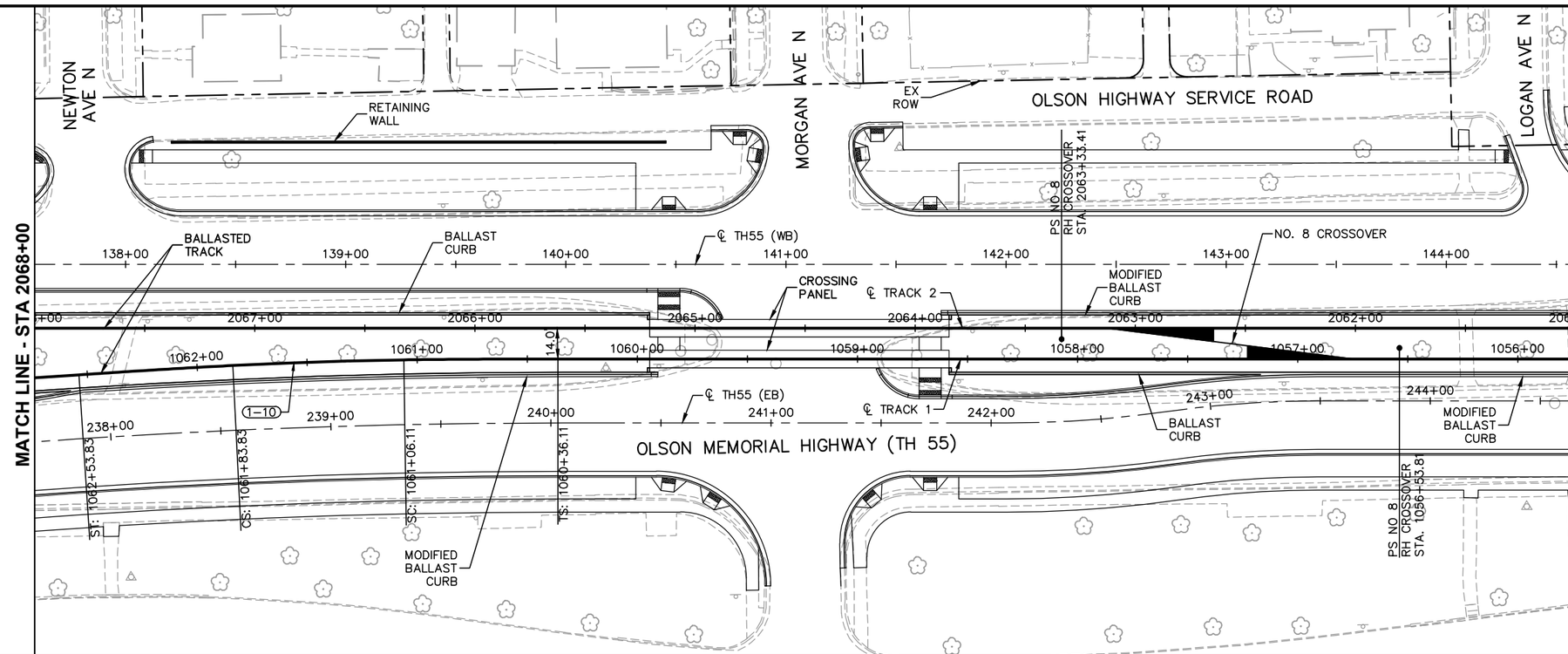
DISCIPLINE: TRACK

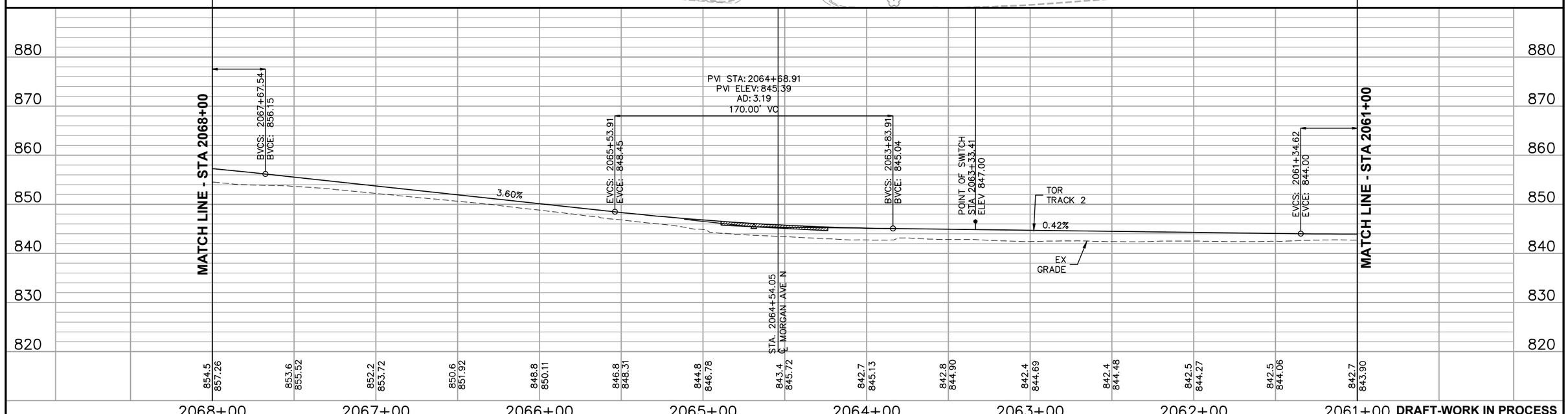
SHEET NAME: M-TRK-PPFL-009

SHEET 62 OF 107

Dec, 07 2015 08:39 am H:\BPO\550_Design_Consultant\CAD\006-SEGMENT-M\MC\PLAN SHEETS\TRACK\M-TRK-PPFL.dwg By: V-Prudho

CURVE NO 1–10
R = 2250.00'
Lc = 77.72'
Ls = 70.00'
Eq = 1.25"
Eu = 1.57"
Vd = 40 MPH





DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn

WSP | PARSONS BRINCKERHOFF

MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

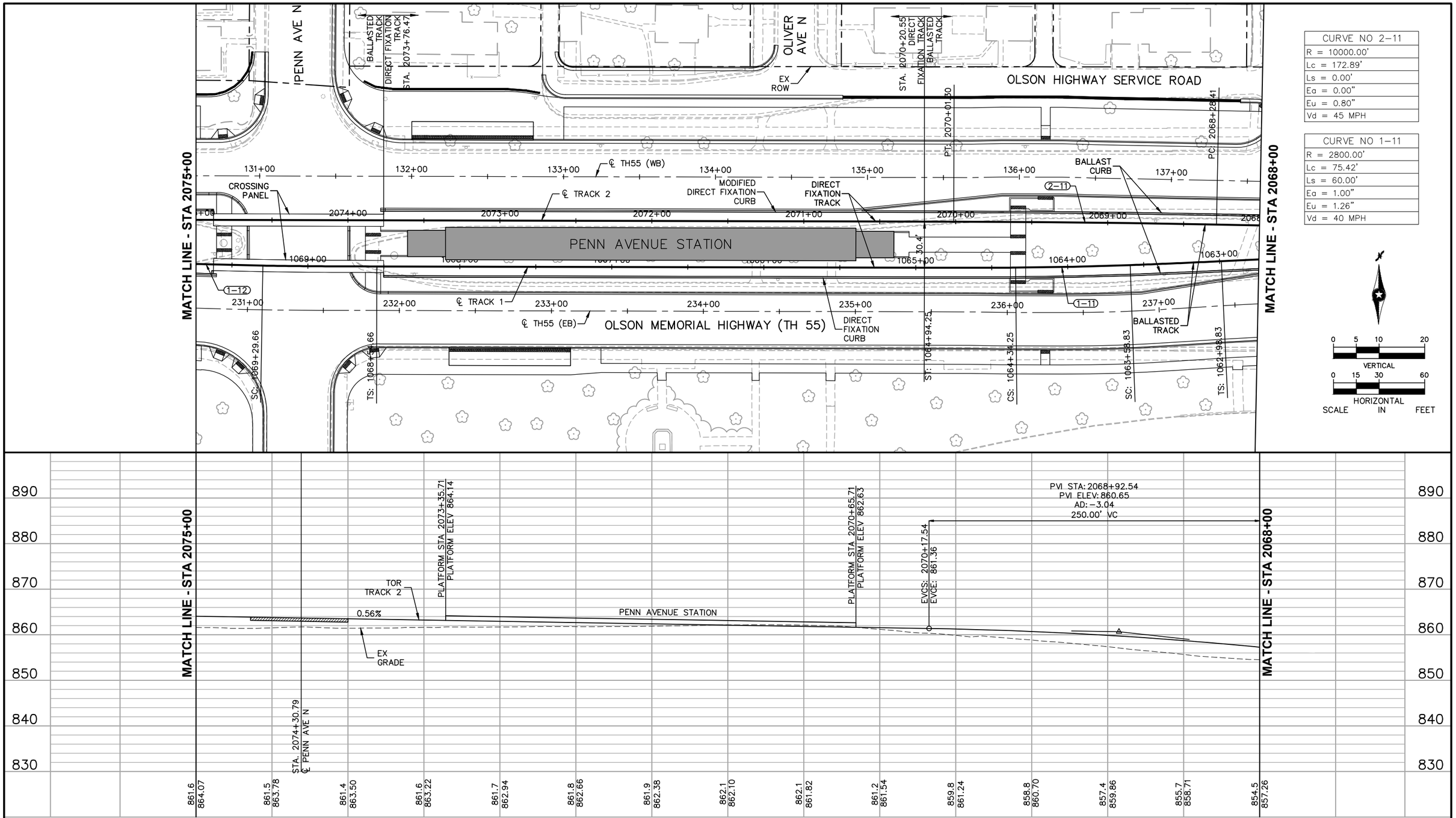
SEGMENT M
OLSON MEMORIAL HWY (TH55)
PLAN AND PROFILE
STA 2061+00 TO STA 2068+00

DISCIPLINE: TRACK

SHEET NAME: M-TRK-PPFL-010

SHEET 63 OF 107

Dec, 07 2015 08:41 am H:\BPO\550_Design_Consultant\CAD\006-SEGMENT-M\MC\PLAN SHEETS\TRACK\M-TRK-PPFL.dwg By: V-Prudho



DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn

WSP | PARSONS BRINCKERHOFF

MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

SEGMENT M
OLSON MEMORIAL HWY (TH55)
PLAN AND PROFILE
STA 2068+00 TO STA 2075+00

DISCIPLINE: TRACK

SHEET NAME: M-TRK-PPFL-011

SHEET 64 OF 107

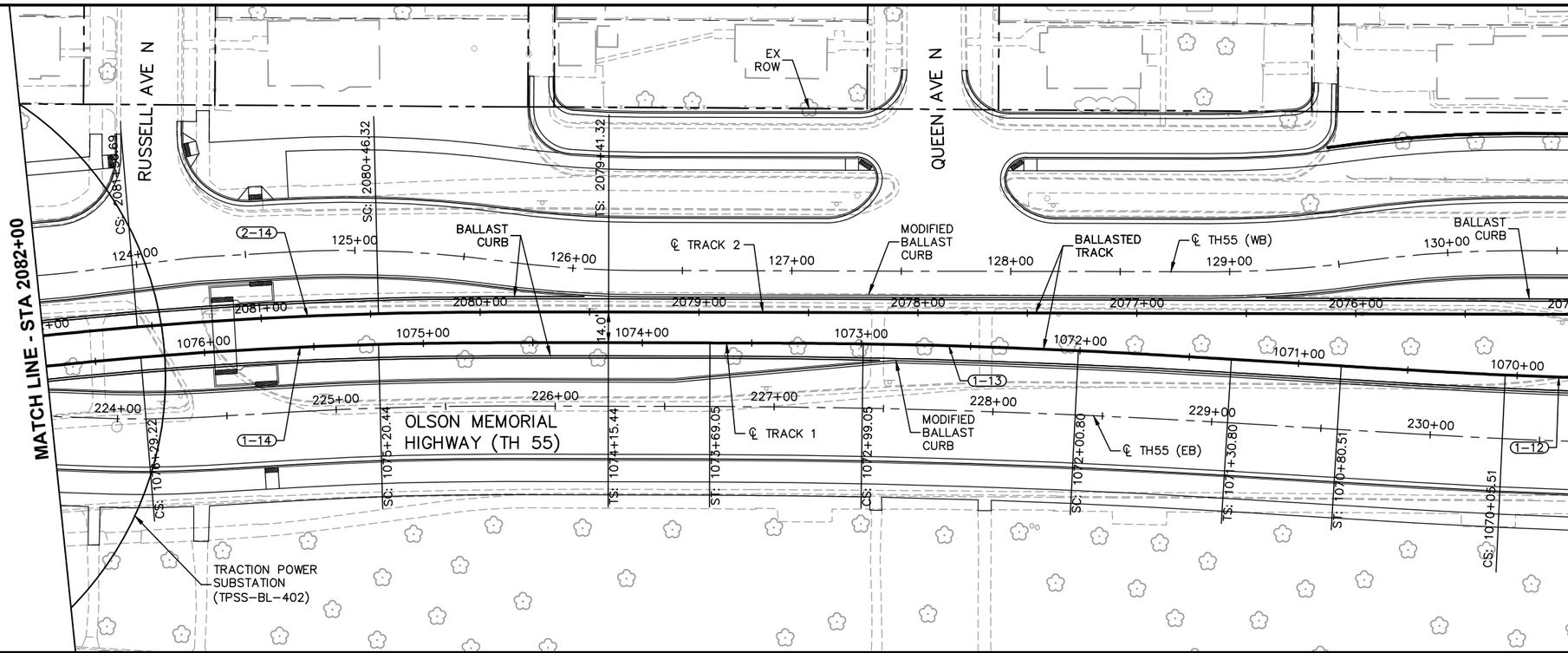
Dec, 07 2015 08:43 am H:\BPO\550_Design_Consultant\CAD\006-SEGMENT-M\MC\PLAN SHEETS\TRACK\M-TRK-PPFL.dwg By: V-Prudho

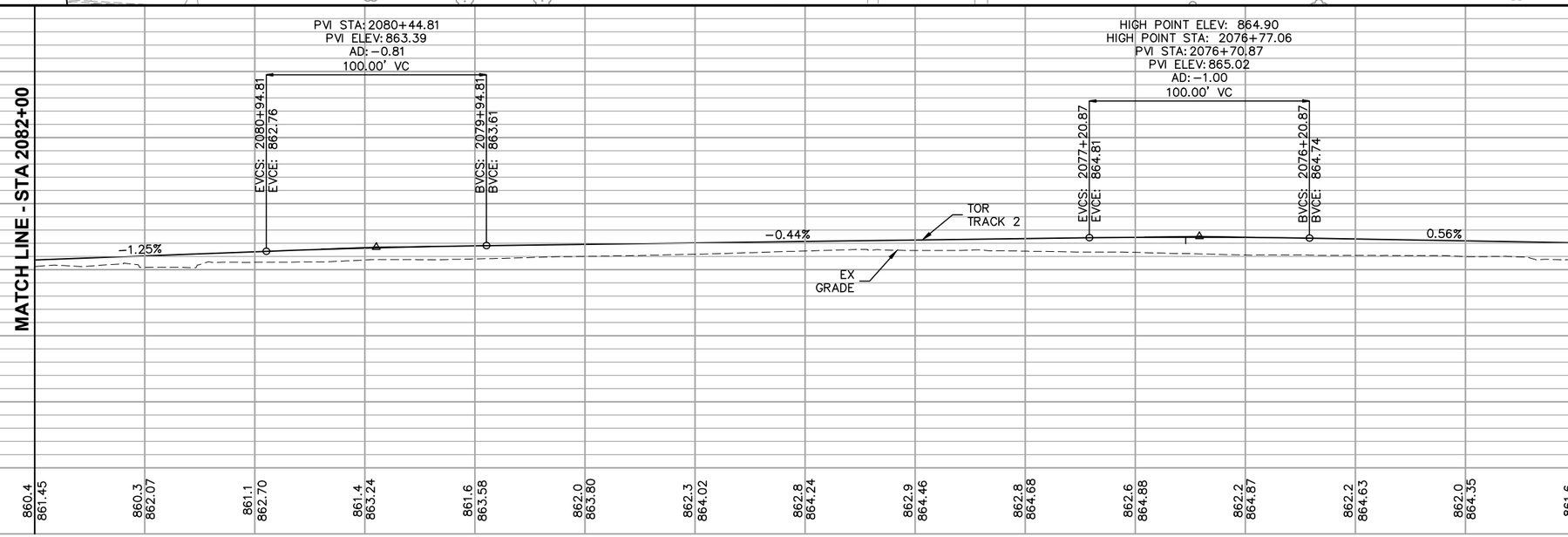
CURVE NO 2–14
R = 1889.00'
Lc = 110.37'
Ls = 105.00'
Ea = 2.25"
Eu = 2.00"
Vd = 45 MPH

CURVE NO 1–14
R = 1875.00'
Lc = 108.78'
Ls = 105.00'
Ea = 2.25"
Eu = 2.03"
Vd = 45 MPH

CURVE NO 1–12
R = 2600.00'
Lc = 75.85'
Ls = 75.00'
Ea = 0.00"
Eu = 1.87"
Vd = 35 MPH

CURVE NO 1–13
R = 2900.00'
Lc = 98.25'
Ls = 70.00'
Ea = 1.50"
Eu = 1.27"
Vd = 45 MPH





DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn

WSP | PARSONS BRINCKERHOFF

MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

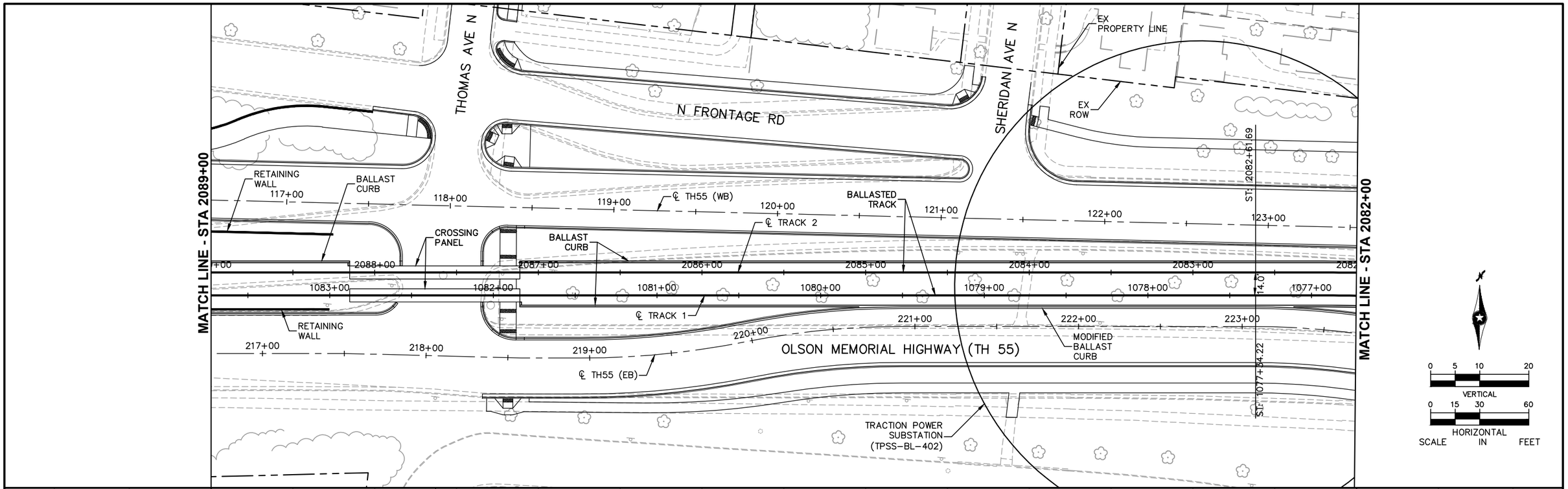
SEGMENT M
OLSON MEMORIAL HWY (TH55)
PLAN AND PROFILE
STA 2075+00 TO STA 2082+00

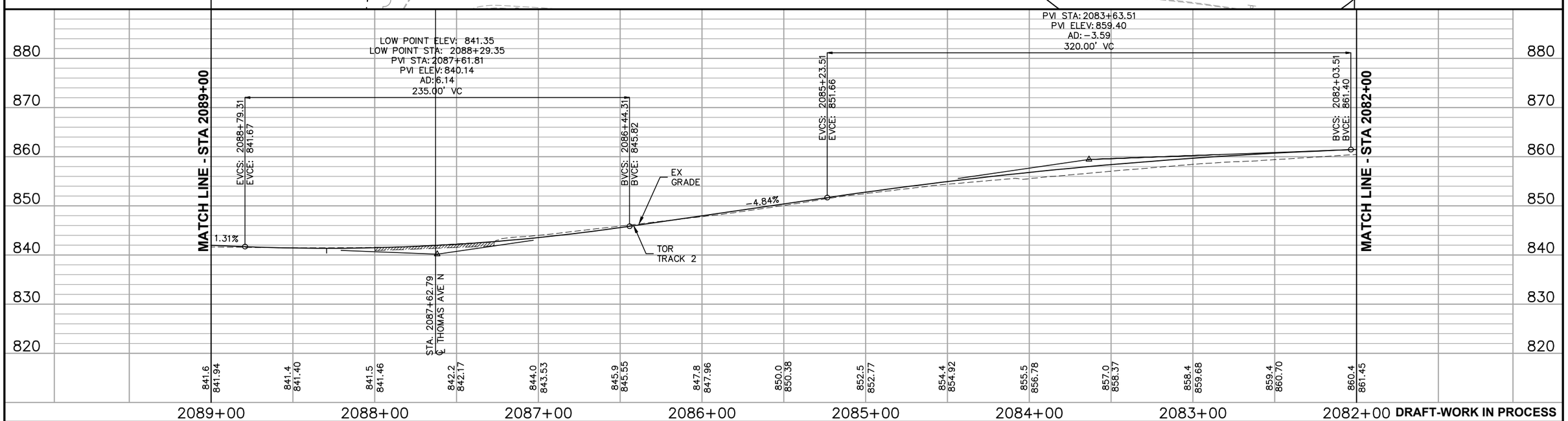
DISCIPLINE: TRACK

SHEET NAME: M-TRK-PPFL-012

SHEET 65 OF 107

Dec, 07 2015 08:47 am H:\BPO\550_Design_Consultant\CAD\006-SEGMENT-M\MC\PLAN SHEETS\TRACK\M-TRK-PPFL.dwg By: V-Prudho





DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn

WSP | PARSONS BRINCKERHOFF

MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION BOTTINEAU LRT

METROPOLITAN COUNCIL

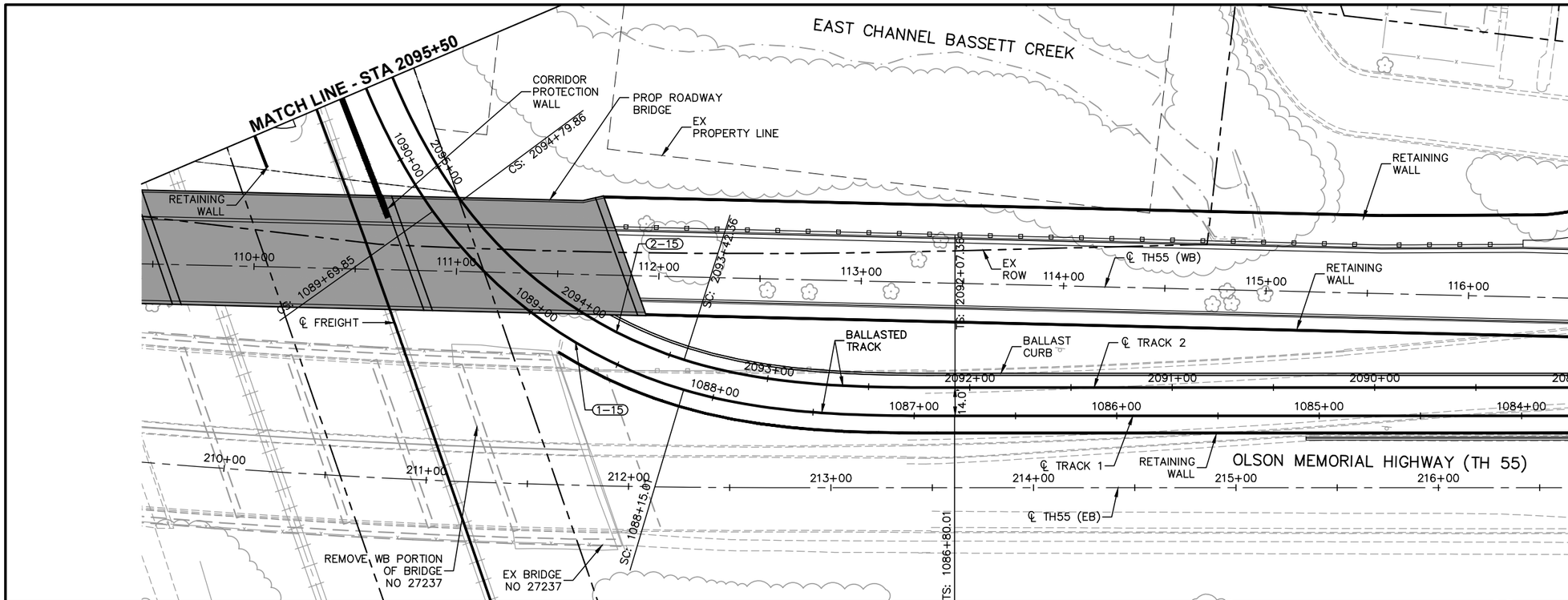
SEGMENT M
OLSON MEMORIAL HWY (TH55)
PLAN AND PROFILE
STA 2082+00 TO STA 2089+00

DISCIPLINE: TRACK

SHEET NAME: M-TRK-PPFL-013

SHEET 66 OF 107

Dec, 07 2015 08:49 am H:\BPO\550_Design_Consultant\CAD\006-SEGMENT-M\MC\PLAN SHEETS\TRACK\M-TRK-PPFL.dwg By: V-Prudho



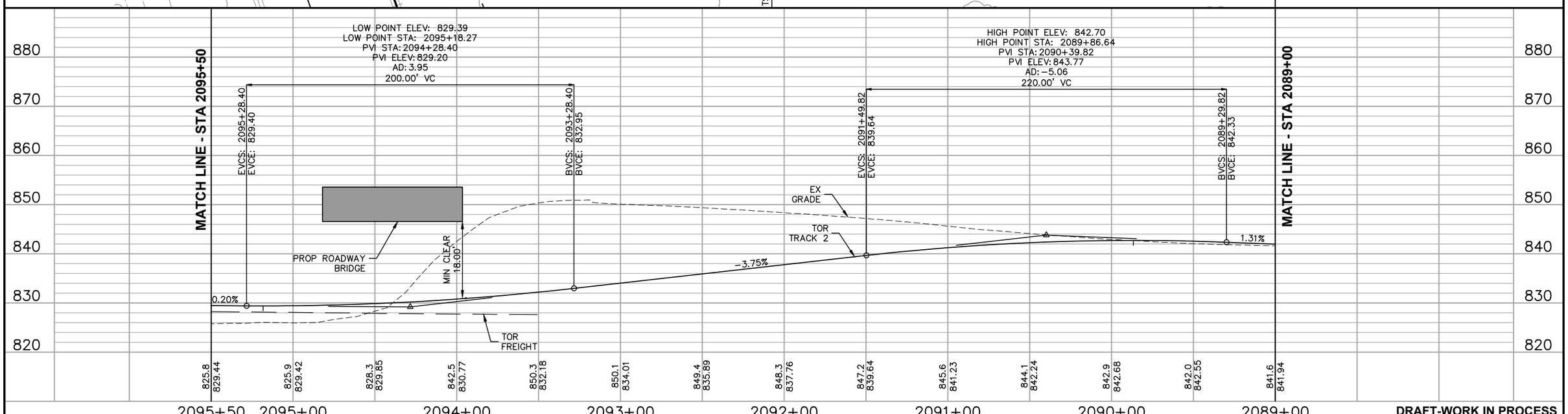
CURVE NO 2-15
R = 220.00'
Lc = 137.50'
Ls = 135.00'
Ea = 4.00"
Eu = 3.20"
Vd = 20 MPH

CURVE NO 1-15
R = 234.00'
Lc = 154.84'
Ls = 135.00'
Ea = 4.00"
Eu = 2.77"
Vd = 20 MPH

0 5 10 20 VERTICAL

0 15 30 60 HORIZONTAL

SCALE IN FEET



DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn

WSP | PARSONS BRINCKERHOFF

MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

SEGMENT M
OLSON MEMORIAL HWY (TH55)
PLAN AND PROFILE
STA 2089+00 TO STA 2095+50

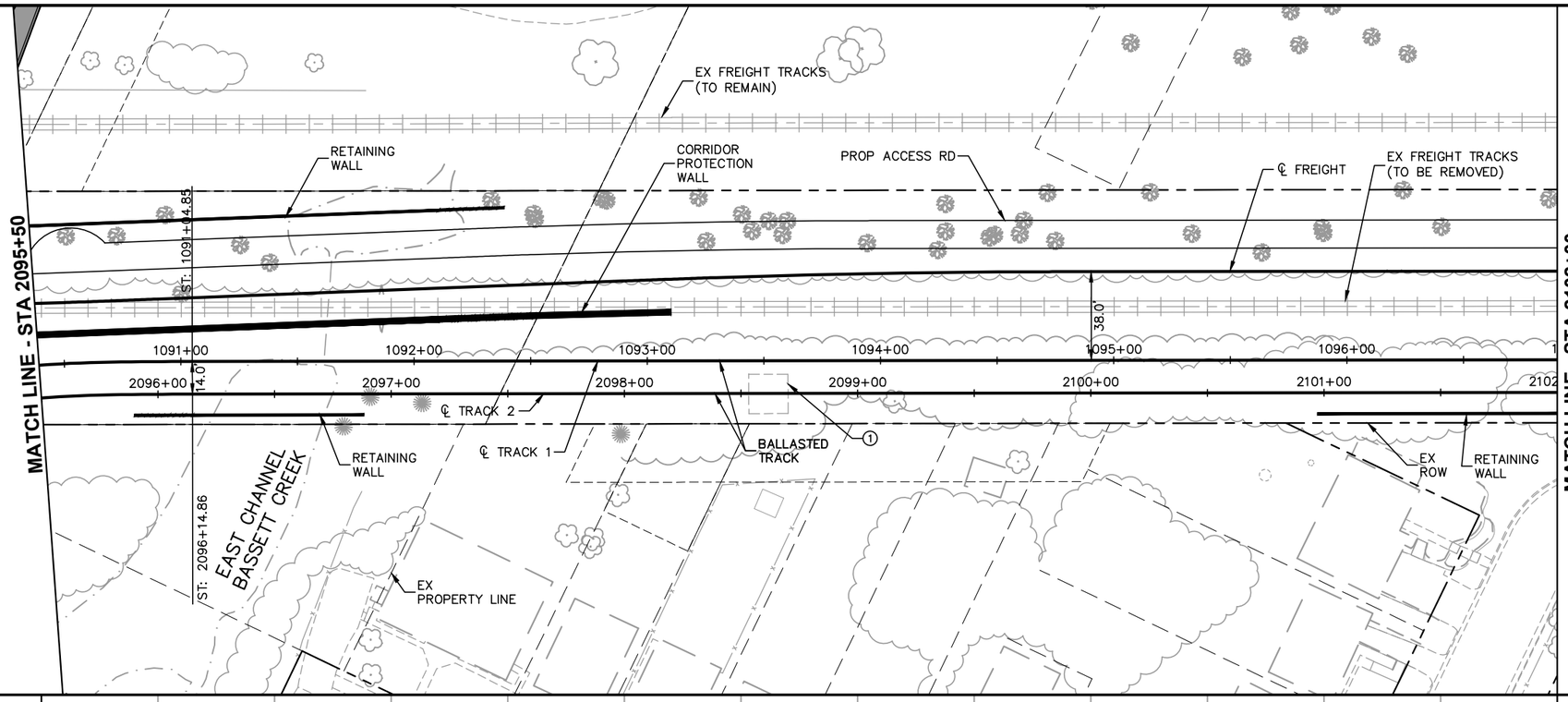
DISCIPLINE: TRACK

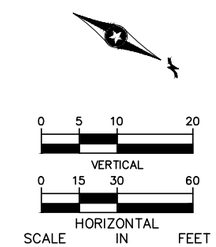
SHEET NAME: M-TRK-PPFL-014

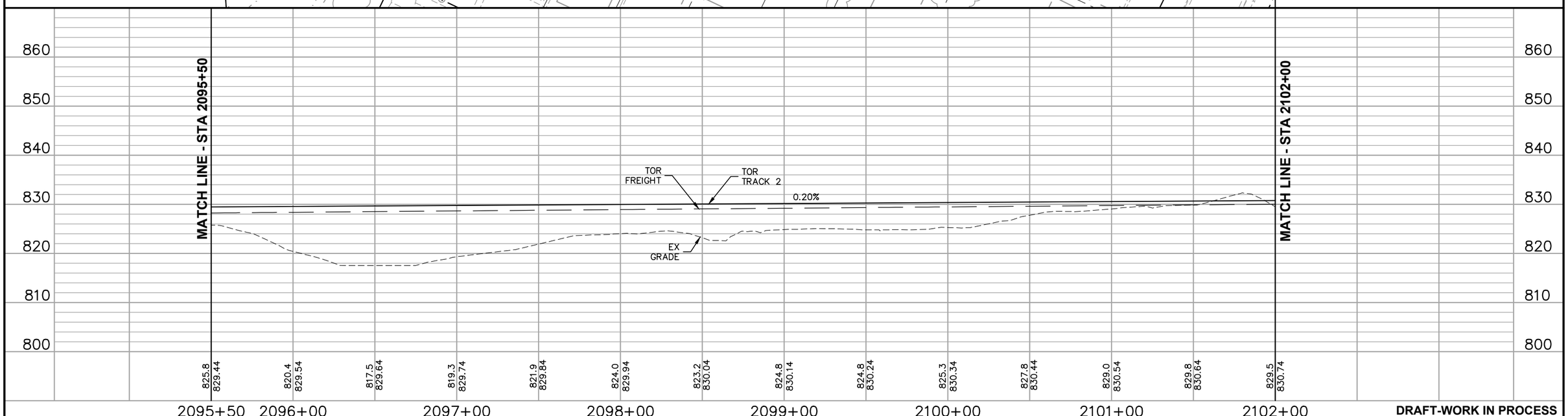
SHEET 67 OF 107

Dec, 07 2015 08:51 am H:\BPO\550_Design_Consultant\CAD\006-SEGMENT-M\MC\PLAN SHEETS\TRACK\M-TRK-PPFL.dwg By: V-Prudho

① NOTES:
XCEL TRANSMISSION TOWERS TO BE SHIFTED TO WEST SIDE OF BNSF ROW. SEE TRACK TYPICAL SECTIONS.







DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn
WSP | PARSONS BRINCKERHOFF

MUNICIPAL CONSENT

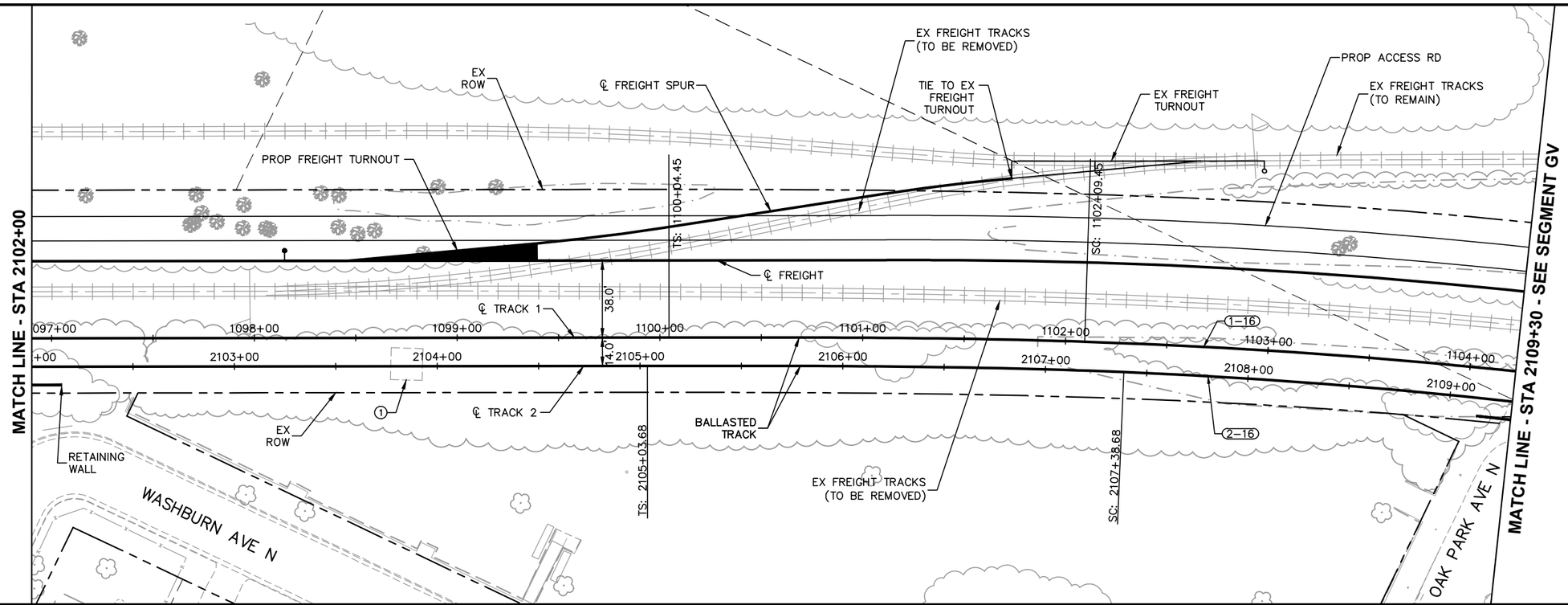
METRO BLUE LINE EXTENSION Bottineau LRT
METROPOLITAN COUNCIL

SEGMENT M
RAIL CORRIDOR
PLAN AND PROFILE
STA 2095+50 TO STA 2102+00

DISCIPLINE: TRACK
SHEET NAME: M-TRK-PPFL-015

SHEET 68 OF 107

Dec, 07 2015 08:53 am H:\BPO\550_Design_Consultant\CAD\006-SEGMENT-M\MC\PLAN SHEETS\TRACK\M-TRK-PPFL.dwg By: V-Prudho

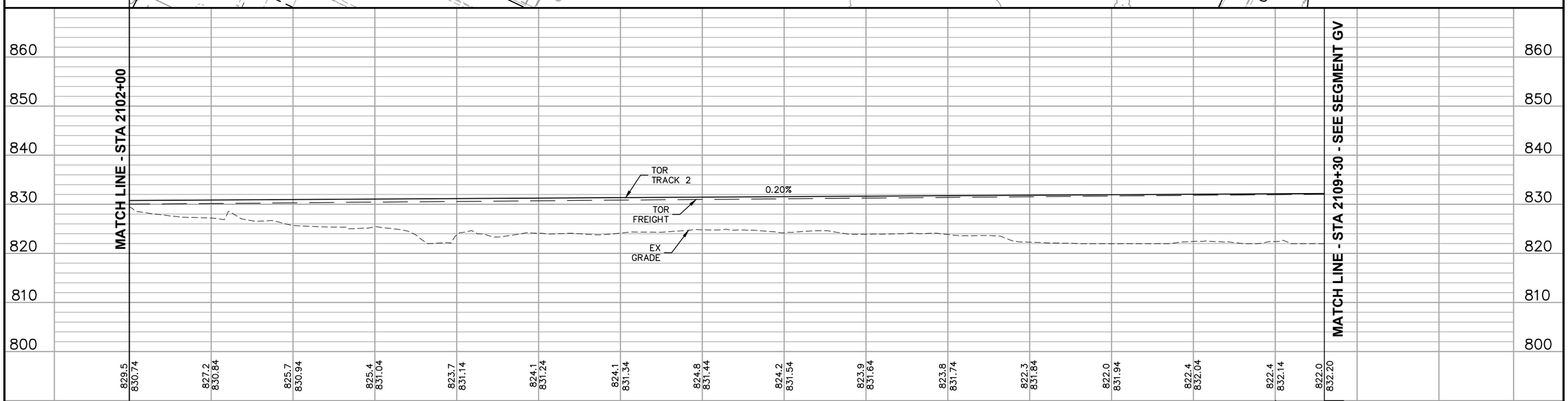


1 NOTES:
XCEL TRANSMISSION TOWERS TO BE SHIFTED TO WEST SIDE OF BNSF ROW. SEE TRACK TYPICAL SECTIONS.

CURVE NO 2-16
R = 2780.00'
Lc = 941.65'
Ls = 235.00'
Ea = 3.50"
Eu = 2.52"
Vd = 65 MPH

CURVE NO 1-16
R = 3000.00'
Lc = 1064.76'
Ls = 205.00'
Ea = 3.00"
Eu = 2.58"
Vd = 65 MPH

0 5 10 20
VERTICAL
0 15 30 60
HORIZONTAL
SCALE IN FEET



DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn
WSP | PARSONS BRINCKERHOFF

MUNICIPAL CONSENT

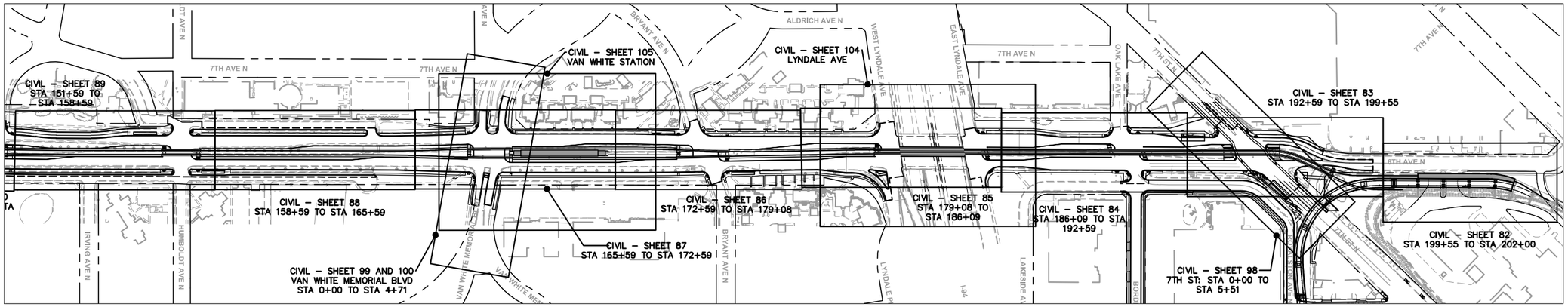
METRO BLUE LINE EXTENSION Bottineau LRT
METROPOLITAN COUNCIL

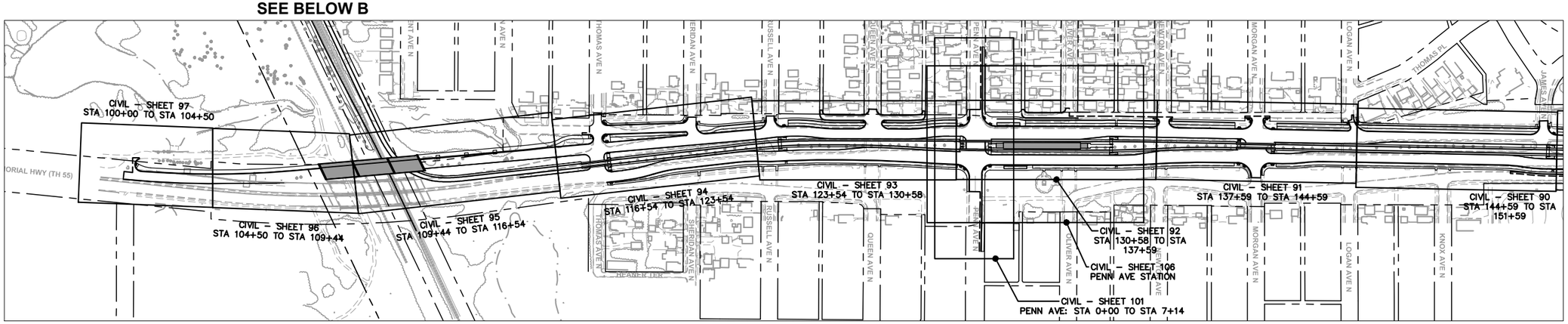
SEGMENT M
RAIL CORRIDOR
PLAN AND PROFILE
STA 2102+00 TO STA 2109+30

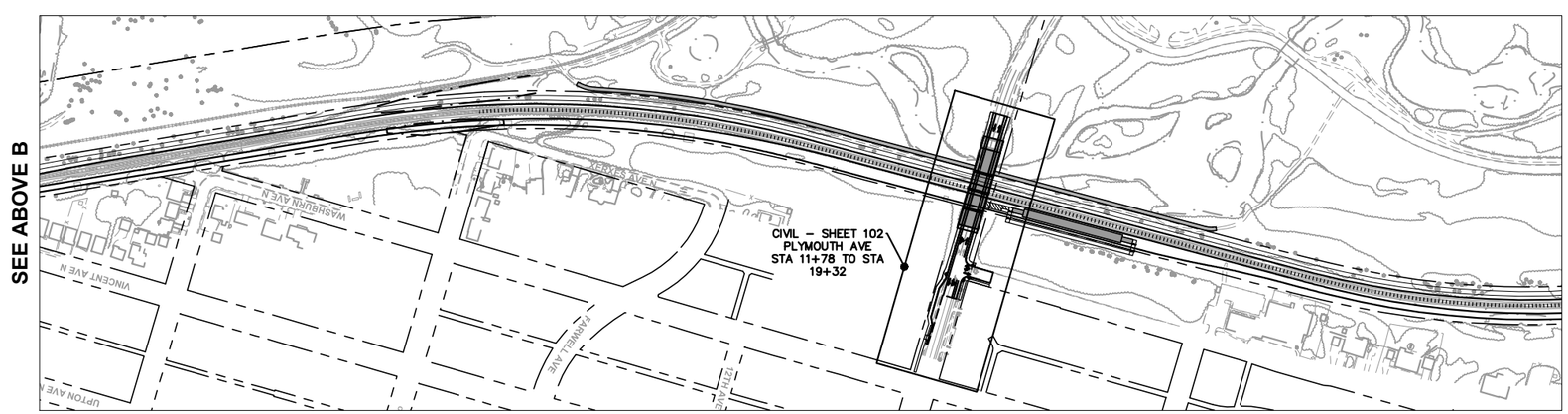
DISCIPLINE: TRACK
SHEET NAME: M-TRK-PPFL-016

SHEET 69 OF 107

Dec, 07 2015 08:56 am H:\BPO\550_Design_Consultant\CAD\006-SEGMENT-M\MCV\PLAN SHEETS\TRACK\M-TRK-PPFL.dwg By: V-Prudho







0 100 200 400
HORIZONTAL
SCALE IN FEET

DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn

MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

SEGMENT M
CIVIL
SHEET LAYOUT INDEX

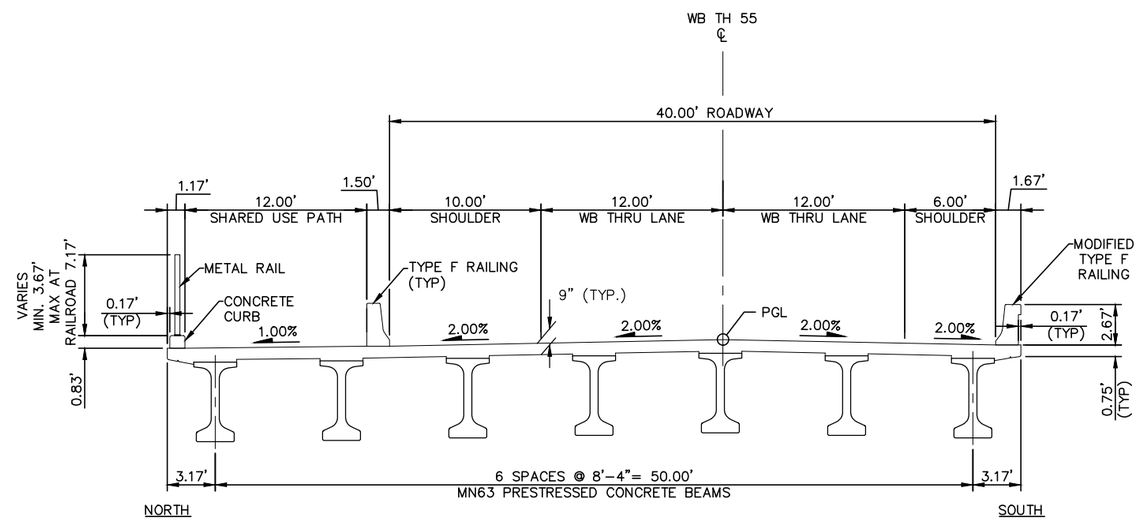
DISCIPLINE: CIVIL

SHEET NAME: M-CIV-IDX-001

SHEET 70 OF 107

Dec, 09 2015 04:12 pm H:\BPO\550_Design_Consultant\CAD\006-SEGMENT-M\MC\PLAN SHEETS\CIVIL\M-CIV-IDX.dwg By: V-MuellerAL

NOTES:
1. SLOPES LISTED ARE V:H
2. EXISTING RIGHT-OF-WAY IS LOCATED OUTSIDE OF THE EXTENTS OF THE TYPICAL SECTION



TYPICAL SECTION - PROPOSED WESTBOUND OLSON MEMORIAL HWY BRIDGE
STA 108+36 TO STA 111+86

0 2.5 5 10
SCALE IN FEET

DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn

MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION
Bottineau LRT

METROPOLITAN COUNCIL

SEGMENT M
OLSON MEMORIAL HWY (TH55)
TYPICAL SECTIONS

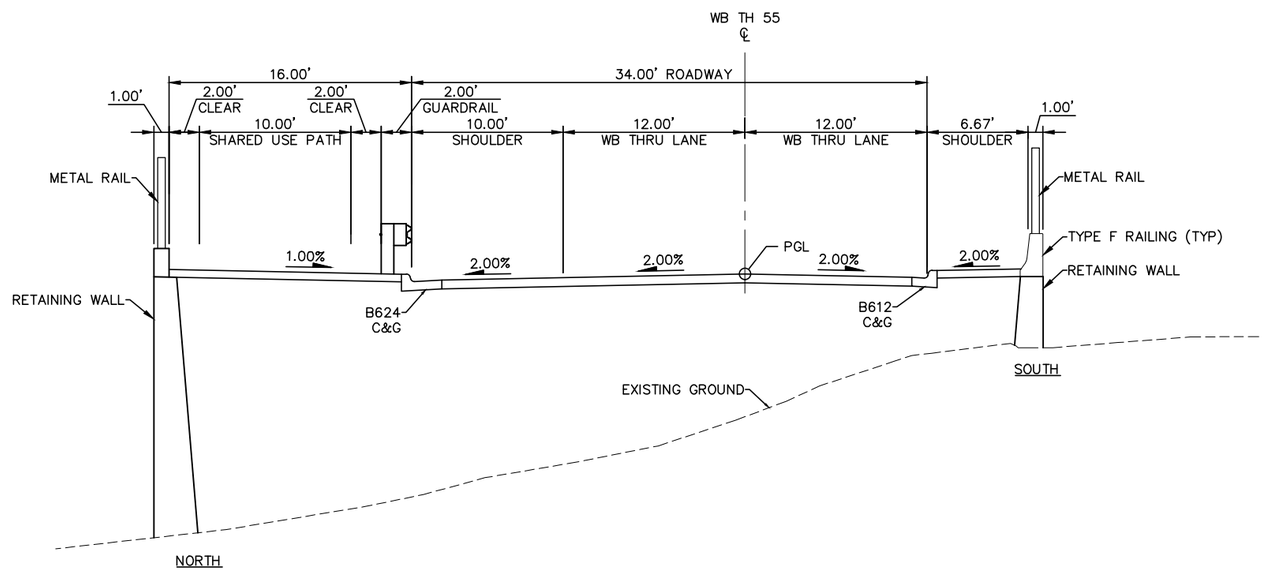
DISCIPLINE: CIVIL

SHEET NAME: M-CIV-TYPS-001

SHEET 71 OF 107

Dec, 07 2015 03:18 pm H:\BPO\550_Design_Consultant\CAD\006-SEGMENT-M\MC\PLAN SHEETS\CIVIL\M-CIV-TYPS.dwg By: V-MuelleAL

NOTES:
1. SLOPES LISTED ARE V:H
2. EXISTING RIGHT-OF-WAY IS LOCATED OUTSIDE OF THE EXTENTS OF THE TYPICAL SECTION



TYPICAL SECTION - WESTBOUND OLSON MEMORIAL HWY
STA 106+306 TO STA 108+36

0 2.5 5 10
SCALE IN FEET

DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn

MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

SEGMENT M
OLSON MEMORIAL HWY (TH55)
TYPICAL SECTIONS

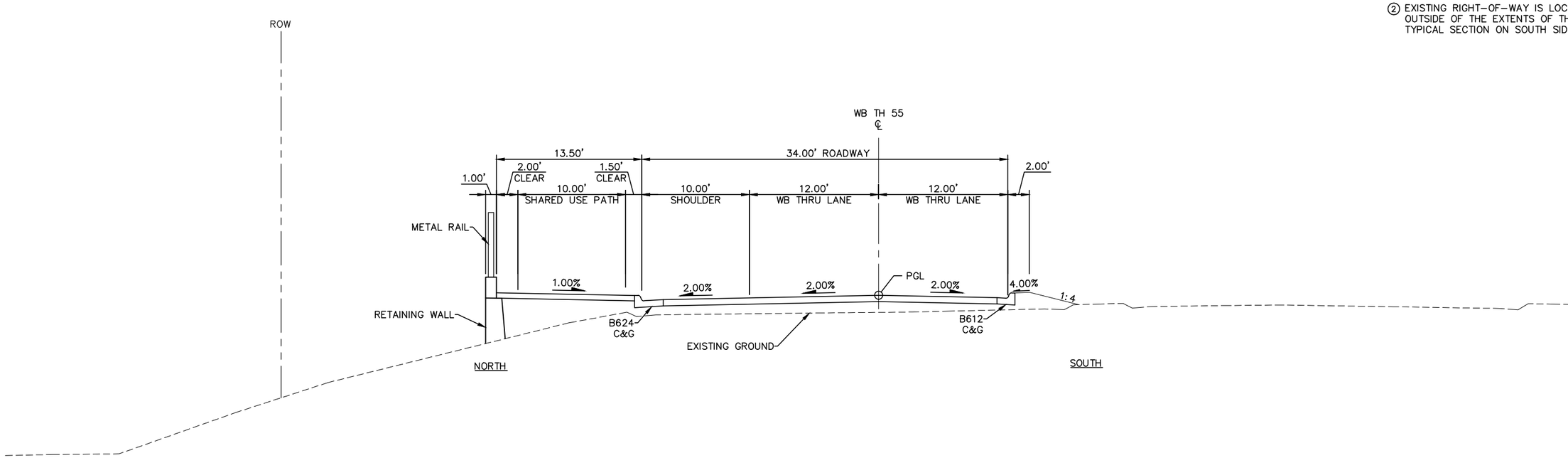
DISCIPLINE: CIVIL

SHEET NAME: M-CIV-TYPS-002

SHEET 72 OF 107

Dec, 07 2015 03:18 pm H:\BPO\550_Design_Consultant\CAD\006-SEGMENT-M\MC\PLAN SHEETS\CIVIL\M-CIV-TYPS.dwg By: V-MuelleAL

NOTES:
1. SLOPES LISTED ARE V:H
2. EXISTING RIGHT-OF-WAY IS LOCATED OUTSIDE OF THE EXTENTS OF THE TYPICAL SECTION ON SOUTH SIDE



TYPICAL SECTION - WESTBOUND OLSON MEMORIAL HWY
STA 101+38 TO STA 106+36

0 2.5 5 10
SCALE IN FEET

DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn

MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

SEGMENT M
OLSON MEMORIAL HWY (TH55)
TYPICAL SECTIONS

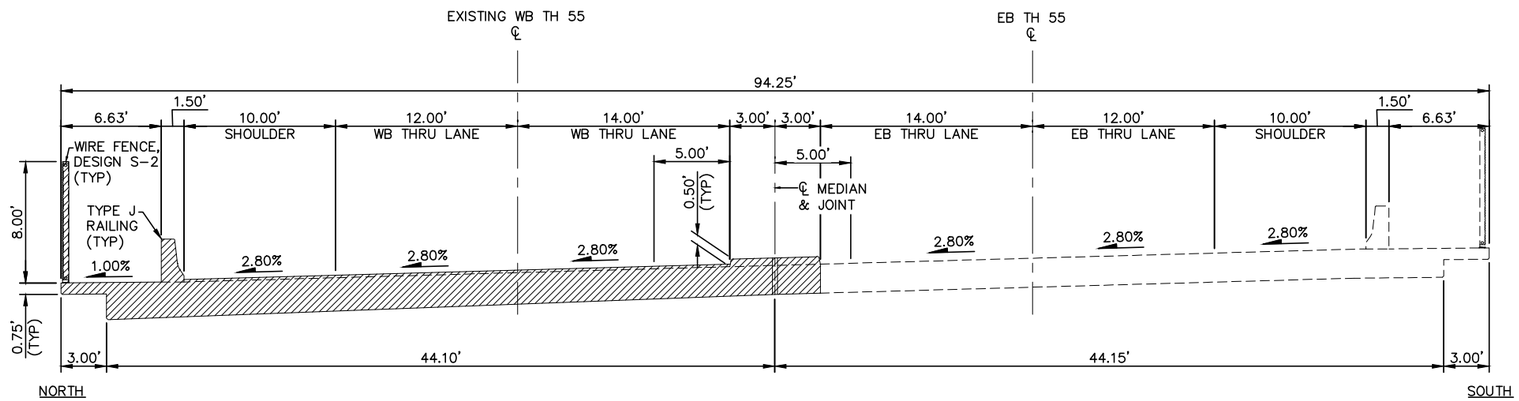
DISCIPLINE: CIVIL

SHEET NAME: M-CIV-TYPS-003

SHEET 73 OF 107

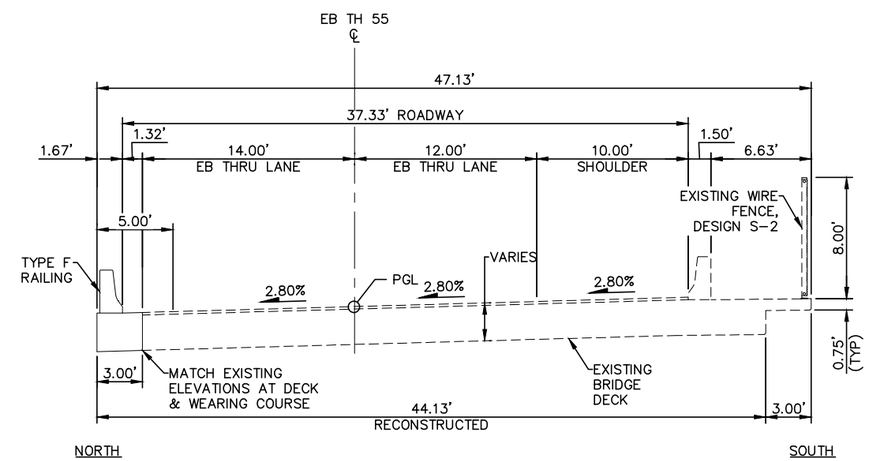
Dec, 07 2015 03:18 pm H:\BPO\550_Design_Consultant\CAD\006-SEGMENT-M\MC\PLAN SHEETS\CIVIL\M-CIV-TYPS.dwg By: V-MuelleAL

NOTES:
1. SLOPES LISTED ARE V:H
2. EXISTING RIGHT-OF-WAY IS LOCATED OUTSIDE OF THE EXTENTS OF THE TYPICAL SECTION



▨ DENOTES REMOVAL OF DECK AND OTHER ELEMENTS.

EXISTING



PROPOSED

TYPICAL SECTION - EXISTING EASTBOUND OLSON MEMORIAL HWY BRIDGE
STA 208+87 TO STA 211+87

0 2.5 5 10
SCALE IN FEET

DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn

MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION BottineauLRT

METROPOLITAN COUNCIL

SEGMENT M
OLSON MEMORIAL HWY (TH55)
TYPICAL SECTIONS

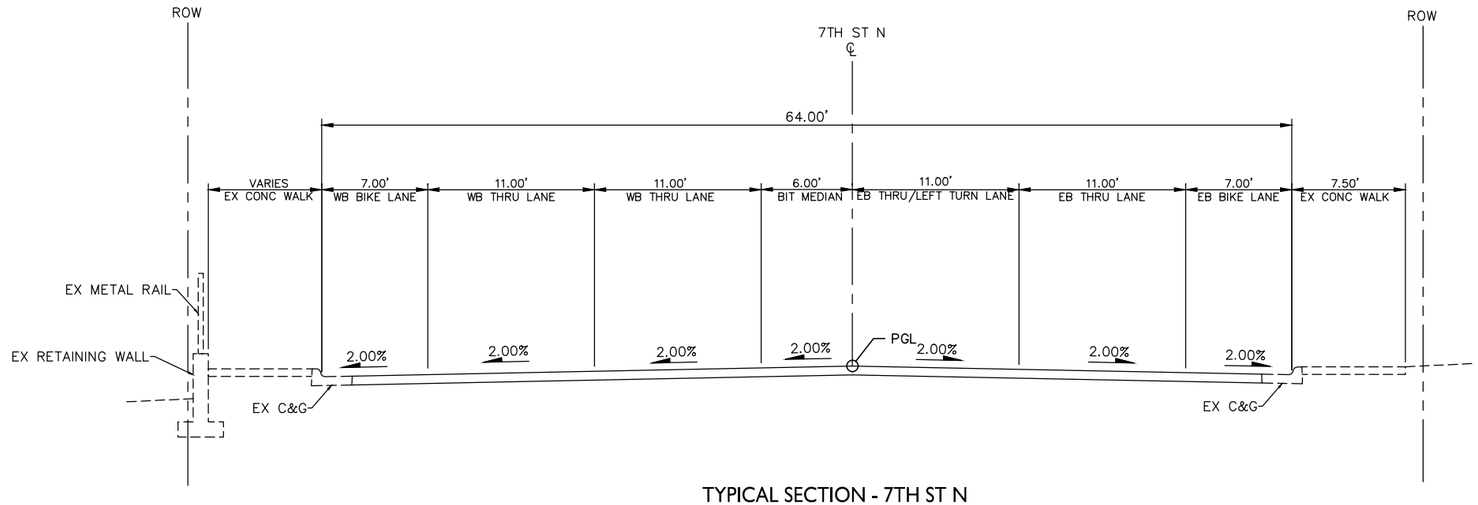
DISCIPLINE: CIVIL

SHEET NAME: M-CIV-TYPS-004

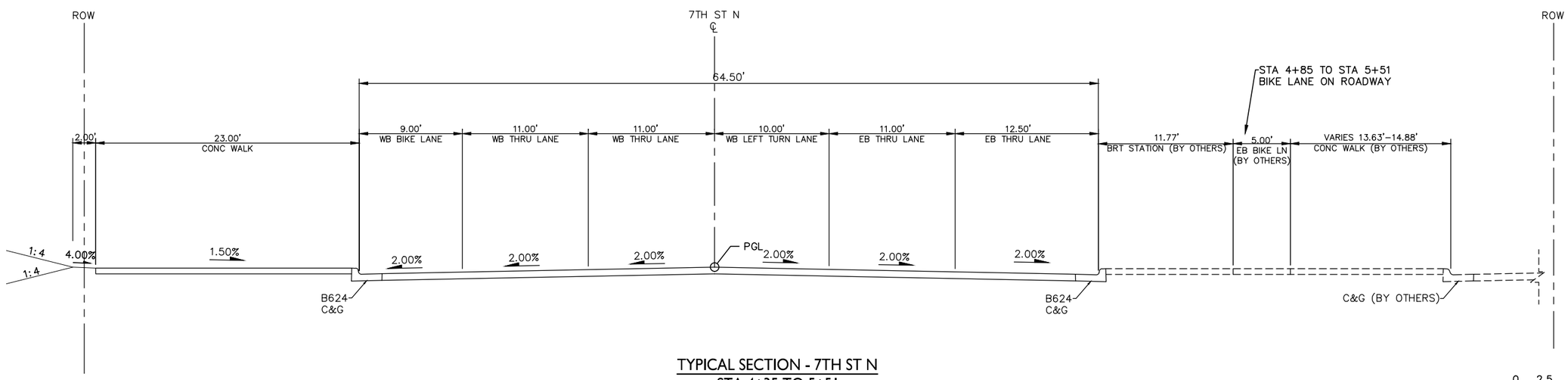
SHEET 74 OF 107

Dec, 07 2015 03:18 pm H:\BPO\550_Design_Consultant\CAD\006-SEGMENT-M\MC\PLAN SHEETS\CIVIL\M-CIV-TYPS.dwg By: V-MuelleAL

NOTES:
1. SLOPES LISTED ARE V:H



TYPICAL SECTION - 7TH ST N
STA 0+00 TO STA 0+95



TYPICAL SECTION - 7TH ST N
STA 4+35 TO 5+51

0 2.5 5 10
SCALE IN FEET

DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn

MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

SEGMENT M
7TH ST N
TYPICAL SECTIONS

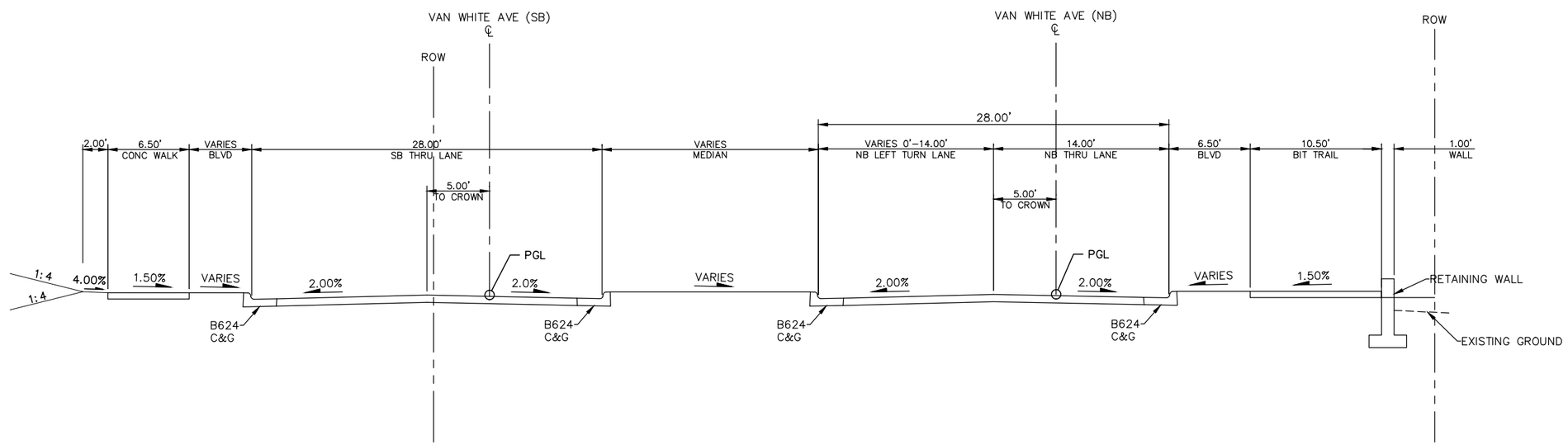
DISCIPLINE: CIVIL

SHEET NAME: M-CIV-TYPS-005

SHEET 75 OF 107

Dec, 07 2015 03:18 pm H:\BPO\550_Design_Consultant\CAD\006-SEGMENT-M\MC\PLAN SHEETS\CIVIL\M-CIV-TYPS.dwg By: V-MuelleAL

NOTES:
1. SLOPES LISTED ARE V:H



TYPICAL SECTION - NORTHBOUND VAN WHITE BLVD
STA 20+00 TO STA 24+71

0 2.5 5 10
SCALE IN FEET

DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn

MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

SEGMENT M
VAN WHITE BLVD
TYPICAL SECTIONS

DISCIPLINE: CIVIL

SHEET NAME: M-CIV-TYPS-006

SHEET 76 OF 107

Dec, 07 2015 03:18 pm H:\BPO\550_Design_Consultant\CAD\006-SEGMENT-M\MC\PLAN SHEETS\CIVIL\M-CIV-TYPS.dwg By: V-MuelleAL

NOTES:
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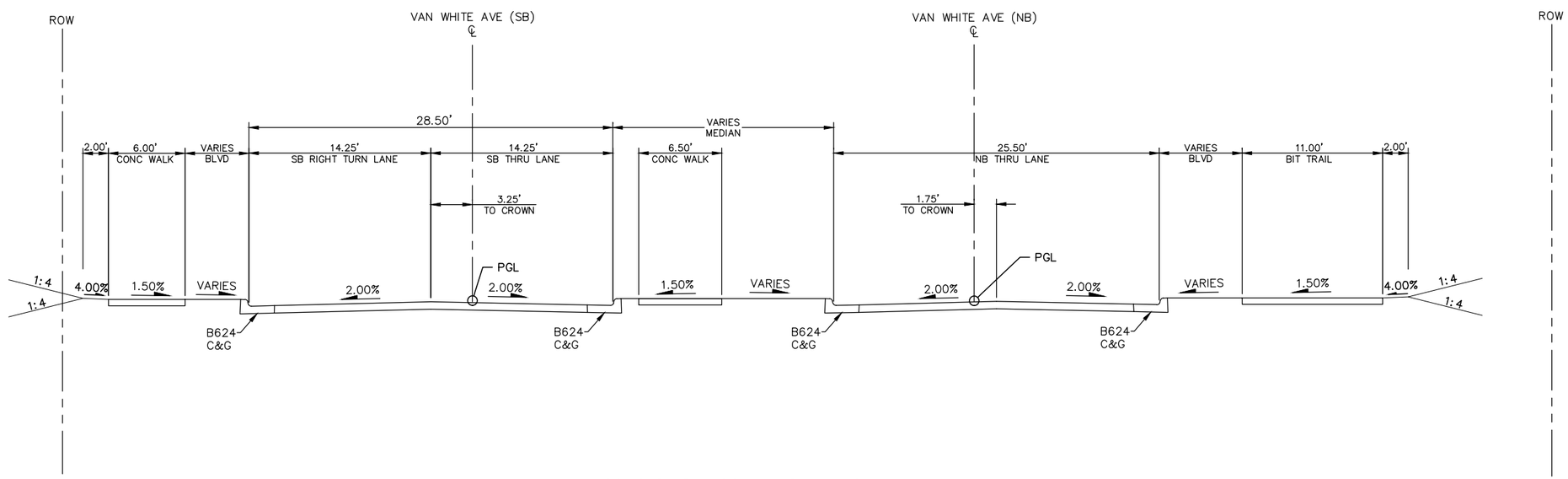


TYPICAL SECTION - SOUTHBOUND VAN WHITE BLVD
STA 10+00 TO STA 14+16

0 2.5 5 10
SCALE IN FEET

DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn

MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

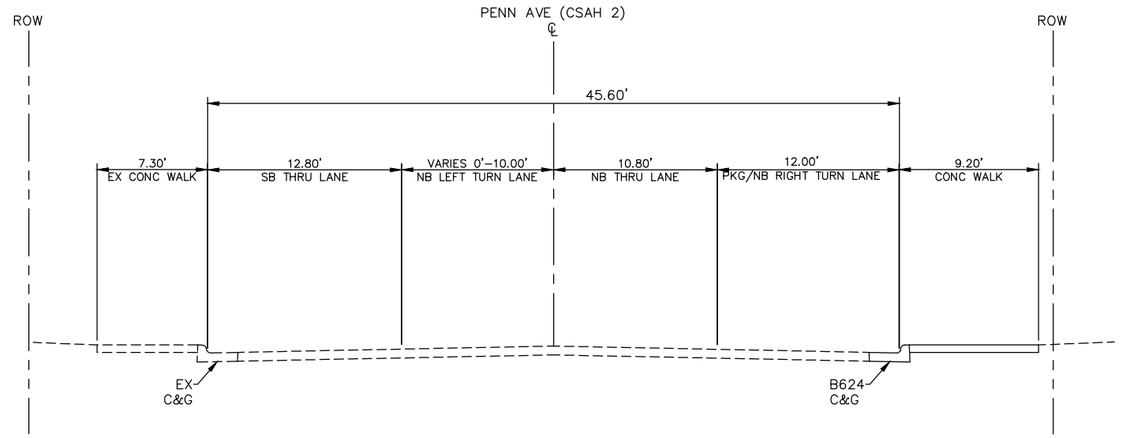
SEGMENT M
VAN WHITE BLVD
TYPICAL SECTIONS

DISCIPLINE: CIVIL

SHEET NAME: M-CIV-TYPS-007

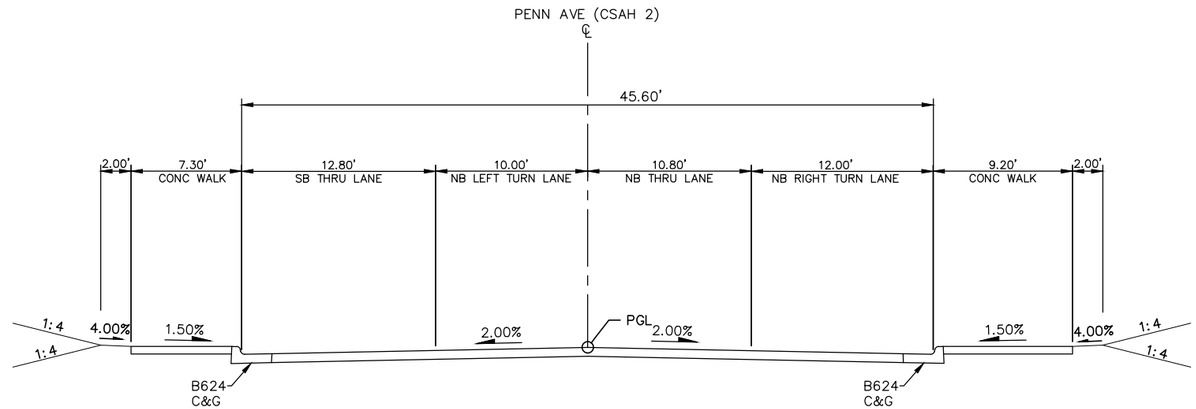
SHEET 77 OF 107

Dec, 07 2015 03:18 pm H:\BPO\550_Design_Consultant\CAD\006-SEGMENT-M\MC\PLAN SHEETS\CIVIL\M-CIV-TYPS.dwg By: V-MuelleAL



TYPICAL SECTION - PENN AVE (CSAH 2)
STA 0+00 TO 2+09

NOTES:
1. SLOPES LISTED ARE V:H
2. STA 2+09 TO STA 2+99 EXISTING RIGHT-OF-WAY IS LOCATED OUTSIDE OF THE EXTENTS OF THE TYPICAL SECTION



TYPICAL SECTION - PENN AVE (CSAH 2)
STA 2+09 TO STA 2+99

0 2.5 5 10
SCALE IN FEET

DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn

MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

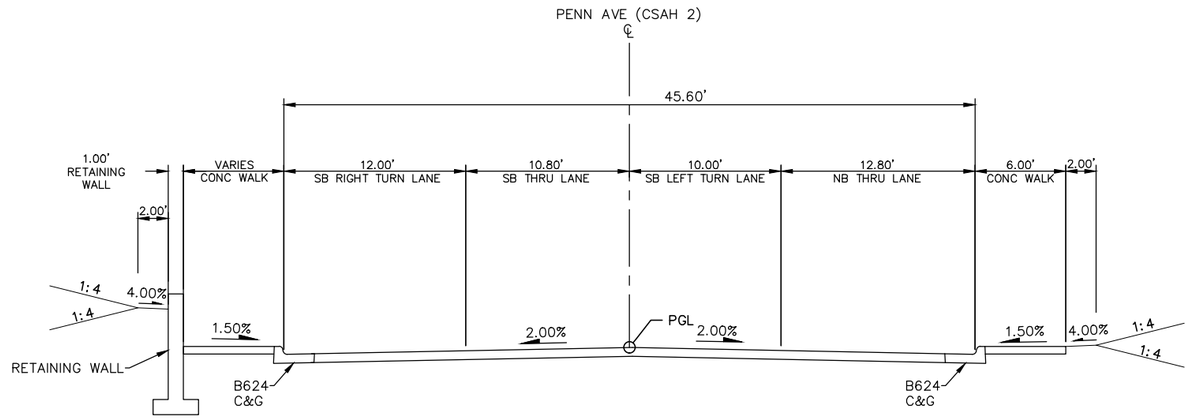
SEGMENT M
PENN AVE (CSAH 2)
TYPICAL SECTIONS

DISCIPLINE: CIVIL

SHEET NAME: M-CIV-TYPS-008

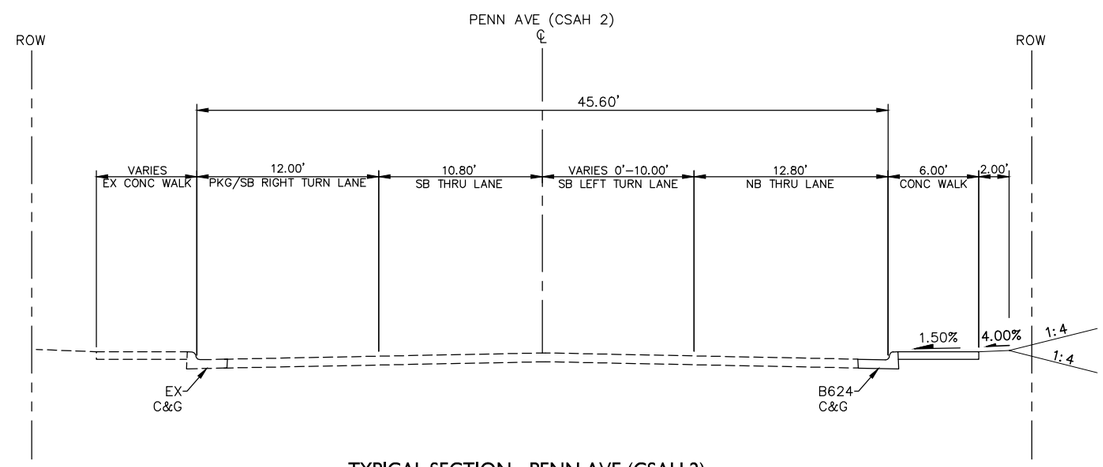
SHEET 78 OF 107

Dec, 07 2015 03:18 pm H:\BPO\550_Design_Consultant\CAD\006-SEGMENT-M\MC\PLAN SHEETS\CIVIL\M-CIV-TYPS.dwg By: V-MuelleAL



TYPICAL SECTION - PENN AVE (CSAH 2)
STA 4+58 TO STA 4+95

NOTES:
1. SLOPES LISTED ARE V:H
2. STA 4+58 TO STA 4+95 EXISTING RIGHT-OF-WAY IS LOCATED OUTSIDE OF THE EXTENTS OF THE TYPICAL SECTION



TYPICAL SECTION - PENN AVE (CSAH 2)
STA STA 4+95 TO STA 7+14

0 2.5 5 10
SCALE IN FEET

DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn

MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

SEGMENT M
PENN AVE (CSAH 2)
TYPICAL SECTIONS

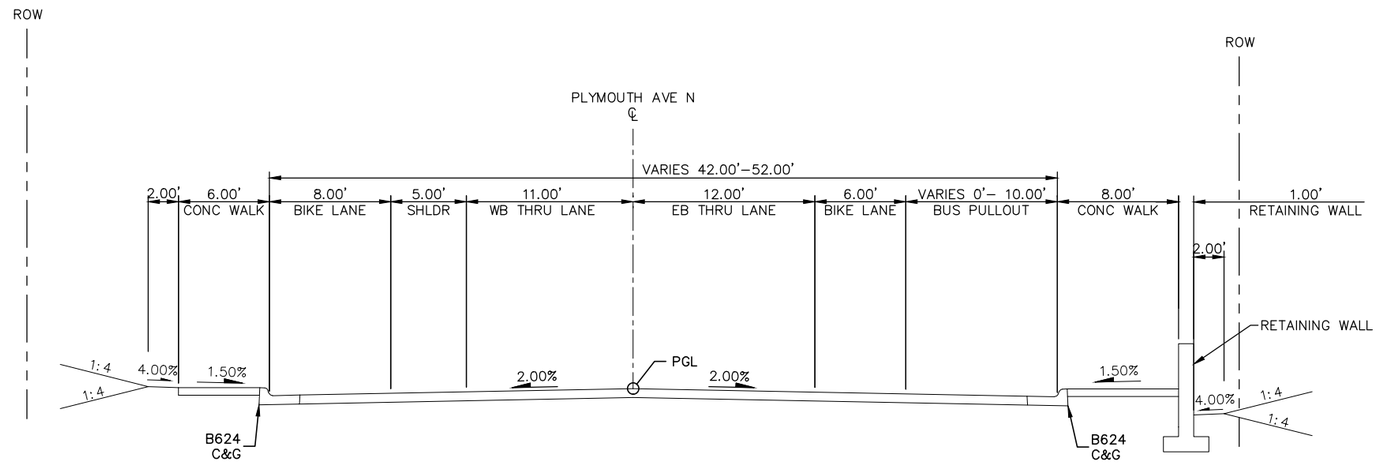
DISCIPLINE: CIVIL

SHEET NAME: M-CIV-TYPS-009

SHEET 79 OF 107

Dec, 07 2015 03:18 pm H:\BPO\550_Design_Consultant\CAD\006-SEGMENT-M\MC\PLAN SHEETS\CIVIL\M-CIV-TYPS.dwg By: V-MuelleAL

NOTE:
SLOPES LISTED ARE V:H



TYPICAL SECTION - PLYMOUTH AVE N
STA 16+61 TO STA 17+93

0 2.5 5 10
SCALE IN FEET

DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn

MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

SEGMENT M
PLYMOUTH AVE N
TYPICAL SECTIONS

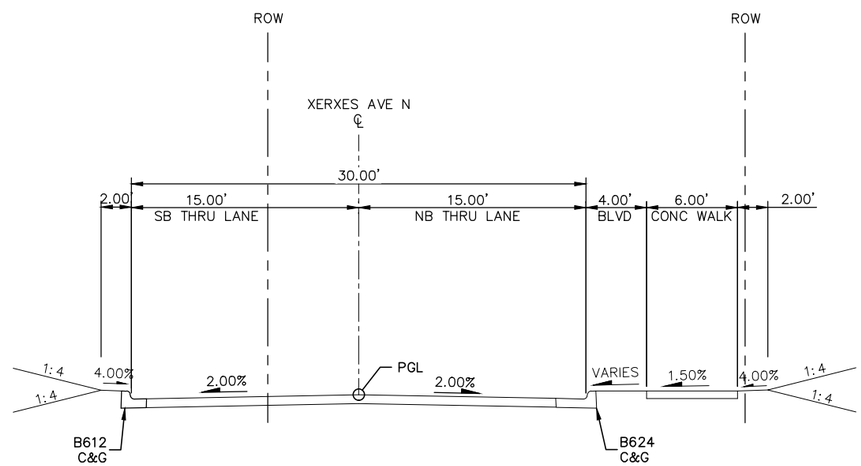
DISCIPLINE: CIVIL

SHEET NAME: M-CIV-TYPS-010

SHEET 80 OF 107

Dec, 03 2015 07:56 am H:\BPO\550_Design_Consultant\CAD\005-SEGMENT-GV\MC\PLAN SHEETS\CIVIL\GV-CIV-TYPS.dwg By: V-MuelleAL

NOTE:
SLOPES LISTED ARE V:H



TYPICAL SECTION - XERXES AVE N
STA 20+23 TO STA 20+99

0 2.5 5 10
SCALE IN FEET

DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn

MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

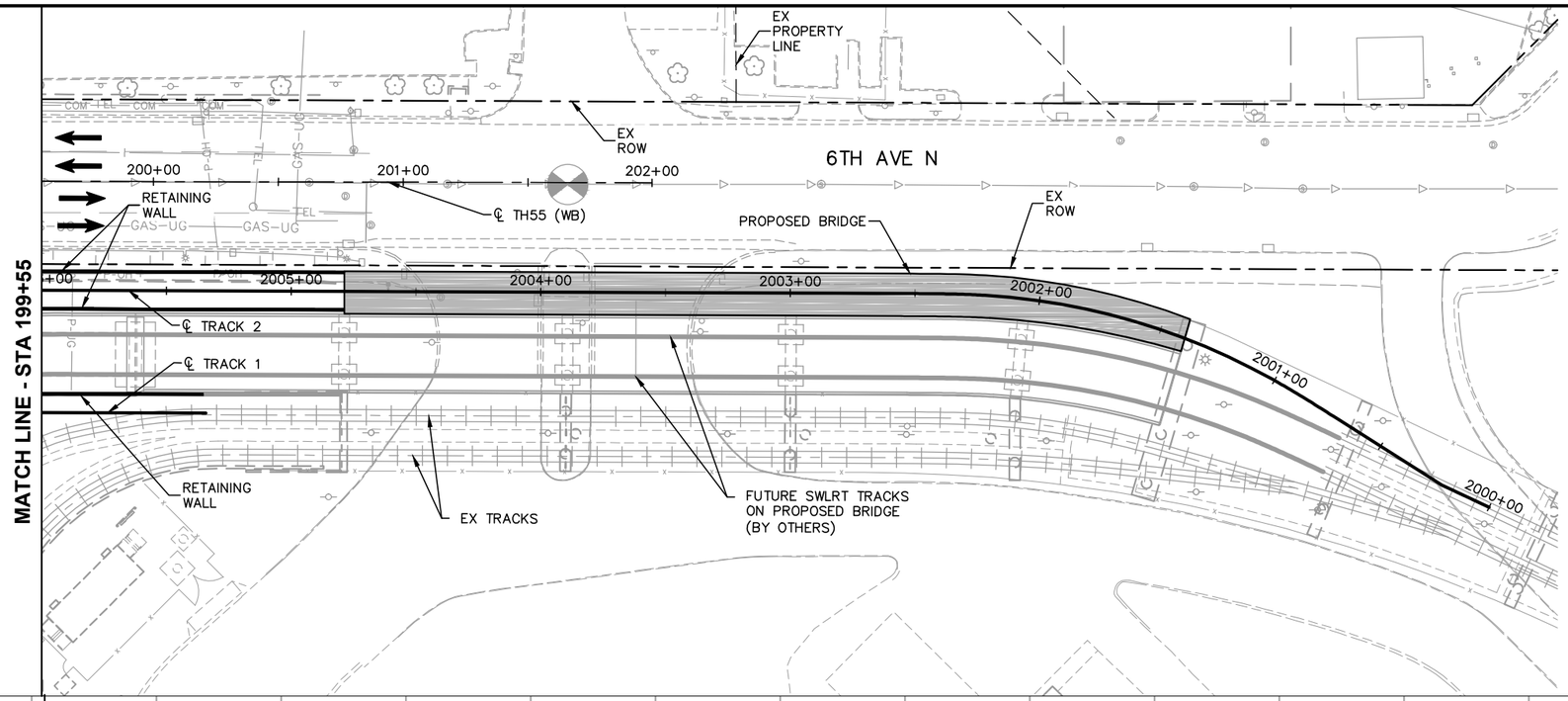
SEGMENT M
XERXES AVE N
TYPICAL SECTIONS

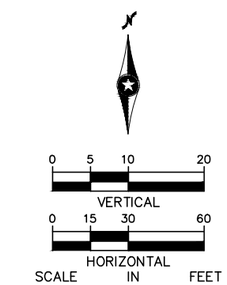
DISCIPLINE: CIVIL

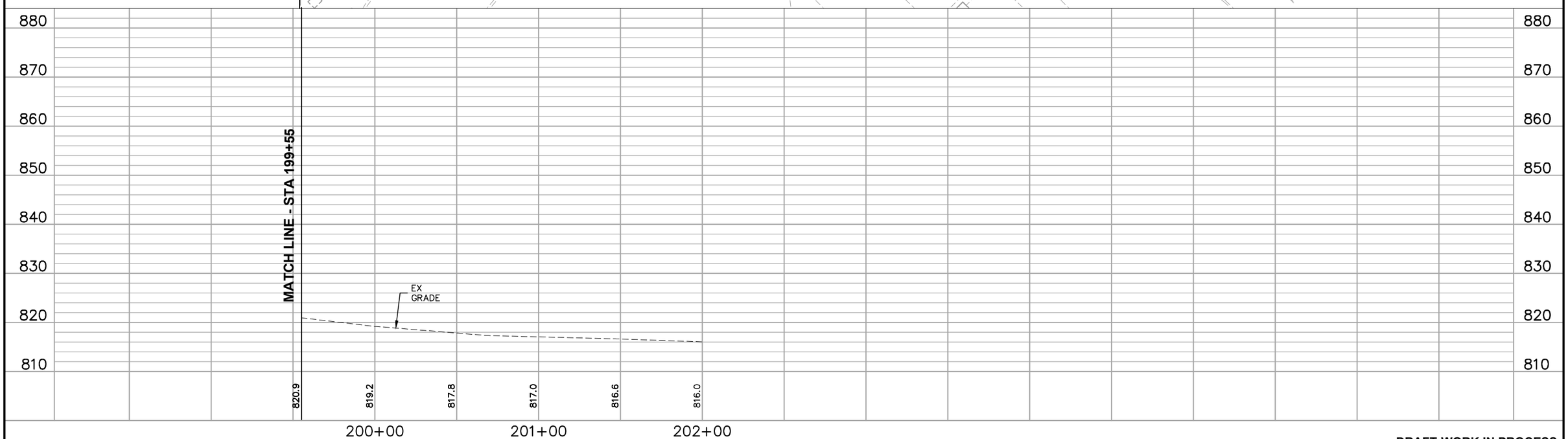
SHEET NAME: M-CIV-TYPS-011

SHEET 81 OF 107

Dec, 03 2015 07:56 am H:\BPO\550_Design_Consultant\CAD\005-SEGMENT-GV\MC\PLAN SHEETS\CIVIL\GV-CIV-TYPS.dwg By: V-MuelleAL







DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn

MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

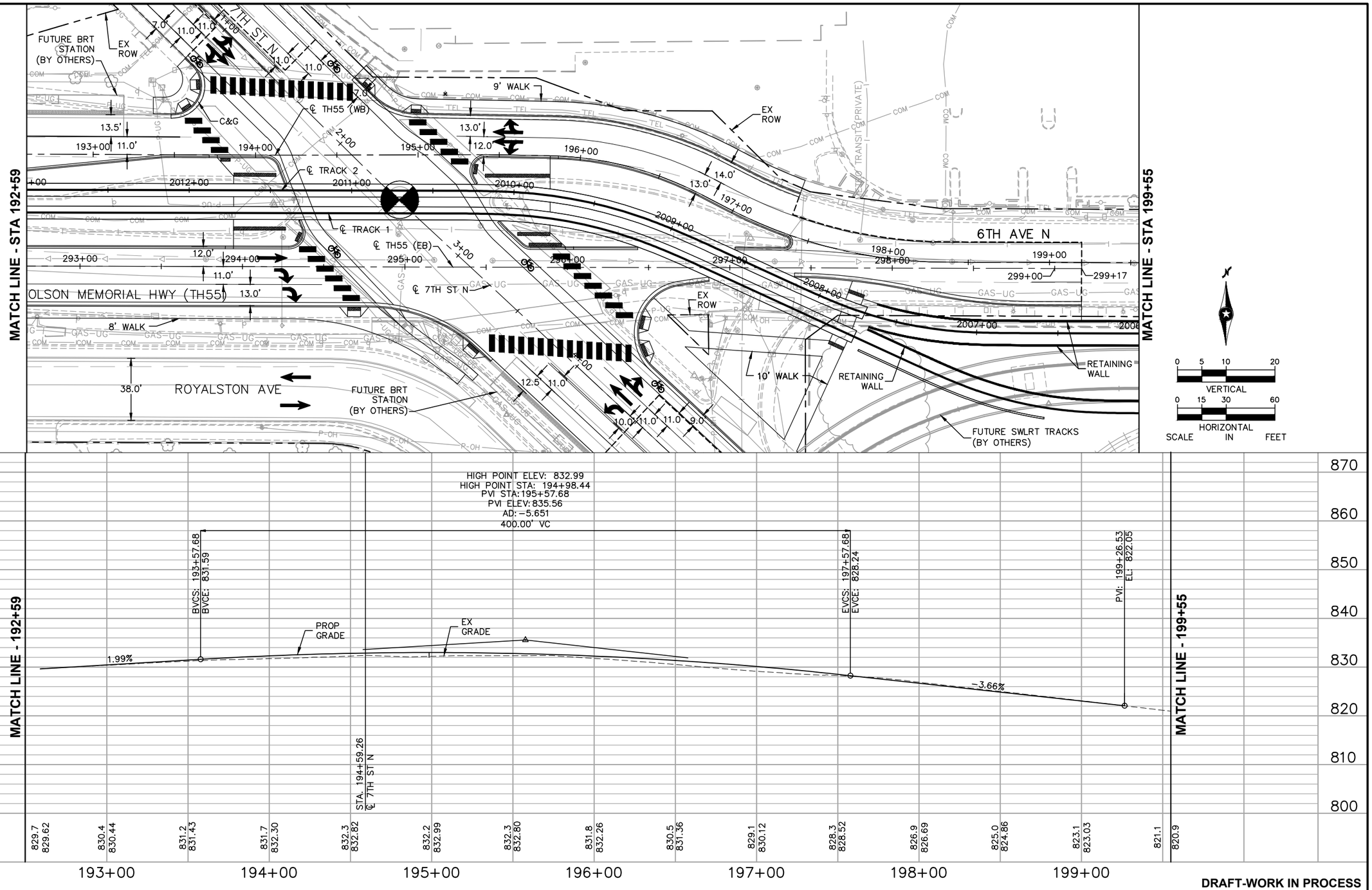
SEGMENT M
6TH AVE N
PLAN AND PROFILE
STA 199+55 TO STA 202+00

DISCIPLINE: CIVIL

SHEET NAME: M-CIV-PPFL-001

SHEET 82 OF 107

Dec, 03 2015 05:05 pm H:\BPO\550_Design_Consultant\CAD\006-SEGMENT-M\MC\PLAN SHEETS\CIVIL\M-CIV-PPFL.dwg By: V-MuelleAL



DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn

MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

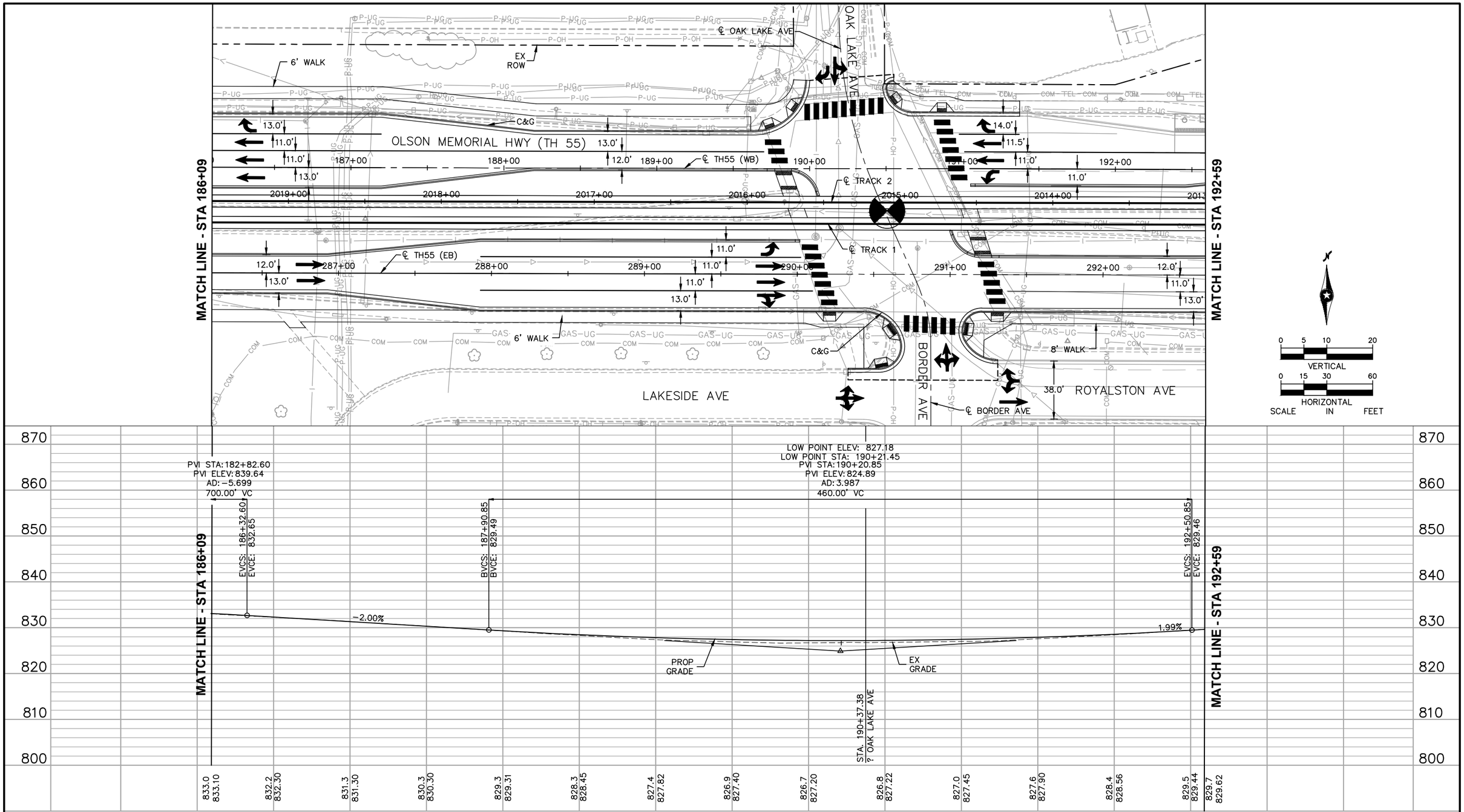
SEGMENT M
6TH AVE N
PLAN AND PROFILE
STA 192+59 TO STA 199+55

DISCIPLINE: CIVIL

SHEET NAME: M-CIV-PPFL-002

SHEET 83 OF 107

Dec, 03 2015 08:05 am H:\BPO\550_Design_Consultant\CAD\006-SEGMENT-M\MC\PLAN SHEETS\CIVIL\M-CIV-PPFL.dwg By: V-MuelleAL



DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn

MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

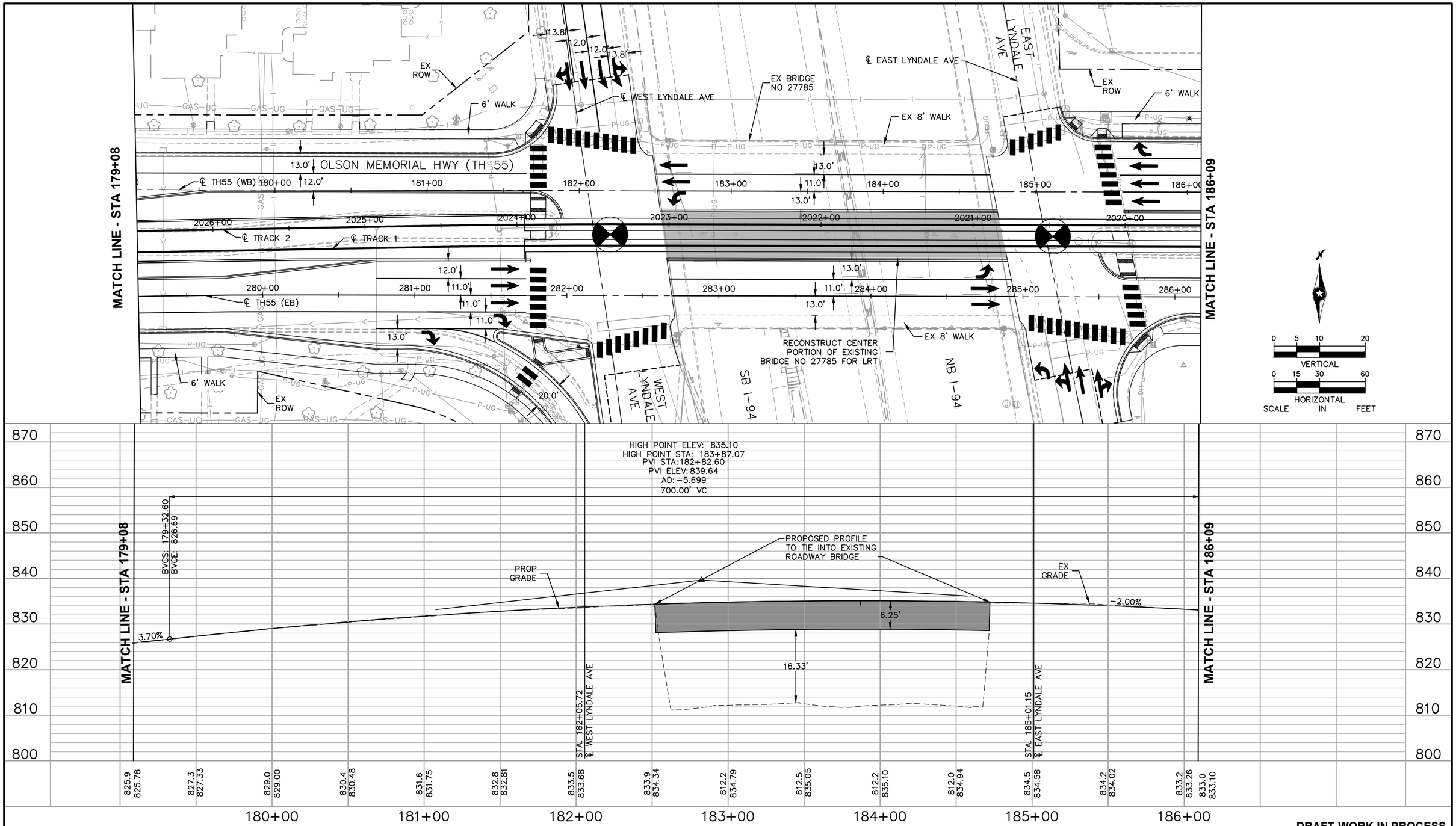
SEGMENT M
OLSON MEMORIAL HWY (TH55)
PLAN AND PROFILE
STA 186+09 TO STA 192+59

DISCIPLINE: CIVIL

SHEET NAME: M-CIV-PPFL-003

SHEET 84 OF 107

Dec, 03 2015 08:07 am H:\BPO\550_Design_Consultant\CAD\006-SEGMENT-M\MC\PLAN SHEETS\CIVIL\M-CIV-PPFL.dwg By: V-MuelleAL



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn

MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

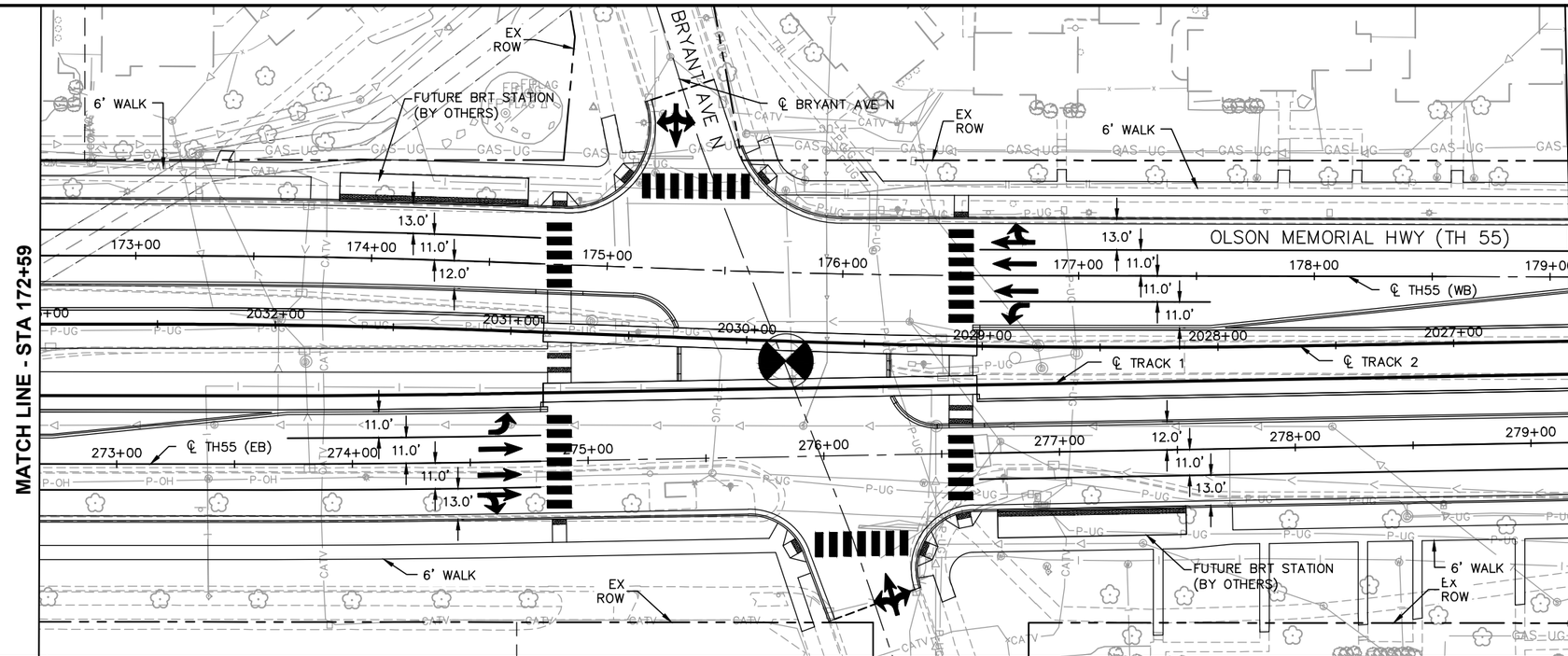
SEGMENT M
OLSON MEMORIAL HWY (TH55)
PLAN AND PROFILE
STA 179+08 TO STA 186+09

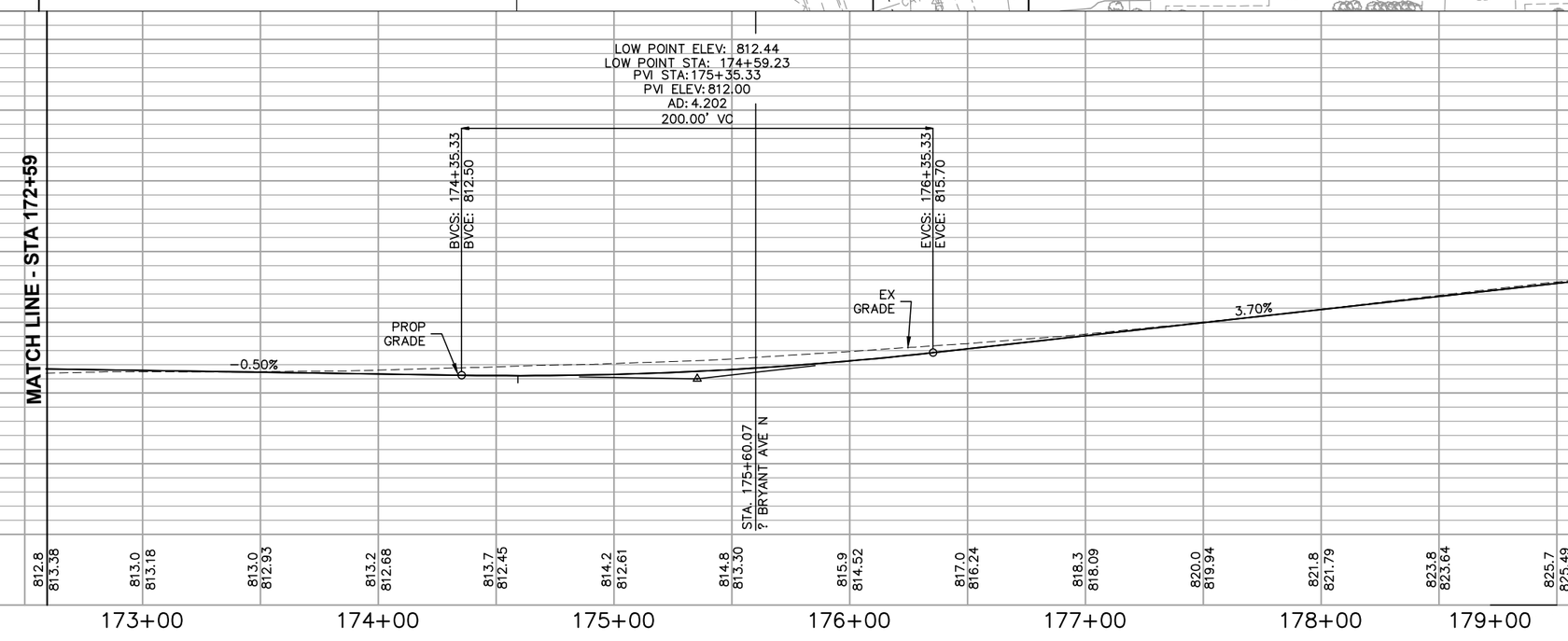
DISCIPLINE: CIVIL

SHEET NAME: M-CIV-PPFL-004

SHEET 85 OF 107

Dec, 03 2015 05:07 pm H:\BPO\550_Design_Consultant\CAD\006-SEGMENT-M\MC\PLAN SHEETS\CIVIL\M-CIV-PPFL.dwg By: V-MuelleAL





VERTICAL 0 5 10 20

HORIZONTAL 0 15 30 60

SCALE IN FEET

DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn

MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

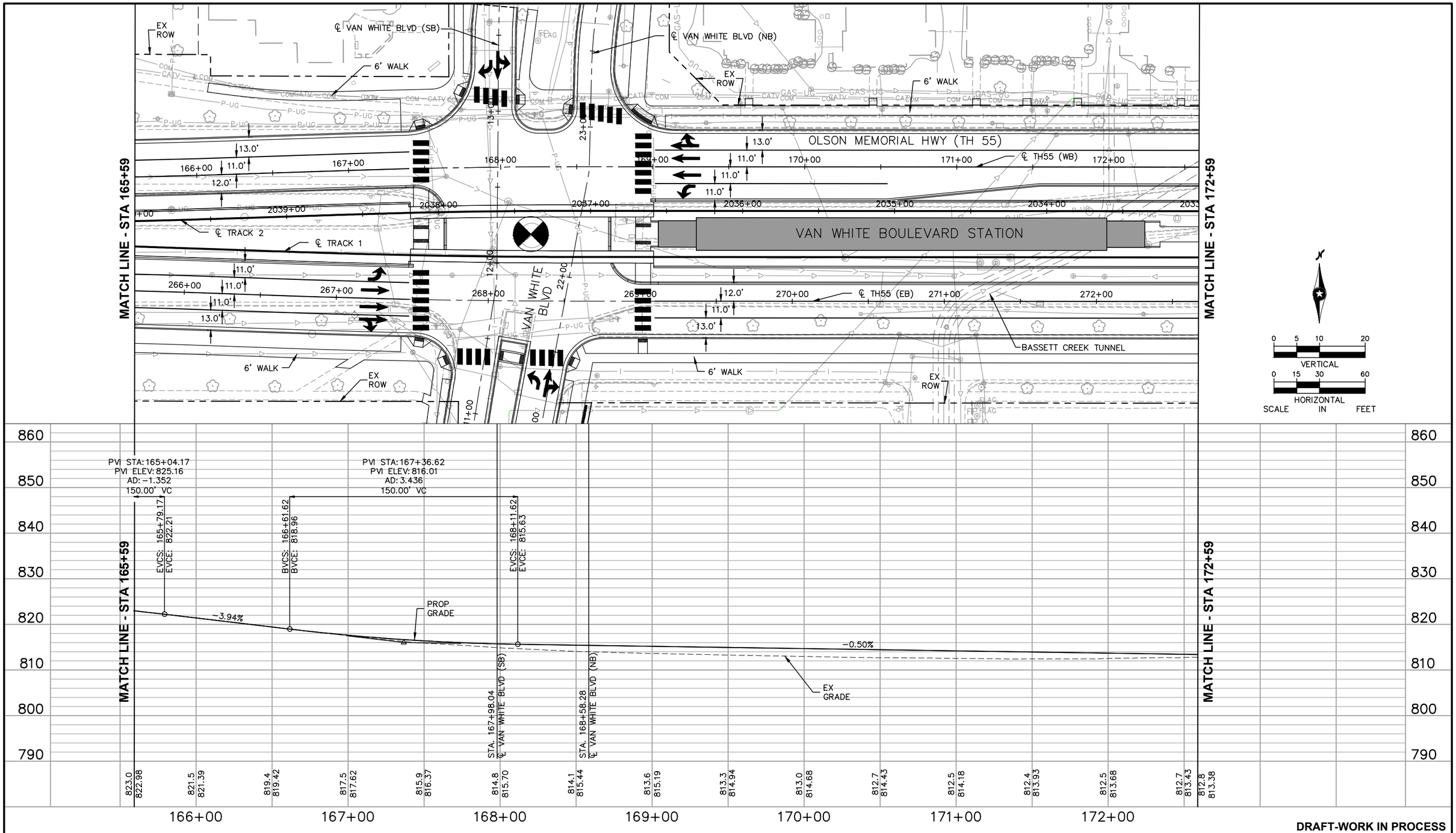
SEGMENT M
OLSON MEMORIAL HWY (TH55)
PLAN AND PROFILE
STA 172+59 TO STA 179+08

DISCIPLINE: CIVIL

SHEET NAME: M-CIV-PPFL-005

SHEET 86 OF 107

Dec, 03 2015 08:10 am H:\BPO\550_Design_Consultant\CAD\006-SEGMENT-M\MC\PLAN SHEETS\CIVIL\M-CIV-PPFL.dwg By: V-MuelleaL



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn

MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

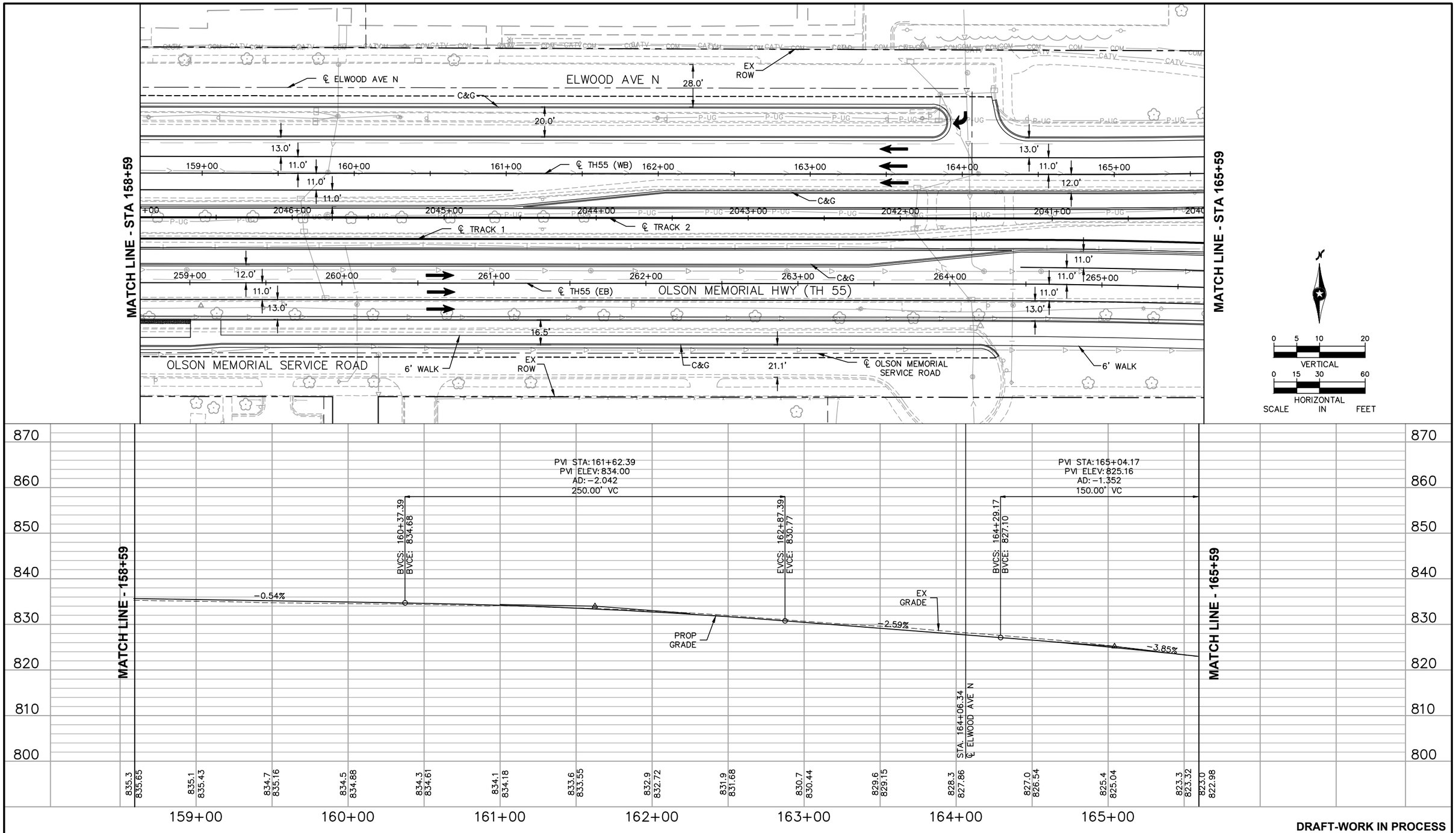
SEGMENT M
OLSON MEMORIAL HWY (TH55)
PLAN AND PROFILE
STA 165+59 TO STA 172+59

DISCIPLINE: CIVIL

SHEET NAME: M-CIV-PPFL-006

SHEET 87 OF 107

Dec, 03 2015 08:12 am H:\BPO\550_Design_Consultant\CAD\006-SEGMENT-M\MC\PLAN SHEETS\CIVIL\M-CIV-PPFL.dwg By: V-MuelleAL



DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn

MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

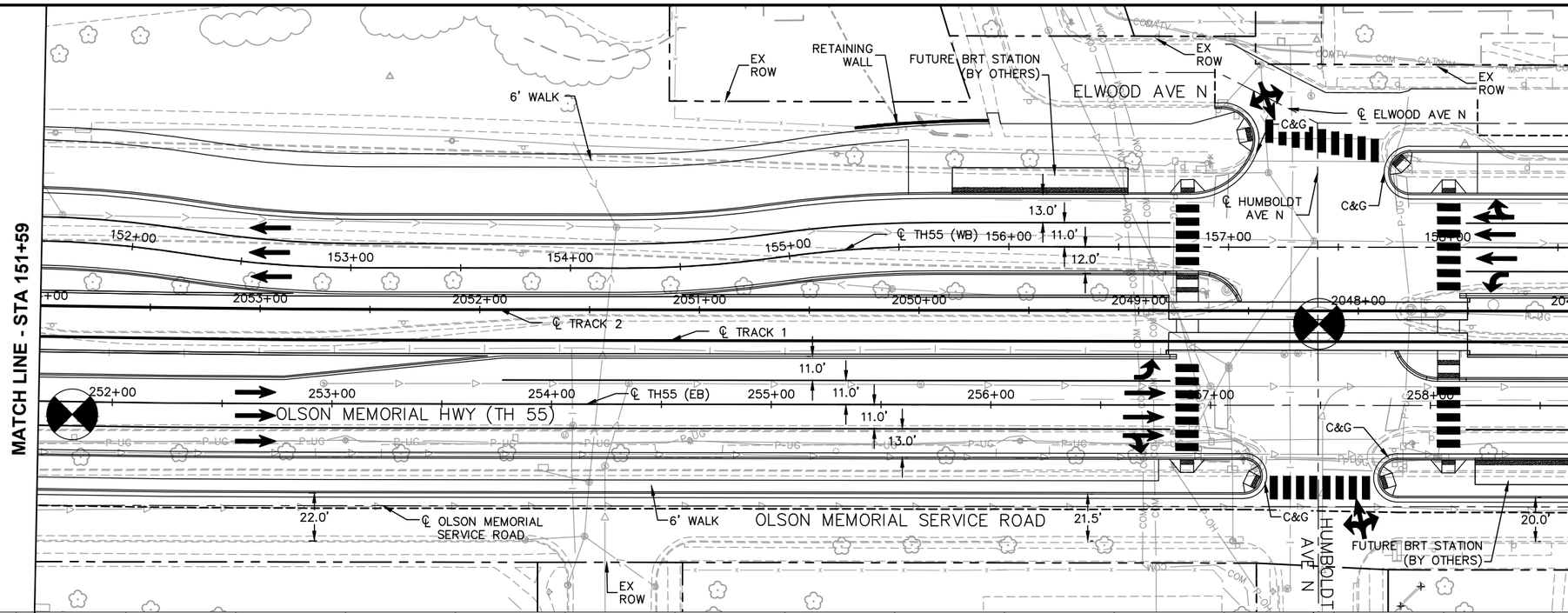
SEGMENT M
OLSON MEMORIAL HWY (TH55)
PLAN AND PROFILE
STA 158+59 TO STA 165+59

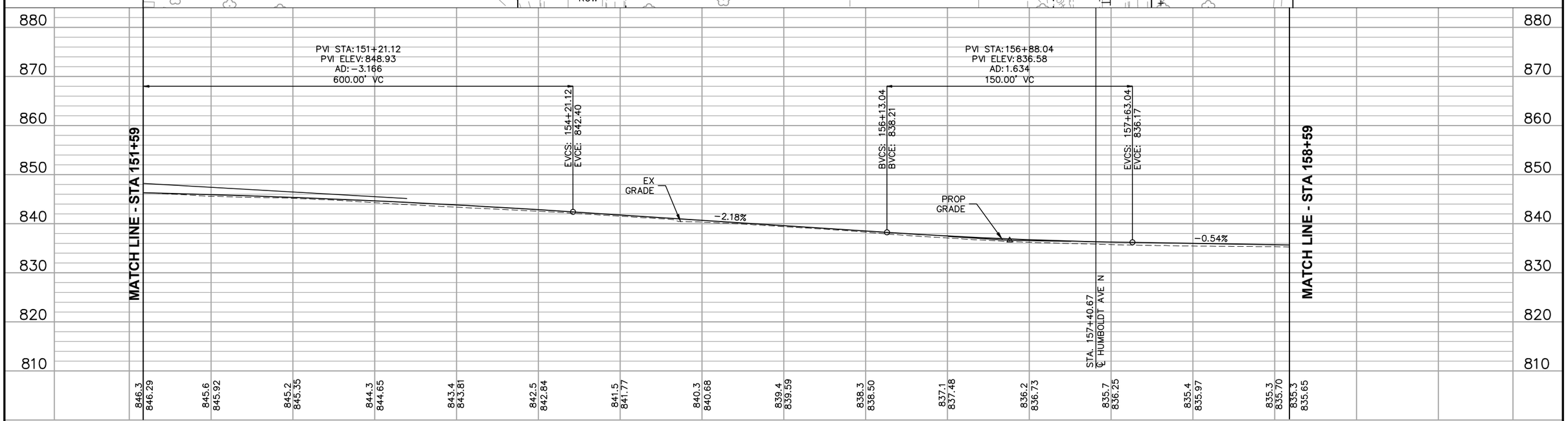
DISCIPLINE: CIVIL

SHEET NAME: M-CIV-PPFL-007

SHEET 88 OF 107

Dec, 03 2015 08:13 am H:\BPO\550_Design_Consultant\CAD\006-SEGMENT-M\MC\PLAN SHEETS\CIVIL\M-CIV-PPFL.dwg By: V-MuelleAL





DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn

MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

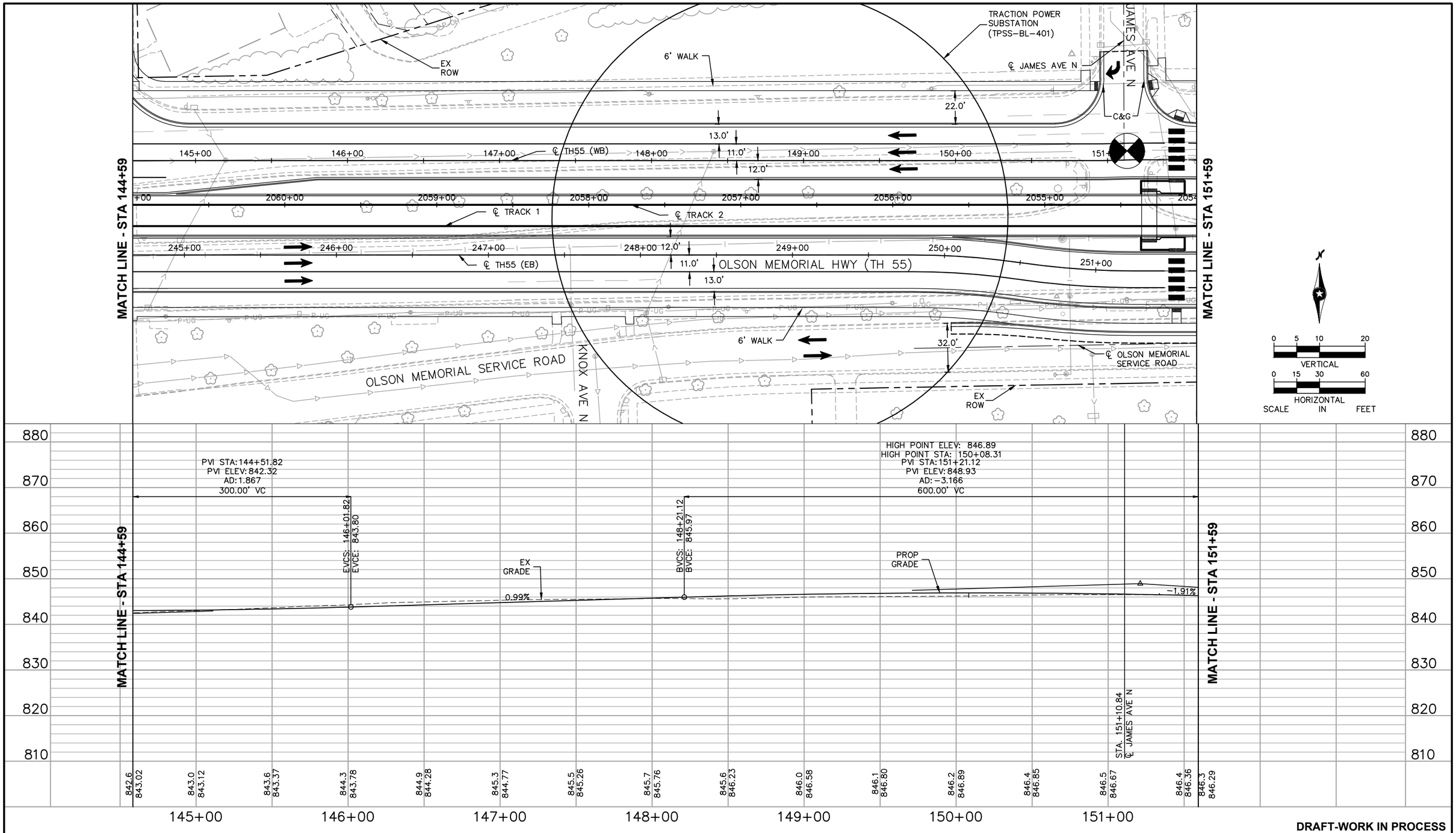
SEGMENT M
OLSON MEMORIAL HWY (TH55)
PLAN AND PROFILE
STA 151+59 TO STA 158+59

DISCIPLINE: CIVIL

SHEET NAME: M-CIV-PPFL-008

SHEET 89 OF 107

Dec, 03 2015 08:15 am H:\BPO\550_Design_Consultant\CAD\006-SEGMENT-M\MC\PLAN SHEETS\CIVIL\M-CIV-PPFL.dwg By: V-MuelleAL



DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn

MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

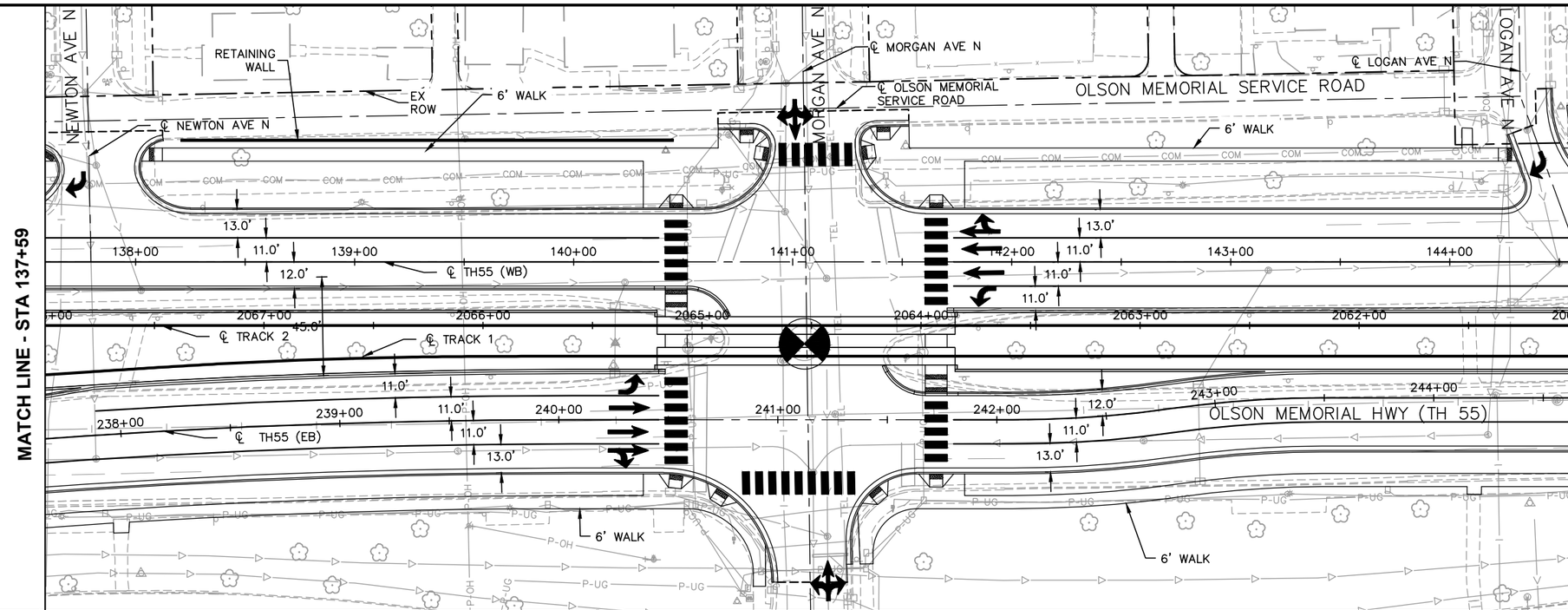
SEGMENT M
OLSON MEMORIAL HWY (TH55)
PLAN AND PROFILE
STA 144+59 TO STA 151+59

DISCIPLINE: CIVIL

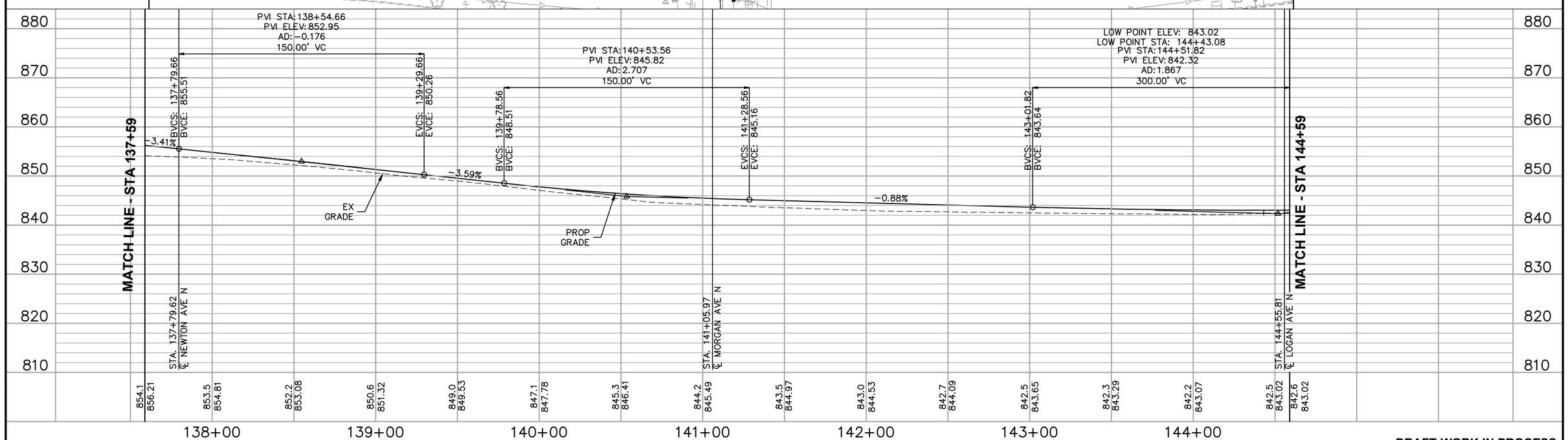
SHEET NAME: M-CIV-PPFL-009

SHEET 90 OF 107

Dec, 03 2015 08:16 am H:\BPO\550_Design_Consultant\CAD\006-SEGMENT-M\MC\PLAN SHEETS\CIVIL\M-CIV-PPFL.dwg By: V-MuelleaL



0 5 10 20
VERTICAL
0 15 30 60
HORIZONTAL
SCALE IN FEET



DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn

MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

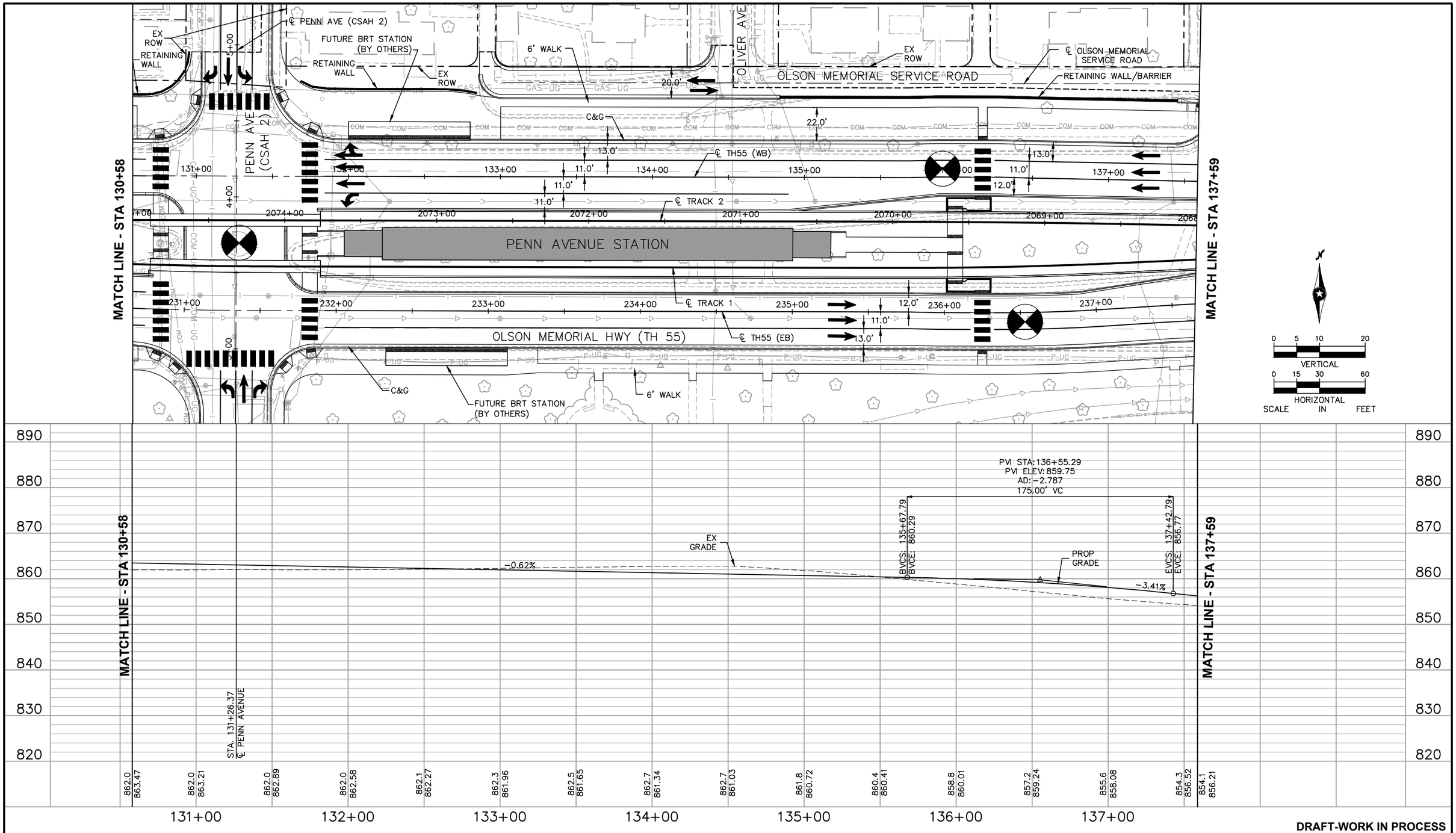
SEGMENT M
OLSON MEMORIAL HWY (TH55)
PLAN AND PROFILE
STA 137+59 TO STA 144+59

DISCIPLINE: CIVIL

SHEET NAME: M-CIV-PPFL-010

SHEET 91 OF 107

Dec, 03 2015 08:18 am H:\BPO\550_Design_Consultant\CAD\006-SEGMENT-M\MC\PLAN SHEETS\CIVIL\M-CIV-PPFL.dwg By: V-MuelleAL



DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn

MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

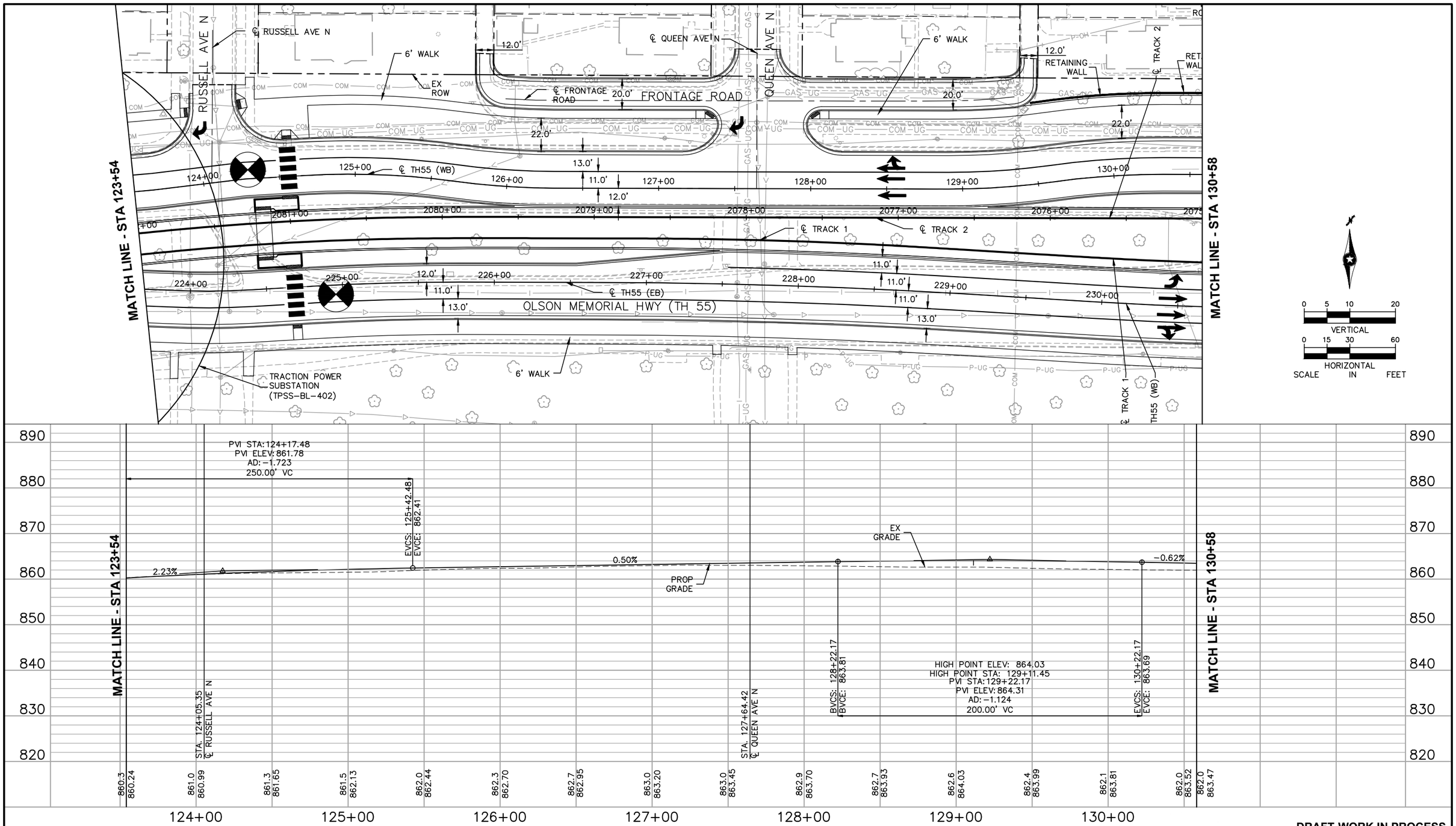
SEGMENT M
OLSON MEMORIAL HWY (TH55)
PLAN AND PROFILE
STA 130+58 TO STA 137+59

DISCIPLINE: CIVIL

SHEET NAME: M-CIV-PPFL-011

SHEET 92 OF 107

Dec, 03 2015 09:00 am H:\BPO\550_Design_Consultant\CAD\006-SEGMENT-M\MC\PLAN SHEETS\CIVIL\M-CIV-PPFL.dwg By: V-MuelleAL



DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn

MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

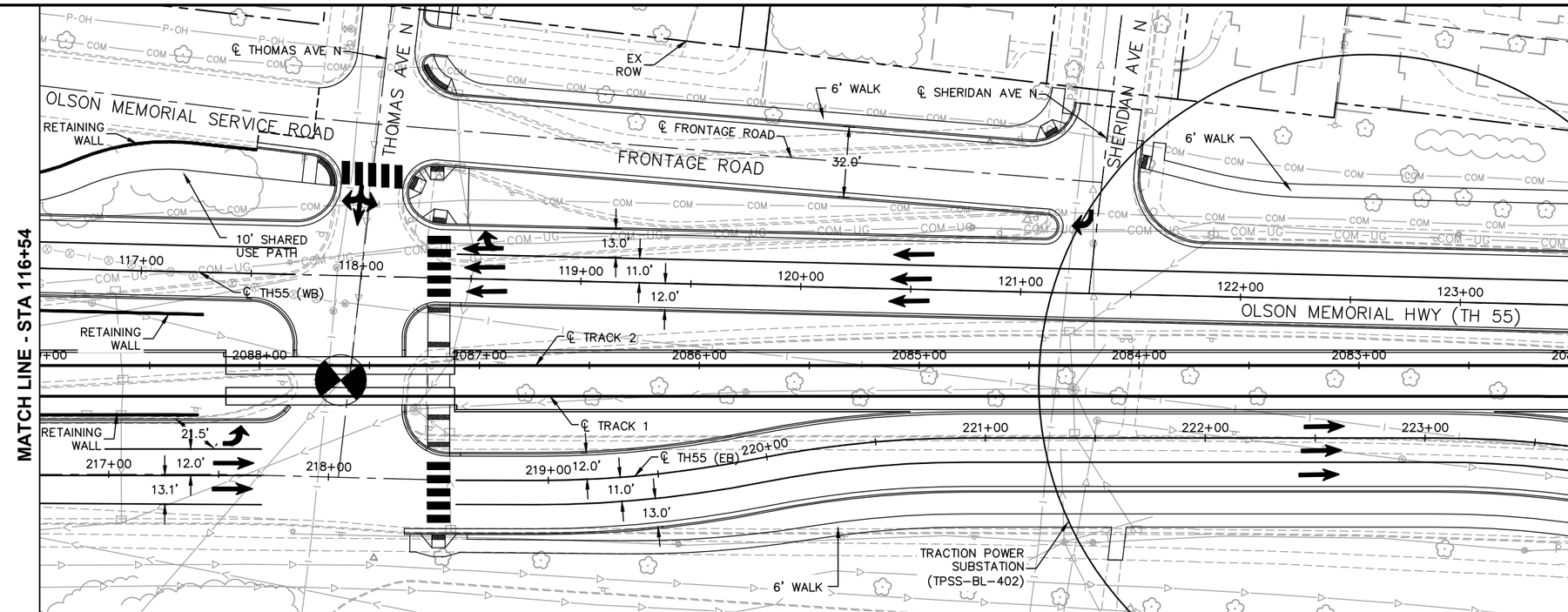
SEGMENT M
OLSON MEMORIAL HWY (TH55)
PLAN AND PROFILE
STA 123+54 TO STA 130+58

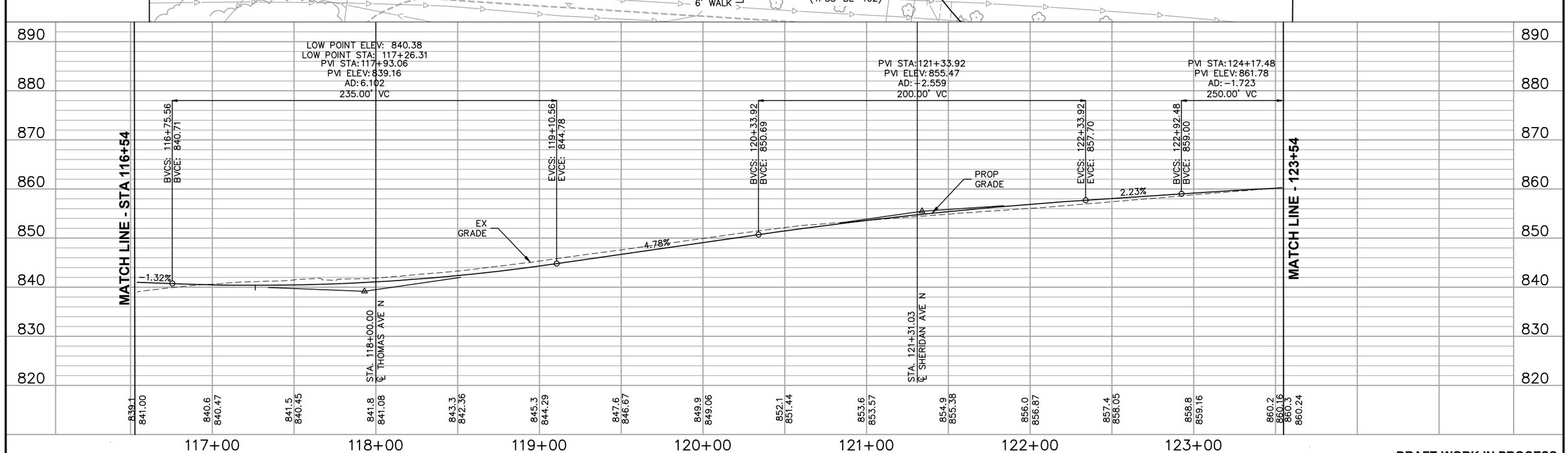
DISCIPLINE: CIVIL

SHEET NAME: M-CIV-PPFL-012

SHEET 93 OF 107

Dec, 03 2015 08:21 am H:\BPO\550_Design_Consultant\CAD\006-SEGMENT-M\MC\PLAN SHEETS\CIVIL\M-CIV-PPFL.dwg By: V-MuelleAL





DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn

MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

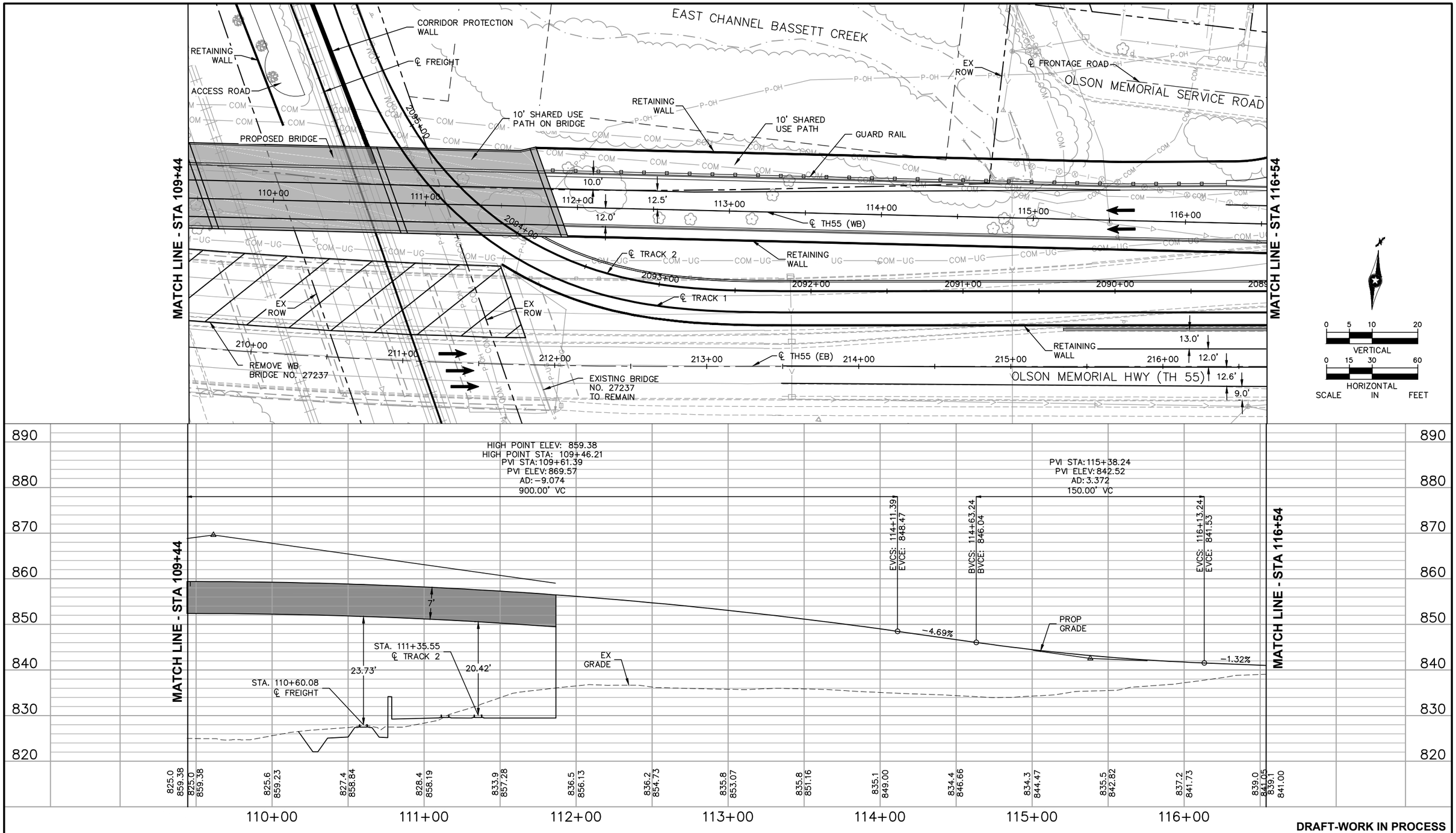
SEGMENT M
OLSON MEMORIAL HWY (TH55)
PLAN AND PROFILE
STA 116+54 TO STA 123+54

DISCIPLINE: CIVIL

SHEET NAME: M-CIV-PPFL-013

SHEET 94 OF 107

Dec, 07 2015 03:33 pm H:\BPO\550_Design_Consultant\CAD\006-SEGMENT-M\MC\PLAN SHEETS\CIVIL\M-CIV-PPFL.dwg By: V-MuelleAL



DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn

MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

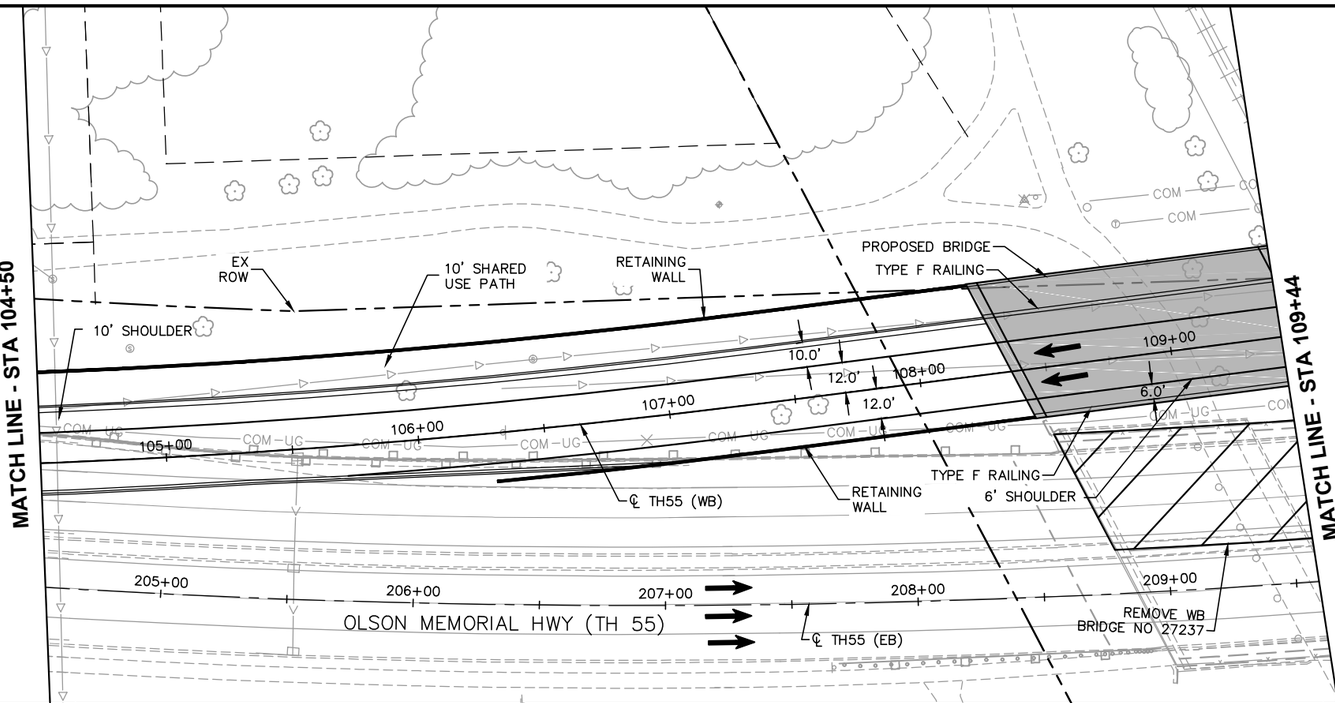
SEGMENT M
OLSON MEMORIAL HWY (TH55)
PLAN AND PROFILE
STA 109+44 TO STA 116+54

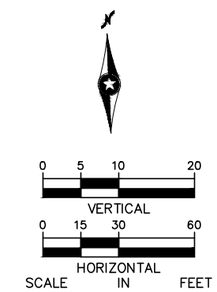
DISCIPLINE: CIVIL

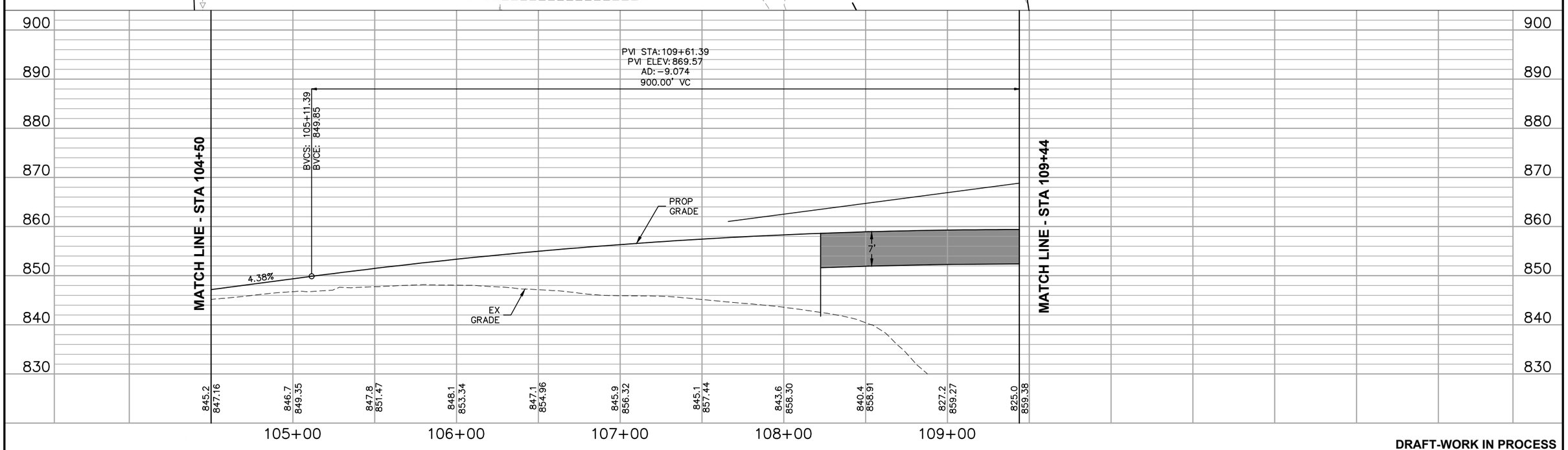
SHEET NAME: M-CIV-PPFL-014

SHEET 95 OF 107

Dec, 03 2015 05:09 pm H:\BPO\550_Design_Consultant\CAD\006-SEGMENT-M\MC\PLAN SHEETS\CIVIL\M-CIV-PPFL.dwg By: V-MuelleAL







DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn

MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

SEGMENT M
OLSON MEMORIAL HWY (TH55)
PLAN AND PROFILE
STA 104+50 TO STA 109+44

DISCIPLINE: CIVIL

SHEET NAME: M-CIV-PPFL-015

SHEET 96 OF 107

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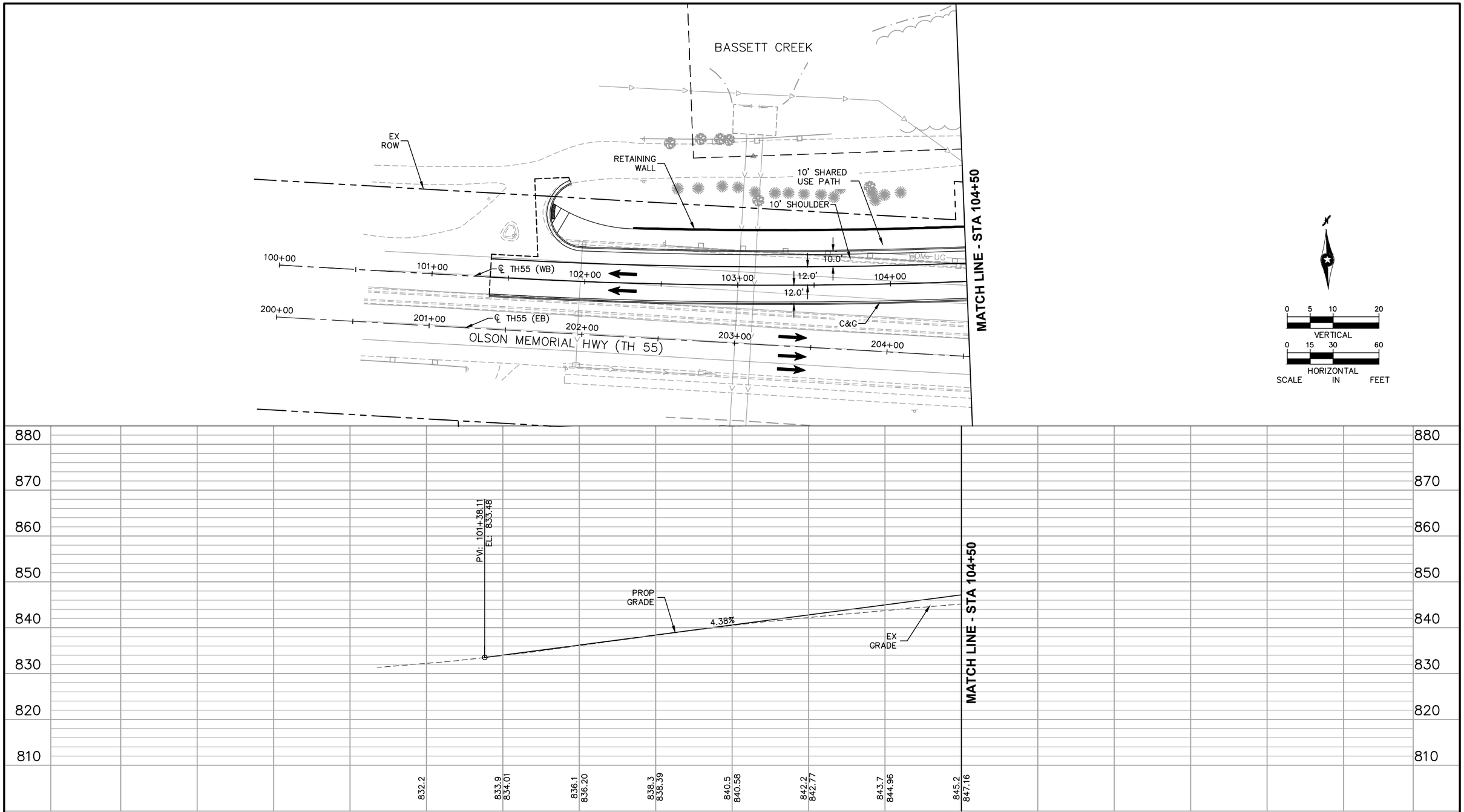


DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn

MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

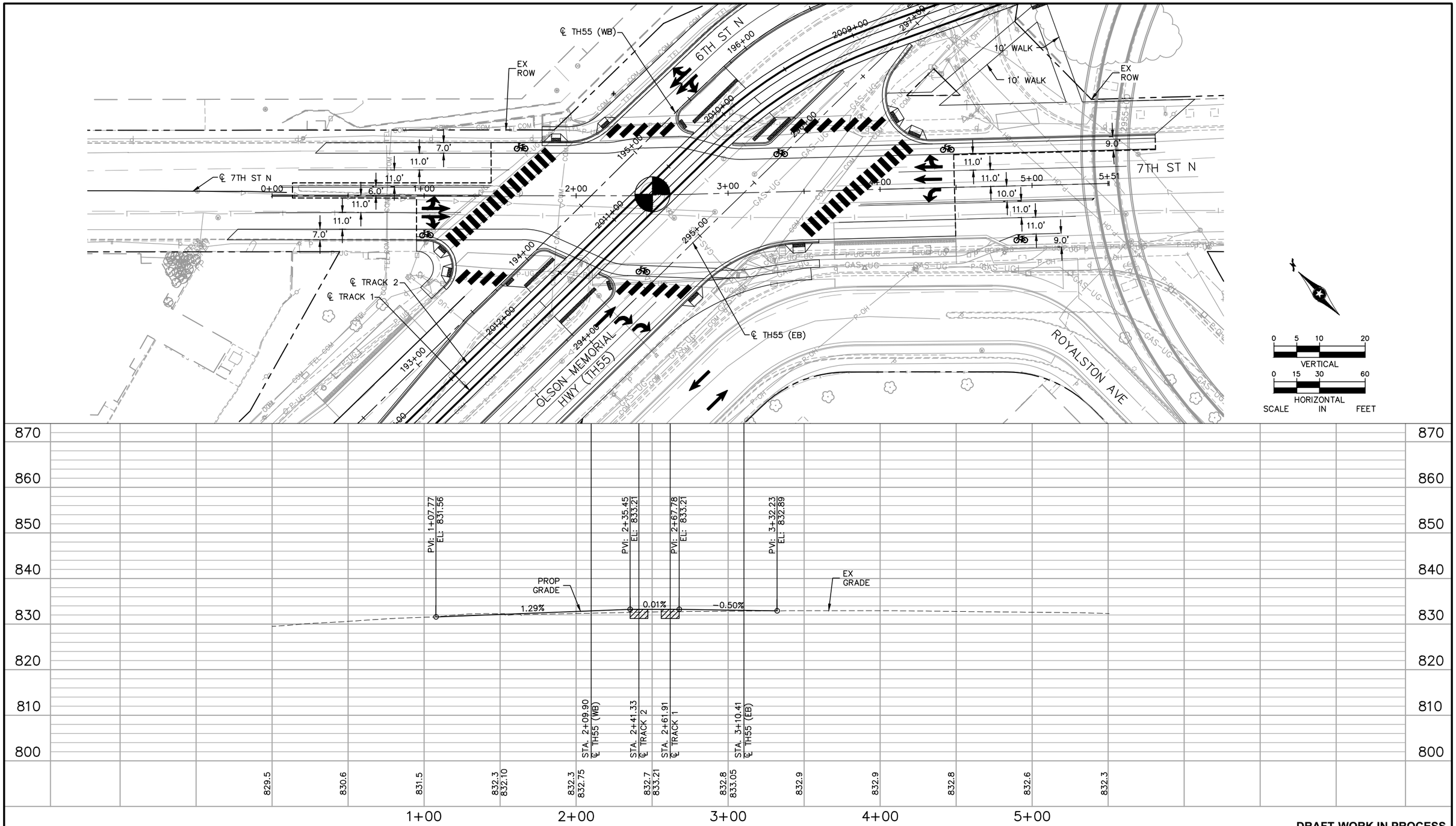
SEGMENT M
OLSON MEMORIAL HWY (TH55)
PLAN AND PROFILE
STA 100+00 TO STA 104+50

DISCIPLINE: CIVIL

SHEET NAME: M-CIV-PPFL-016

SHEET 97 OF 107

Dec, 03 2015 09:01 am H:\BPO\550_Design_Consultant\CAD\006-SEGMENT-M\MC\PLAN SHEETS\CIVIL\M-CIV-PPFL.dwg By: V-MuelleAL



DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn

MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

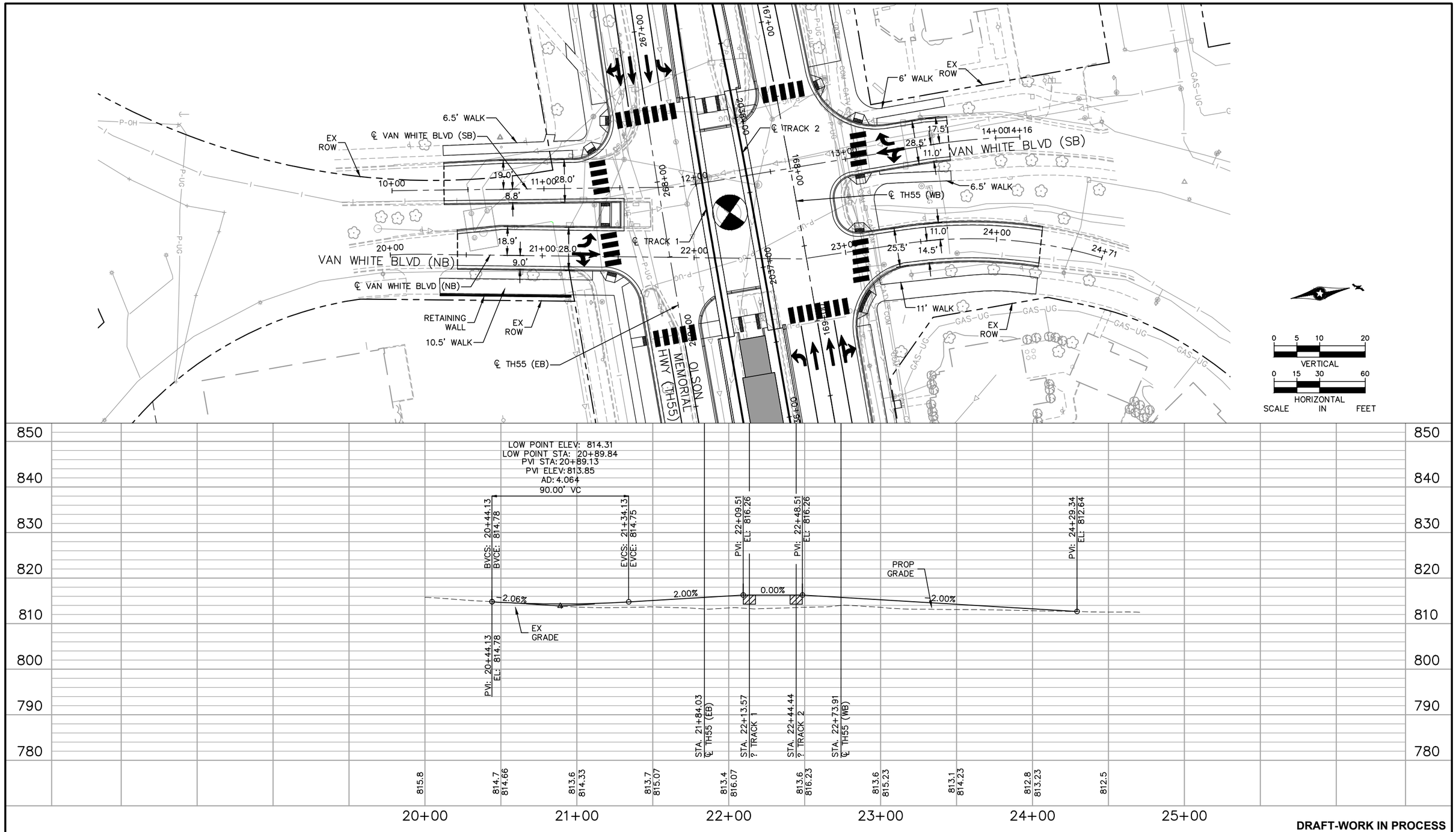
SEGMENT M
7TH ST N
PLAN AND PROFILE
STA 0+00 TO STA 5+51

DISCIPLINE: CIVIL

SHEET NAME: M-CIV-PPFL-017

SHEET 98 OF 107

Dec, 03 2015 08:29 am H:\BPO\550_Design_Consultant\CAD\006-SEGMENT-M\MC\PLAN SHEETS\CIVIL\M-CIV-PPFL.dwg By: V-MuelleAL



DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn

MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

SEGMENT M
VAN WHTE BLVD (NB)
PLAN AND PROFILE
STA 0+00 TO STA 4+71

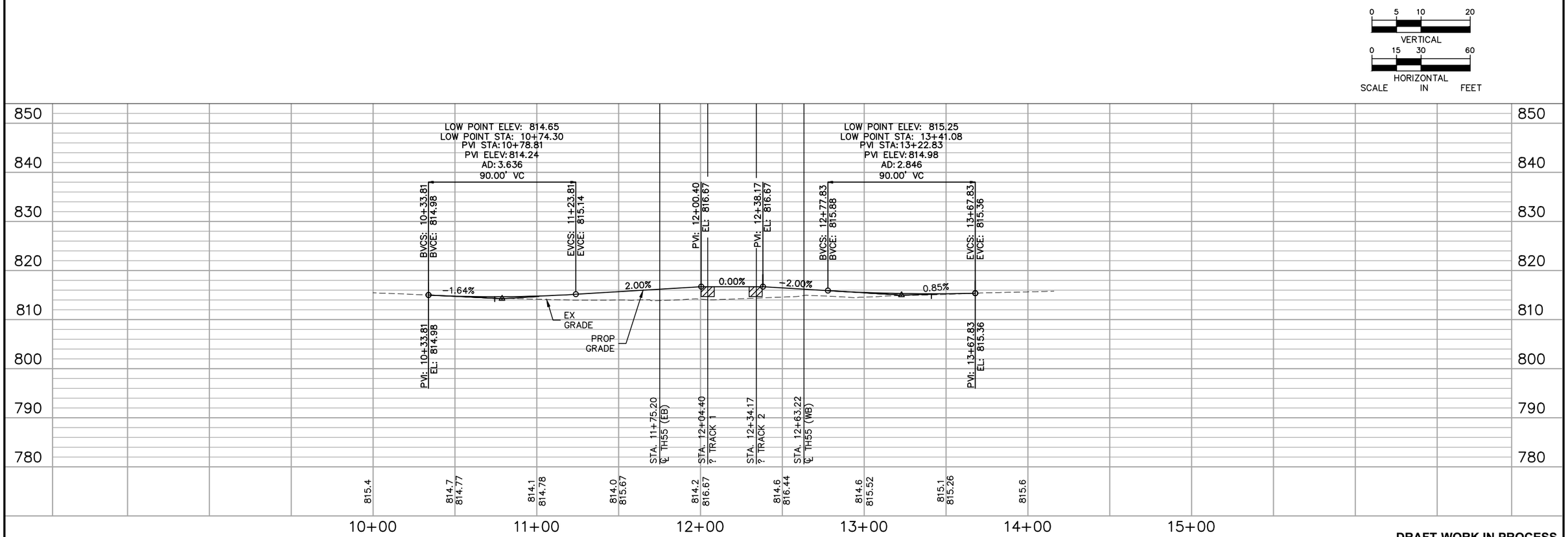
DISCIPLINE: CIVIL

SHEET NAME: M-CIV-PPFL-018

SHEET 99 OF 107

Dec, 03 2015 08:31 am H:\BPO\550_Design_Consultant\CAD\006-SEGMENT-M\MC\PLAN SHEETS\CIVIL\M-CIV-PPFL.dwg By: V-MuelleAL

SEE SHEET 99 FOR PLAN VIEW



DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn

MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

SEGMENT M
VAN WHITE BLVD (SB)
PLAN AND PROFILE
STA 0+00 TO STA 4+16

DISCIPLINE: CIVIL

SHEET NAME: M-CIV-PPFL-019

SHEET 100 OF 107

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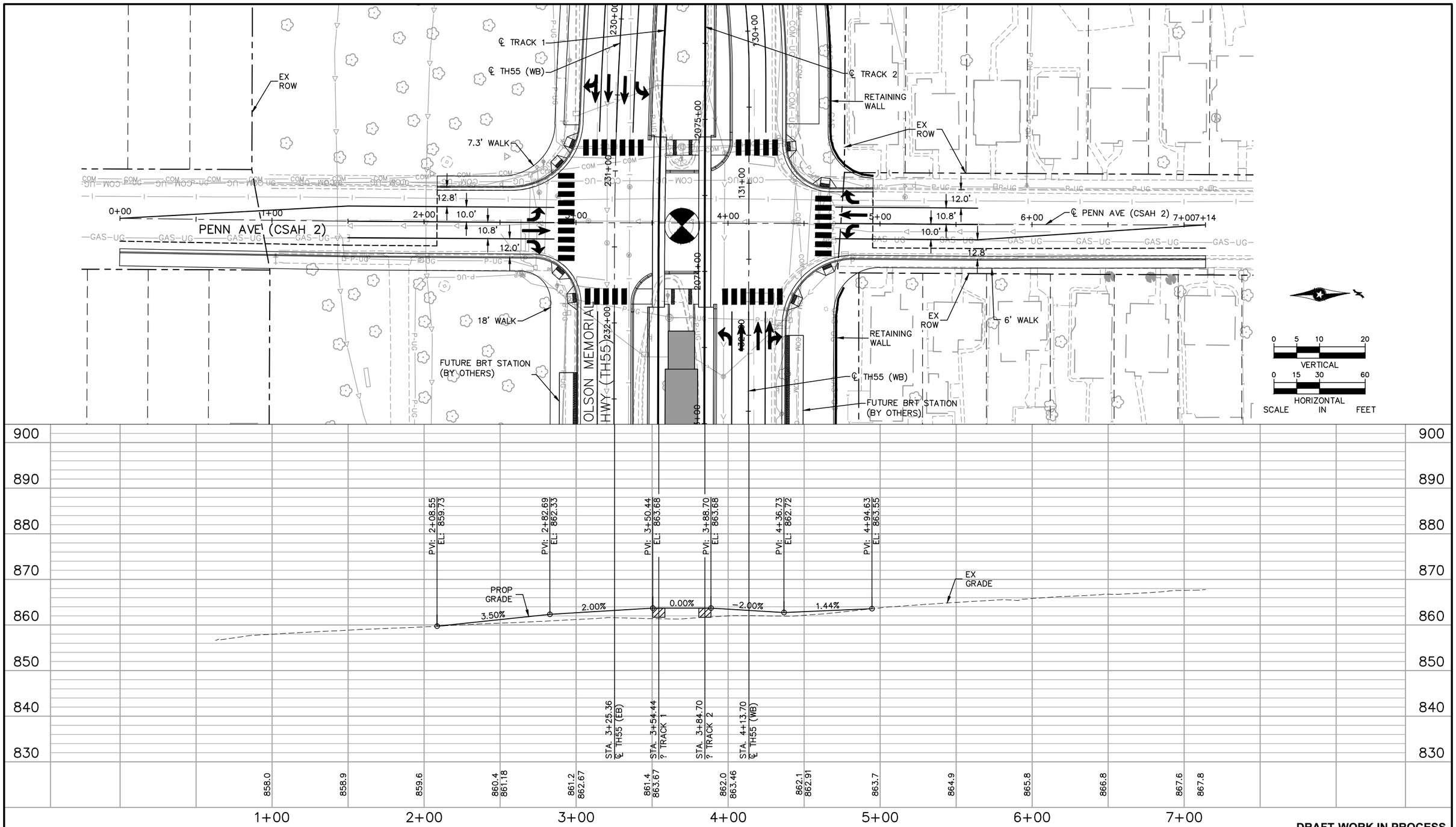


DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn

MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

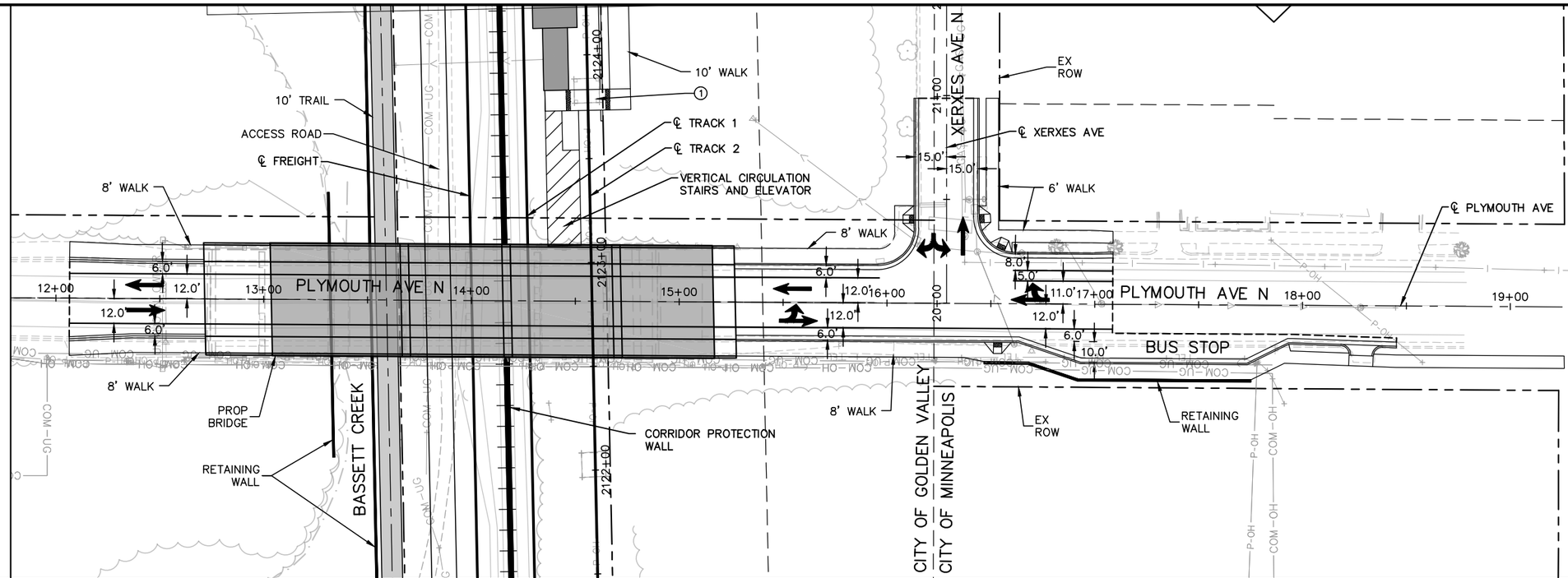
SEGMENT M
PENN AVENUE (CSAH 2)
PLAN AND PROFILE
STA 0+00 TO STA 7+14

DISCIPLINE: CIVIL

SHEET NAME: M-CIV-PPFL-020

SHEET 101 OF 107

Dec, 03 2015 08:34 am H:\BPO\550_Design_Consultant\CAD\006-SEGMENT-M\MC\PLAN SHEETS\CIVIL\M-CIV-PPFL.dwg By: V-MuelleAL



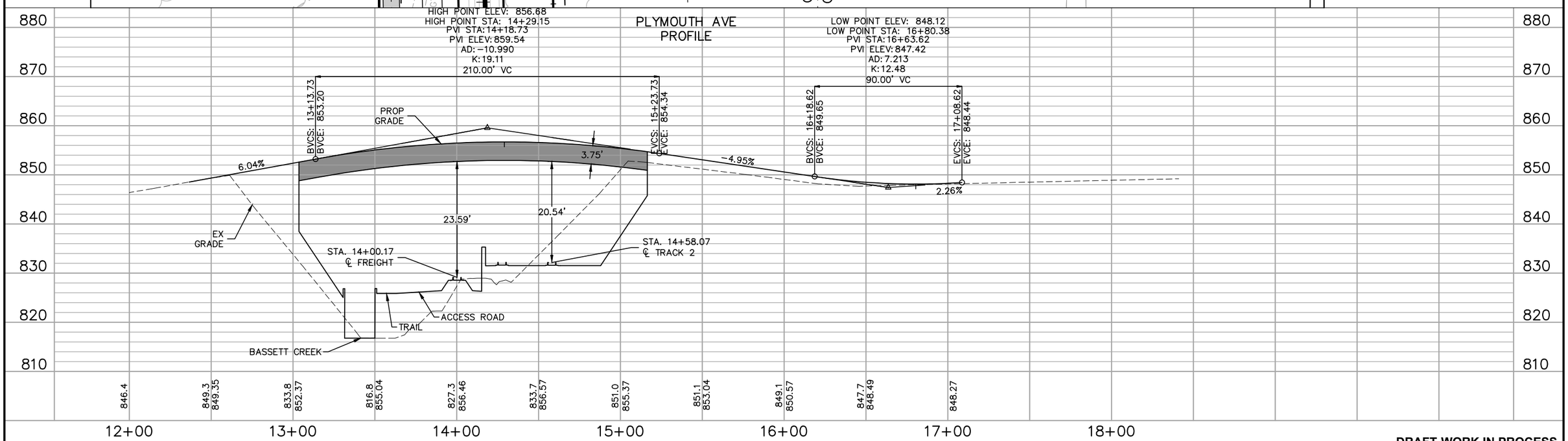
NOTES:

1. XCEL TRANSMISSION TOWERS TO BE SHIFTED TO WEST SIDE OF BNSF ROW. SEE TRACK TYPICAL SECTIONS.

0 5 10 20 VERTICAL

0 15 30 60 HORIZONTAL

SCALE IN FEET



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MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

SEGMENT M
PLYMOUTH AVE N
PLAN AND PROFILE
STA 11+78 TO STA 19+32

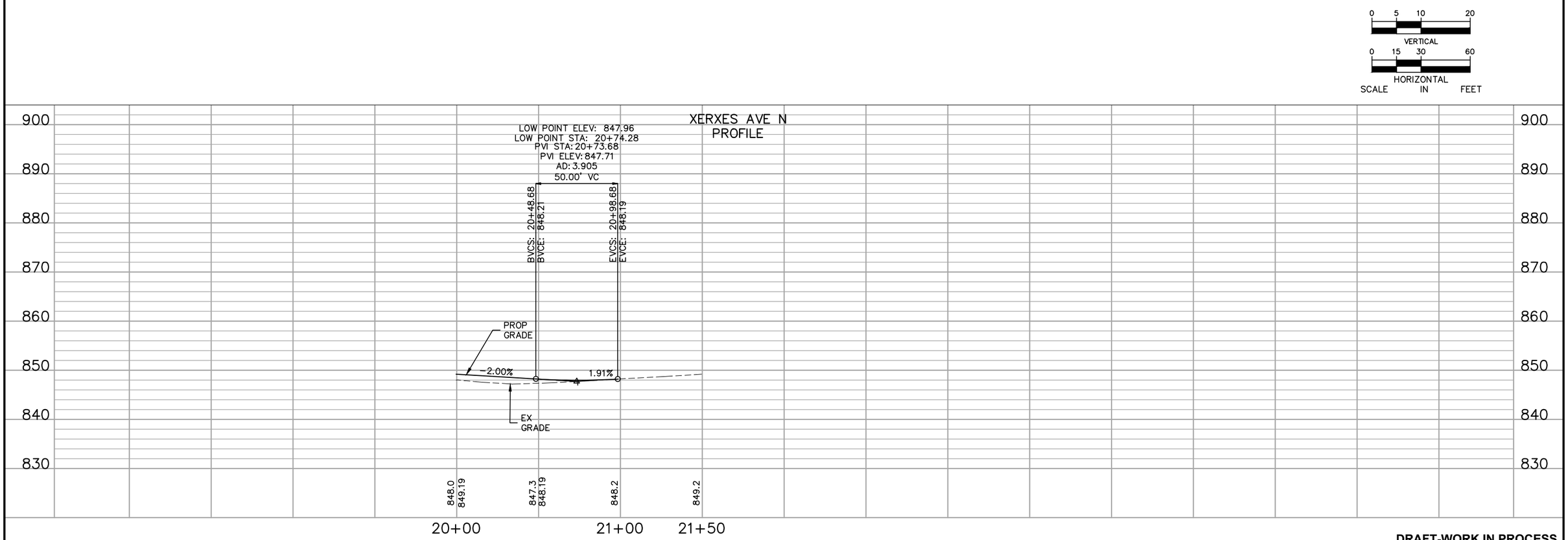
DISCIPLINE: CIVIL

SHEET NAME: M-CIV-PPFL-021

SHEET 102 OF 107

Dec, 03 2015 10:59 am H:\BPO\550_Design_Consultant\CAD\005-SEGMENT-GV\MC\PLAN SHEETS\CIVIL\GV-CIV-PPFL.dwg By: V-NelsonHA

SEE SHEET 102 FOR PLAN VIEW



DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn

MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

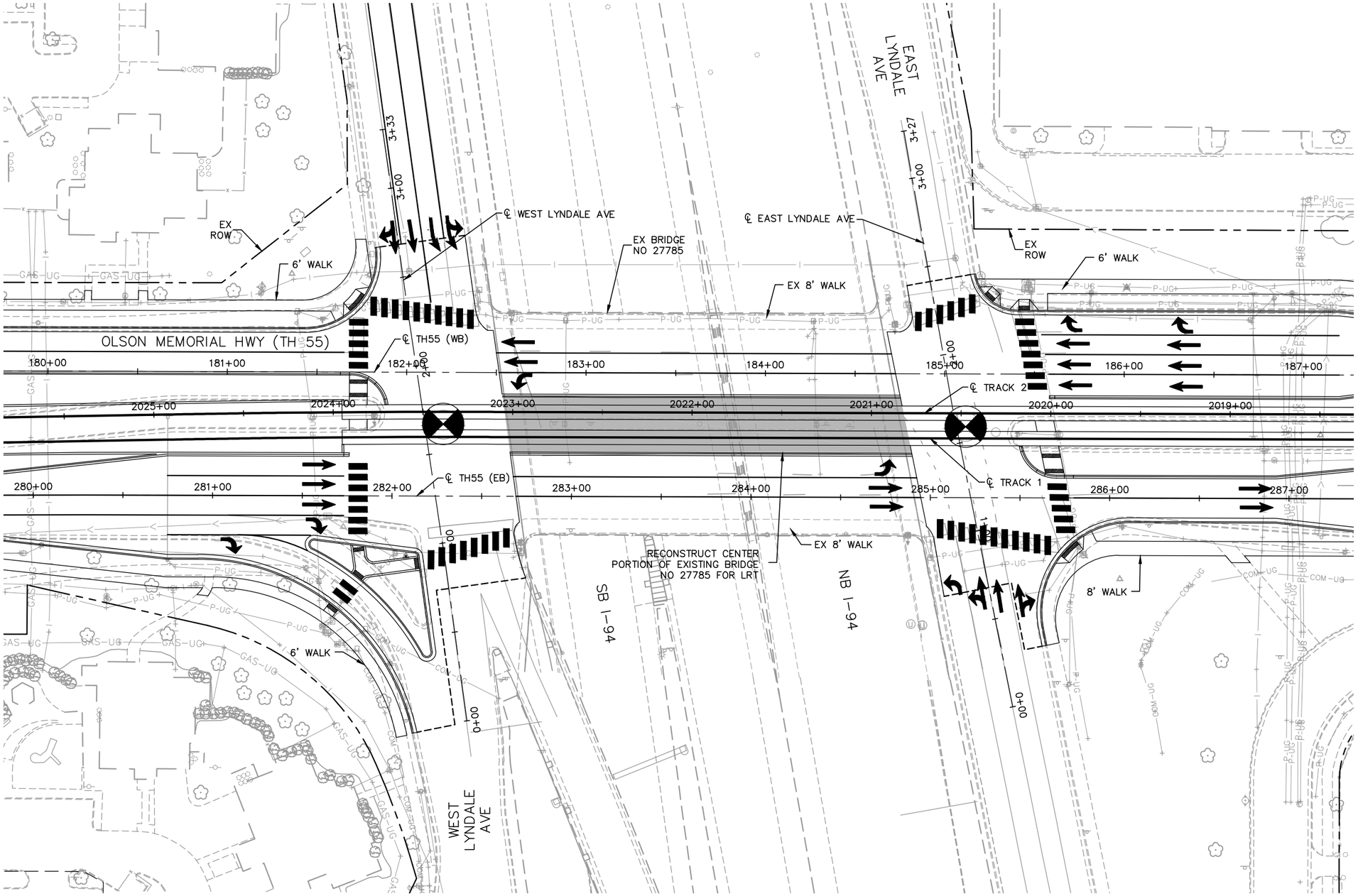
SEGMENT M
XERXES AVE N
PLAN AND PROFILE
STA 20+00 TO STA 21+50

DISCIPLINE: CIVIL

SHEET NAME: M-CIV-PPFL-022

SHEET 103 OF 107

Dec, 03 2015 08:38 am H:\BPO\550_Design_Consultant\CAD\005-SEGMENT-GV\MC\PLAN SHEETS\CIVIL\GV-CIV-PPFL.dwg By: V-MuelleAL



DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn

MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

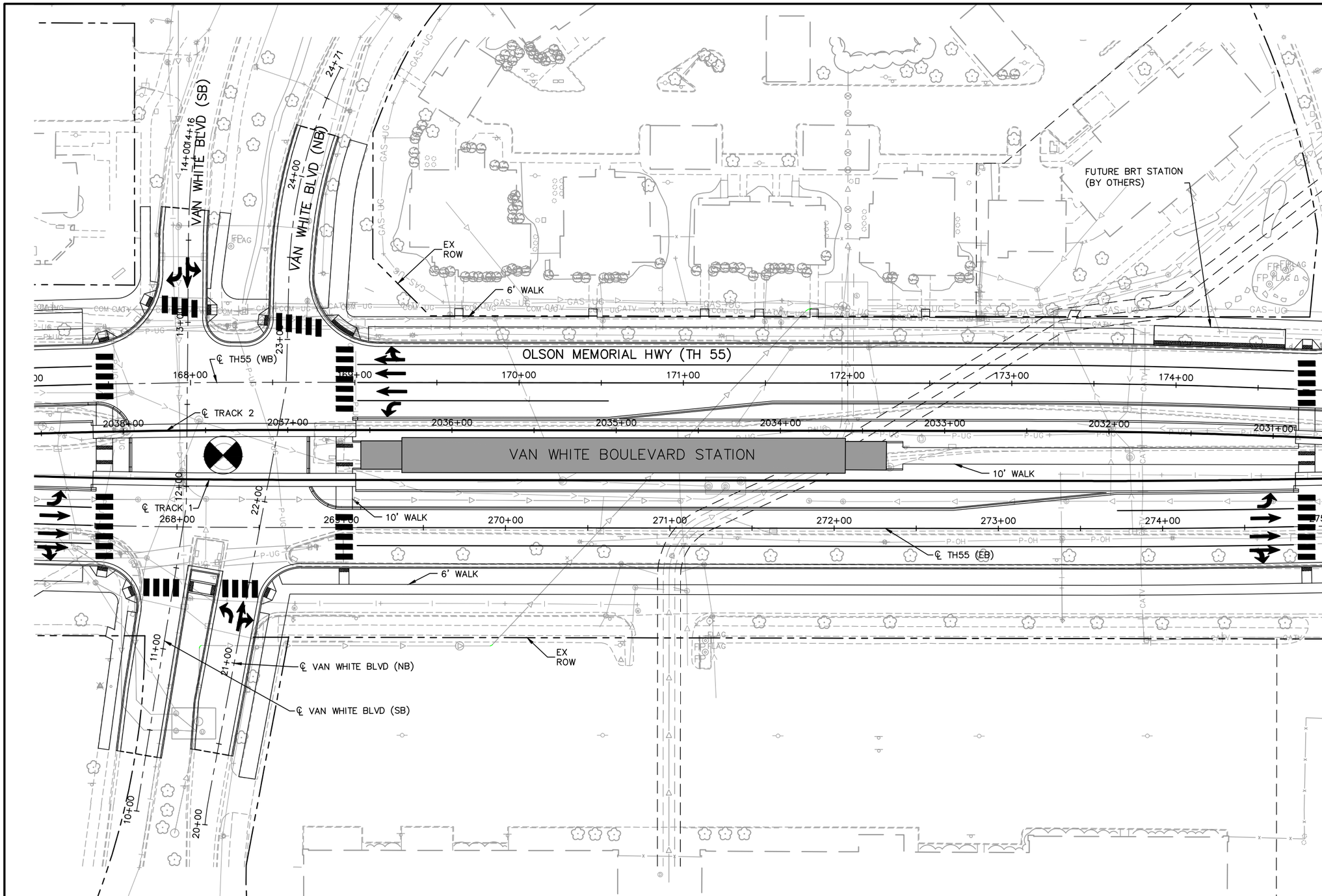
SEGMENT M
LYNDALE AVE
SITE PLAN

DISCIPLINE: CIVIL

SHEET NAME: M-CIV-PLN-001

SHEET 104 OF 107

Dec, 03 2015 05:15 pm H:\BPO\550_Design_Consultant\CAD\006-SEGMENT-M\MC\PLAN SHEETS\CIVIL\M-CIV-PLN.dwg By: V-MuelleAL



0 15 30 60

SCALE IN FEET

DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn

MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

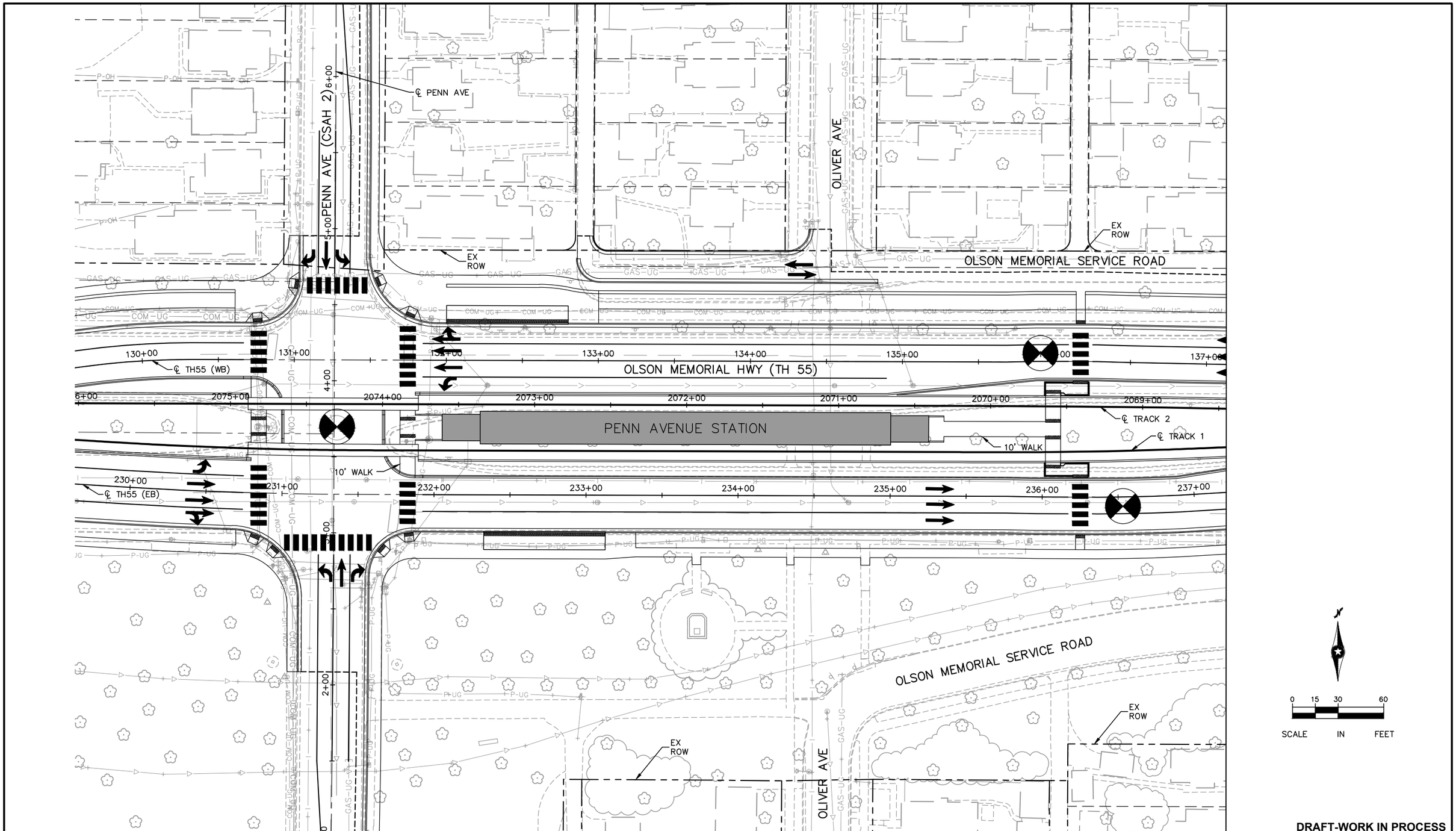
SEGMENT M
VAN WHITE BOULEVARD STATION
SITE PLAN

DISCIPLINE: CIVIL

SHEET NAME: M-CIV-PLN-002

SHEET 105 OF 107

Dec, 07 2015 03:39 pm H:\BPO\550_Design_Consultant\CAD\006-SEGMENT-M\MC\PLAN SHEETS\CIVIL\M-CIV-PLN.dwg By: V-MuelleAL



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NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION BOARDWALK LRT

METROPOLITAN COUNCIL

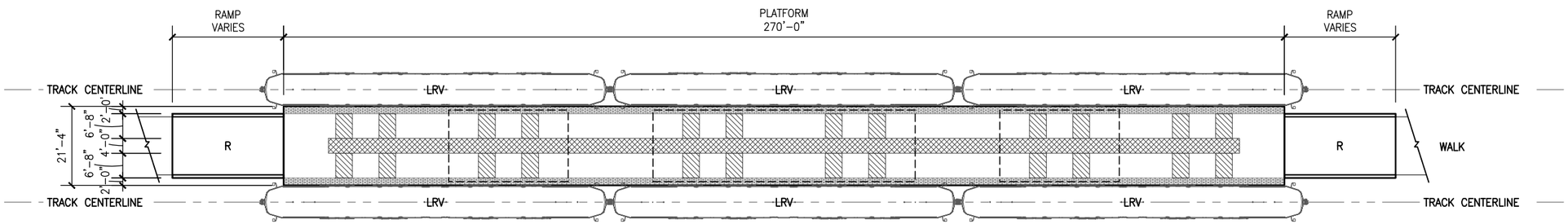
SEGMENT M
PENN AVENUE STATION
SITE PLAN

DISCIPLINE: CIVIL

SHEET NAME: M-CIV-PLN-003

SHEET 106 OF 107

Dec, 03 2015 08:41 am H:\BPO\550_Design_Consultant\CAD\006-SEGMENT-M\MC\PLAN SHEETS\CIVIL\M-CIV-PLN.dwg By: V-MuelleAL



STATION PLATFORM ELEMENTS:

R — APPROACH RAMPS
- LESS THAN 5% SLOPE
- HAND RAIL ON BOTH SIDES

PATRON CIRCULATION ZONE
- CLEAR OF OBSTRUCTIONS
- WIDE ENOUGH TO ALLOW COMFORTABLE PASSAGE OF TWO PEOPLE

TRAIN LOADING AND UNLOADING ZONE
- AREAS WHERE TRAIN DOORS ARE LOCATED WHEN LRV IS AT STATION PLATFORM

PATRON WAITING AREA AND STRUCTURE ZONE
- FARE COLLECTION EQUIPMENT
- COMMUNICATIONS AND ELECTRICAL EQUIPMENT
- INFORMATION KIOSKS
- TRASH CANS
- SIGNAGE

POTENTIAL SHELTER AND CANOPY STRUCTURE
- COVERED WINDSCREEN/SHELTER AREAS WITH BENCHES AND LEAN RAILS
- PROTECTION AT BOARDING AREAS

BOARDING EDGE
- ADA DETECTABLE WARNING AT EDGE OF PLATFORM

DRAFT-WORK IN PROCESS

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

Kimley»Horn
miller dunwiddie
ARCHITECTURE

MUNICIPAL CONSENT

METRO BLUE LINE EXTENSION Bottineau LRT

METROPOLITAN COUNCIL

SEGMENT M

TYPICAL CENTER PLATFORM PLAN

DISCIPLINE: ARCHITECTURE

SHEET NAME: M-ARC-STA-PLN-001

SHEET 107 OF 107

Dec, 01 2015 06:21 pm H:\BPO\550_Design_Consultant\CAD\006-SEGMENT-M\MC\PLAN SHEETS\ARCH\M-ARC-STA-PLN.dwg By: V-NelsonHA