City and County of Honolulu
Department of Transportation Services

Rapid Transit Division (RTD)

WEST OʻAHU STATIONS DESIGN
CONTRACT SV-140

VOLUME 2

UH WEST OʻAHU STATION

PRELIMINARY ENGINEERING DRAWINGS

September 25, 2009

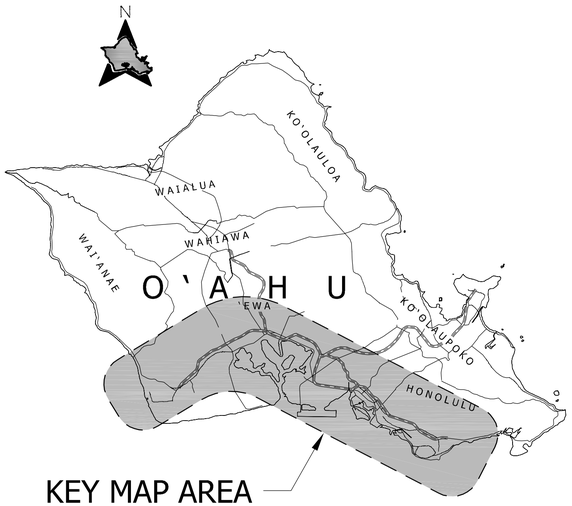
Prepared for:
HHCTCP

Prepared by:
Parsons Brinckerhoff
General Engineering Consultant (GEC)

HONOLULU HIGH-CAPACITY TRANSIT CORRIDOR PROJECT

UH WEST O‘AHU STATION

PRELIMINARY ENGINEERING DRAWINGS



City and County of Honolulu
Department of Transportation Services

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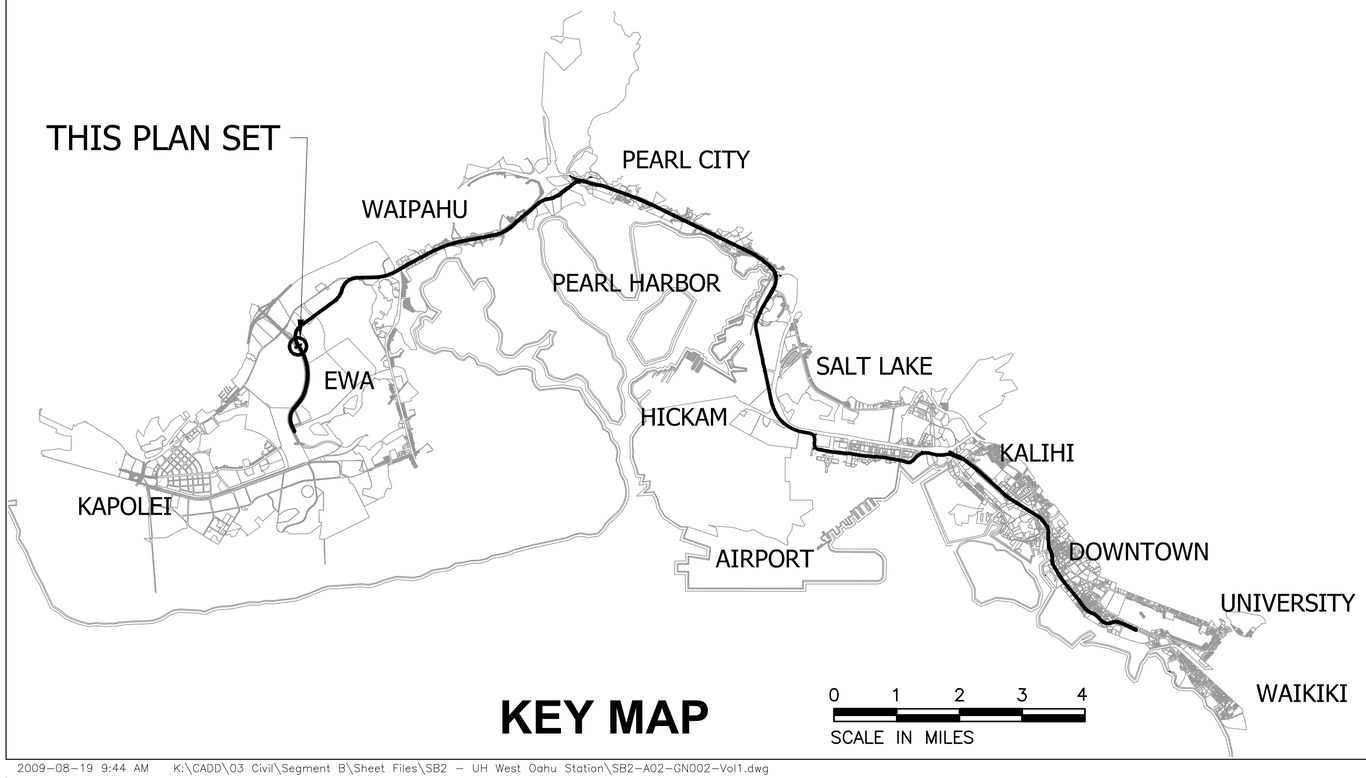

KEY MAP

2009-08-19 9:44 AM K:\CADD\03 Civil\Segment B\Sheet Files\SB2 – UH West Oahu Station\SB2-A02-GN002-Vol1.dwg

UH WEST O'AHU STATION
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Rev	By	Date	Description
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PRELIMINARY ENGINEERING SUBJECT TO REVISION

Designed: N/A
Drawn: J Derosier
Checked: J Davis
Approved: M Hall
Date: 09-25-09

HONOLULU HIGH-CAPACITY TRANSIT CORRIDOR PROJECT
CITY & COUNTY OF HONOLULU - DEPARTMENT OF TRANSPORTATION SERVICES - RAPID TRANSIT DIVISION

Prime Consultant: PB PARSONS BRINCKERHOFF
1003 Bishop Street, Suite 2250 – Honolulu, HI 96813

Subconsultant:

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UH WEST O'AHU STATION

INDEX OF DRAWINGS

Contract No.: SV-140
CADD File: SB2-A03-GN003
Drawing No: GN003 Rev.
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UH WEST O'AHU STATION - APPENDIX A
INFORMATIVE INDEX OF DRAWINGS

Drawing No.	Rev. No.	Drawing Title
Civil		
RW006	B	EXISTING RIGHT-OF-WAY PLAN & PROPOSED ACQUISITION TABULATIONS EB 440+00 TO EB 450+00
RW007	B	EXISTING RIGHT-OF-WAY PLAN & PROPOSED ACQUISITION TABULATIONS EB 450+00 TO EB 460+00
TA006	B	TRACK ALIGNMENT PLAN & PROFILE EB 440+00 TO EB 450+00
TA102	B	TRACK ALIGNMENT DATA SHEET 2 OF 8
TA202	B	TRACK CHARTS SHEET 2 OF 7
RP104	B	SYSTEMS SITE PLAN SITE # 2
RP201	A	ROADWAY HORIZONTAL CONTROL DATA SHEET 1 OF 2
GD006	B	GUIDEWAY DRAINAGE LAYOUT PLAN EB 440+00 TO EB 450+00
Utilities		
UP006	B	COMPOSITE PLAN EXISTING UTILITIES EB 440+00 TO EB 450+00
UP211	B	UTILITY RELOCATION PLAN ELECTRICAL & COMMUNICATIONS EB 446+50 TO EB 452+00
Structural		
GP006	B	STRUCTURAL PLAN & PROFILE EB 440+00 to EB 450+00
GP039	B	STRUCTURAL PLAN AND PROFILE SECTIONS
FP005	B	UH WEST O'AHU STATION GUIDEWAY FORCES SHEET 1 OF 7
FP006	B	UH WEST O'AHU STATION PLATFORM LEVEL PLAN SHEET 2 OF 7
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TN006	B	MASTER SINGLE LINE DIAGRAM SHEET 1 OF 3
CM104	A	CORE SYSTEMS UH WEST O'AHU STATION COMMUNICATIONS PLAN GROUND LEVEL
CM105	A	CORE SYSTEMS UH WEST O'AHU STATION COMMUNICATIONS PLAN CONCOURSE LEVEL
CM106	A	CORE SYSTEMS UH WEST O'AHU STATION COMMUNICATIONS PLAN PLATFORM LEVEL
SY001	A	SYSTEM INTEGRATION CONTRACT WORK DELINEATION AERIAL GUIDEWAY

Rev	By	Date	Description
.			

PRELIMINARY ENGINEERING SUBJECT TO REVISION

Designed: N/A
Drawn: J Derosier
Checked: J Davis
Approved: M Hall
Date: 09-25-09

HONOLULU HIGH-CAPACITY TRANSIT CORRIDOR PROJECT
CITY & COUNTY OF HONOLULU - DEPARTMENT OF TRANSPORTATION SERVICES - RAPID TRANSIT DIVISION

Prime Consultant: PB PARSONS BRINCKERHOFF
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UH WEST O'AHU STATION

APPENDIX A - INFORMATIVE DRAWINGS
INDEX OF DRAWINGS

Contract No.: SV-140
CADD File: SB2-A03-GN004
Drawing No.: GN004 Rev.
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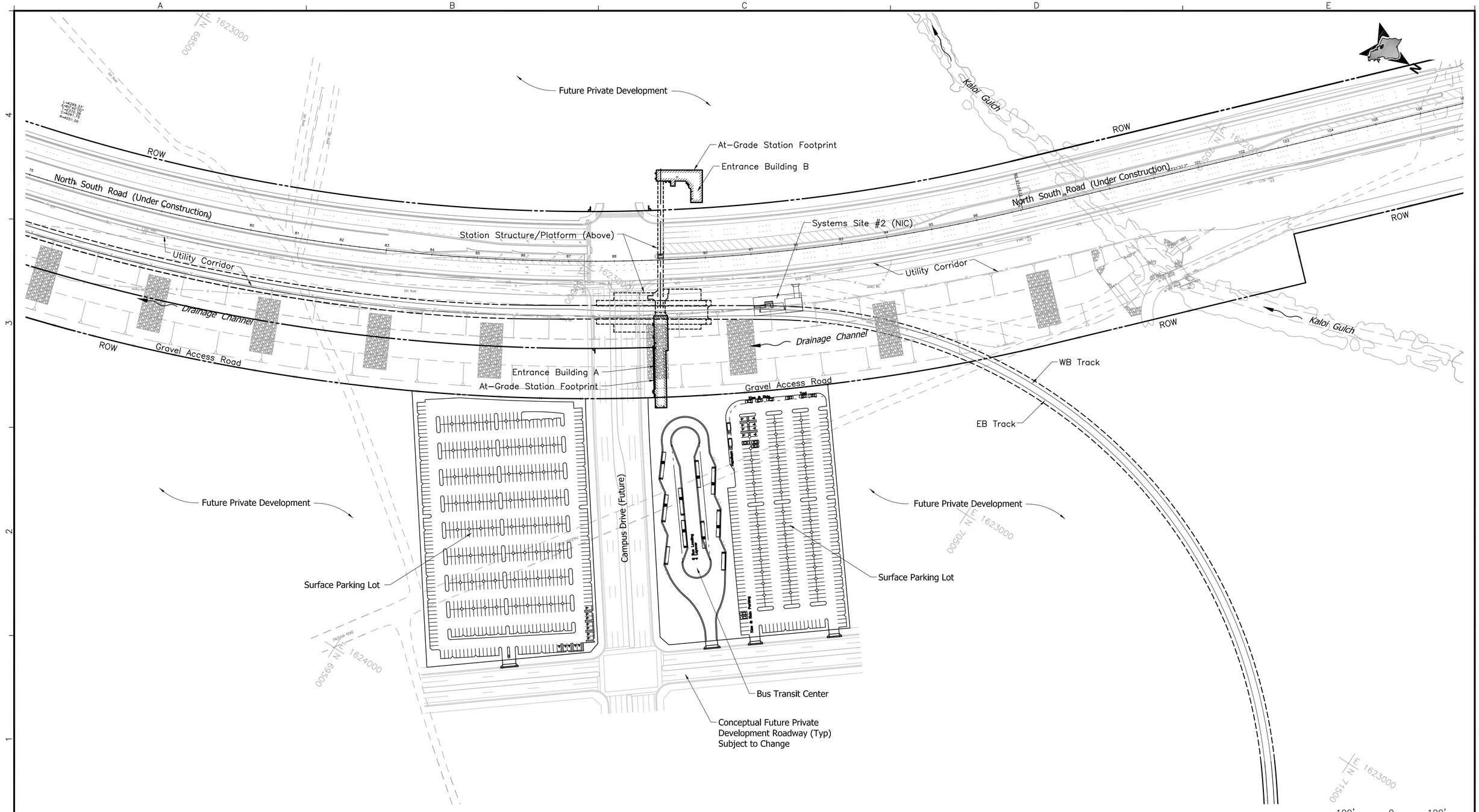

Rev	By	Date	Description

PRELIMINARY ENGINEERING SUBJECT TO REVISION

Designed: B Wardell
Drawn: J Derosier
Checked: M Jewell
Approved: M Hall
Date: 09–25–09

HONOLULU HIGH-CAPACITY TRANSIT CORRIDOR PROJECT

CITY & COUNTY OF HONOLULU - DEPARTMENT OF TRANSPORTATION SERVICES - RAPID TRANSIT DIVISION

Prime Consultant: PB PARSONS BRINCKERHOFF
1003 Bishop Street, Suite 2250 – Honolulu, HI 96813

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UH WEST O'AHU STATION

STATION AREA PLAN

Contract No.: SV–140
CADD File: SB2–A04–GN005
Drawing No: GN005 Rev.
Scale: 1"=100'
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RTD STANDARD DRAWINGS

RTD STANDARD DRAWINGS				
File	**Drawing No.**	**Applicable**	**Drawing Title**	**Date**
CIVIL				
RTD-B02-CS001	CS001		CIVIL STANDARD SURVEY CONTROL DATA SHEET 1 OF 2	24-Aug-09
RTD-B02-CS002	CS002		CIVIL STANDARD SURVEY CONTROL DATA SHEET 2 OF 2	24-Aug-09
TRACKWORK				
RTD-E03-WS101	WS101		TRACKWORK STANDARD STANDARD RAIL SECTIONS AND DATA	24-Aug-09
RTD-E03-WS102	WS102		TRACKWORK STANDARD PROPOSED WHEEL PROFILE AND WHEEL/TRACK INTERFACE DISTANCES GUARD RAIL & RESTRAINING RAIL	24-Aug-09
RTD-E03-WD254	WS254		TRACKWORK STANDARD BRACKET FOR 33C1 RESTRAINING RAIL CONCRETE TIE TRACK	24-Aug-09
RTD-E03-WS302	WS302		TRACKWORK STANDARD NO. 6 TURNOUT BALLASTED/ CONCRETE TIES WITH 13 FT CURVED SWITCHES (UNIFORM RISERS)	24-Aug-09
RTD-E03-WS303	WS303		TRACKWORK STANDARD 13 FT CURVED SPLIT SWITCH BALLASTED TRACK/CONCRETE TIES 115 RE RAIL	24-Aug-09
RTD-E03-WS305	WS305		TRACKWORK STANDARD NO. 6 CONTOURED STEEL FROG FLANGE BEARING BALLASTED TRACK - 115 RE RAIL	24-Aug-09
RTD-E03-WS306	WS306		TRACKWORK STANDARD 33C1 GUARD RAIL FOR NO 6 AND NO 8 FROGS BALLASTED TRACK (115 RE RAIL)	24-Aug-09
RTD-E03-WS307	WS307		TRACKWORK STANDARD SPECIAL TRACKWORK FASTENING PLATE AND ASSEMBLY CONCRETE SWITCHTIES	24-Aug-09
RTD-E03-WS308	WS308		TRACKWORK STANDARD NO. 8 TURNOUT BALLASTED/ CONCRETE TIES WITH 13 FT CURVED SWITCHES (UNIFORM RISERS)	24-Aug-09
RTD-E03-WS310	WS310		TRACKWORK STANDARD NO. 8 CONTOURED STEEL FROG FLANGEBEARING BALLASTED TRACK - 115 RE RAIL	24-Aug-09
RTD-E03-WS313	WS313		TRACKWORK STANDARD NO. 6 CROSSOVER - BALLASTED TRACK 14'-0" TRACK CENTERS	24-Aug-09
RTD-E03-WS314	WS314		TRACKWORK STANDARD NO 8 SINGLE CROSSOVER BALLASTED/CONCRETE TIES 14'-0" TRACK CENTERS	24-Aug-09
RTD-E03-WS321	WS321		TRACKWORK STANDARD PRESTRESSED TURNOUT CONCRETE SWITCH TIES 115 RE RAIL	24-Aug-09
RTD-E03-WS340	WS340		TRACKWORK STANDARD NO. 10 TURNOUT - BALLASTED CONCRETE TIES WITH 19'-6" CURVED SWITCH UNIFORM RISERS	24-Aug-09
RTD-E03-WS810	WS810		TRACKWORK STANDARD NO. 10 TURNOUT - DIRECT FIXATION WITH 19'-6" CURVED SWITCH PLINTH & RAIL LAYOUT	24-Aug-09
RTD-E03-WS811	WS811		TRACKWORK STANDARD NO. 10 TURNOUT - DIRECT FIXATION NOTES & BILL OF MATERIALS	24-Aug-09
RTD-E03-WS812	WS812		TRACKWORK STANDARD 19'-6" CURVED SPLIT SWITCH DIRECT FIXATION TRACK 115RE RAIL	24-Aug-09
RTD-E03-WS813	WS813		TRACKWORK STANDARD NO. 10 CONTOURED STEEL FROG FLANGEBEARING DIRECT FIXATION TRACK - 115RE RAIL	24-Aug-09
RTD-E03-WS814	WS814		TRACKWORK STANDARD DIRECT FIXATION TURNOUT GUARD RAIL MOUNTING DETAILS	24-Aug-09

RTD STANDARD DRAWINGS				
File	**Drawing No.**	**Applicable**	**Drawing Title**	**Date**
TRACKWORK				
RTD-E03-WS815	WS815		TRACKWORK STANDARD NO. 15 TURNOUT - DIRECT FIXATION WITH 26'-0" CURVED SWITCH PLINTH & RAIL LAYOUT, SHEET 1 OF 2	24-Aug-09
RTD-E03-WS816	WS816		TRACKWORK STANDARD NO. 15 TURNOUT - DIRECT FIXATION WITH 26'-0" CURVED SWITCH PLINTH & RAIL LAYOUT, SHEET 2 OF 2	24-Aug-09
RTD-E03-WS817	WS817		TRACKWORK STANDARD 26'-0" CURVED SPLIT SWITCH DIRECT FIXATION TRACK 115RE RAIL	24-Aug-09
RTD-E03-WS820	WS820		TRACKWORK STANDARD NO. 10 CROSSOVER - DIRECT FIXATION 14'-0" TRACK CENTERS	24-Aug-09
RTD-E03-WS831	WS831		TRACKWORK STANDARD NO. 10 DOUBLE CROSSOVER DIRECT FIXATION 14'-0" TRACK CENTERS	24-Aug-09
RTD-E03-WS832	WS832		TRACKWORK STANDARD NO. 10 DOUBLE CROSSOVER DIRECT FIXATION DIAMOND DETAILS 14'-0" TRACK CENTERS, SHEET 1 OF 2	24-Aug-09
RTD-E03-WS833	WS833		TRACKWORK STANDARD NO. 10 DOUBLE CROSSOVER-DIRECT FIXATION TURNOUT FROG & DIAMOND FROG DETAILS 14'-0" TRACK CENTERS, SHEET 2 OF 2	24-Aug-09
ARCHITECTURAL				
RTD-H09-AS301	AS301		ARCHITECTURAL STANDARD ELEVATOR CAR PLANS TYPE D-1A & H-1A AND ELEVATIONS	24-Aug-09
RTD-H09-AS302	AS302		ARCHITECTURAL STANDARD ELEVATOR CAR PLANS TYPE D-2A & H-2A AND ELEVATIONS	24-Aug-09
RTD-H09-AS303	AS303		ARCHITECTURAL STANDARD ELEVATOR CAR DETAILS	24-Aug-09
CORROSION CONTROL				
RTD-M01-HS001	HS001		CORROSION CONTROL STANDARD STRUCTURAL BONDING DETAILS SHEET 1 OF 2	24-Jul-09
RTD-M01-HS002	HS002		CORROSION CONTROL STANDARD STRUCTURAL BONDING DETAILS SHEET 2 OF 2	24-Jul-09
RTD-M01-HS003	HS003		CORROSION CONTROL STANDARD UTILITY BONDING DETAILS SHEET 1 OF 2	24-Jul-09
RTD-M01-HS004	HS004		CORROSION CONTROL STANDARD UTILITY BONDING DETAILS SHEET 2 OF 2	24-Jul-09
RTD-M01-HS005	HS005		CORROSION CONTROL STANDARD PIPE ISOLATION DETAILS SHEET 1 OF 2	24-Jul-09
RTD-M01-HS006	HS006		CORROSION CONTROL STANDARD PIPE ISOLATION DETAILS SHEET 2 OF 2	24-Jul-09
RTD-M01-HS007	HS007		CORROSION CONTROL STANDARD CATHODIC PROTECTION DETAILS SHEET 1 OF 2	24-Jul-09
RTD-M01-HS008	HS008		CORROSION CONTROL STANDARD CATHODIC PROTECTION DETAILS SHEET 2 OF 2	24-Jul-09
RTD-M01-HS009	HS009		CORROSION CONTROL STANDARD ELEVATOR CATHODIC PROTECTION DETAILS	24-Jul-09
RTD-M01-HS010	HS010		CORROSION CONTROL STANDARD TESTING FACILITIES	24-Jul-09

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Designed: N/A
Drawn: J Derosier
Checked: J Davis
Approved: A Borst
Date: 09-25-09

HONOLULU HIGH-CAPACITY TRANSIT CORRIDOR PROJECT
CITY & COUNTY OF HONOLULU - DEPARTMENT OF TRANSPORTATION SERVICES - RAPID TRANSIT DIVISION

Prime Consultant: PB PARSONS BRINCKERHOFF
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Subconsultant:

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STANDARD DRAWING SUMMARY
CITY AND COUNTY OF HONOLULU (RTD)

Contract No.: SV-140
CADD File: SB2-A06-GN006
Drawing No.: GN006 Rev.:
Scale: N/A
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RTD DIRECTIVE DRAWINGS

RTD DIRECTIVE DRAWINGS

File	Drawing No.	Applicable	Drawing Title	Date
SYSTEMS SITES				
DD-B10-RP101	RP101		SYSTEMS SITE DIRECTIVE TYPICAL TRACTION POWER SUBSTATION SITE PLAN AND ELEVATIONS	24-Aug-09
DD-B10-R0102	RP102		SYSTEMS SITE DIRECTIVE TYPICAL GAP BREAKER STATION SITE PLAN AND ELEVATIONS	24-Aug-09
TRACKWORK				
DD-E03-WD120	WD120		TRACKWORK DIRECTIVE PRE-CURVED RAIL DETAILS RESTRAINING RAIL DETAILS TYPICAL LAYOUT	24-Aug-09
DD-E03-WD201	WD201		TRACKWORK DIRECTIVE BALLASTED MAINLINE TRACK CONCRETE CROSS TIES TANGENT AND CURVED TRACK	24-Aug-09
DD-E03-WD202	WD202		TRACKWORK DIRECTIVE BALLASTED MAINLINE TRACK CONCRETE CROSSTIES TANGENT AND CURVED TRACK- DOUBLE TRACK	24-Aug-09
DD-E03-WD205	WD205		TRACKWORK DIRECTIVE AT-GRADE CONCRETE PANEL ROAD CROSSING - TANGENT BALLASTED TRACK	24-Aug-09
DD-E03-WD206	WD206		TRACKWORK DIRECTIVE AT-GRADE TRAPEZOIDAL CONCRETE PANEL ROAD CROSSING - CURVED BALLASTED TRACK	24-Aug-09
DD-E03-WD211	WD211		TRACKWORK DIRECTIVE TRANSITION SLAB - DIRECT FIXATION TRACK TO BALLASTED TRACK 115 RE RAIL	24-Aug-09
DD-E03-WD251	WD251		TRACKWORK DIRECTIVE SERRATED PRESTRESSED CONCRETE CROSSTIE 115 RE RAIL	24-Aug-09
DD-E03-WD253	WD253		TRACKWORK DIRECTIVE SERRATED CONCRETE CROSSTIE FOR RESTRAINING RAIL & CONTACT RAIL 115 RE RAIL	24-Aug-09
DD-E03-WD256	WD256		TRACKWORK DIRECTIVE CONCRETE ROAD CROSSING TIE (10 FT) - 115RE RAIL	24-Aug-09
DD-E03-WD275	WD275		TRACKWORK DIRECTIVE DERAIL AND CAR STOP MSF YARD	24-Aug-09
DD-E03-WD301	WD301		TRACKWORK STANDARD SUMMARY YARD SPECIAL TRACKWORK BALLASTED TURNOUTS	24-Aug-09
DD-E03-WD401	WD401		TRACKWORK DIRECTIVE EMBEDDED APRON AND SHOP TRACK DETAILS	24-Aug-09
DD-E03-WD405	WD405		TRACKWORK DIRECTIVE PEDESTAL TRACK DETAILS MSF PIT TRACKS	24-Aug-09
DD-E03-WD601	WD601		TRACKWORK DIRECTIVE TYPICAL DIRECT FIXATION TRACK INSTALLATION	24-Aug-09
DD-E03-WD602	WD602		TRACKWORK DIRECTIVE DIRECT FIXATION TRACK DETAILS AERIAL/AT-GRADE SLAB STRUCTURES TANGENT TRACK	24-Aug-09
DD-E03-WD603	WD603		TRACKWORK DIRECTIVE DIRECT FIXATION TRACK SECTION AERIAL/AT-GRADE STRUCTURE CURVED TRACK	24-Aug-09
DD-E03-WD604	WD604		TRACKWORK DIRECTIVE GEOMETRIC CONFIGURATION DIRECT FIXATION TRACK WITH SURVEY MARKER INTERFACE TRACTION POWER CONTACT RAIL	24-Aug-09
DD-E03-WD605	WD605		TRACKWORK DIRECTIVE DIRECT FIXATION TRACK DETAILS VEHICLE WASH FACILITY	24-Aug-09
DD-E03-WD606	WD606		TRACKWORK DIRECTIVE DIRECT FIXATION TRACK DETAILS YARD SERVICE & CLEANING PLATFORM	24-Aug-09
DD-E03-WD608	WD608		TRACKWORK DIRECTIVE DIRECT FIXATION TRACK CONCRETE PLINTH REINFORCING DETAILS FOR 2'-3" FASTENER LAYOUTS ON CURVED TRACKS	24-Aug-09

RTD DIRECTIVE DRAWINGS

File	Drawing No.	Applicable	Drawing Title	Date
TRACKWORK				
DD-E03-WD609	WD609		TRACKWORK DIRECTIVE DIRECT FIXATION TRACK CONCRETE PLINTH REINFORCING DETAILS FOR 2'-6" FASTENER LAYOUTS	24-Aug-09
DD-E03-WD615	WD615		TRACKWORK DIRECTIVE DIRECT FIXATION TRACK PLINTH REINFORCING DETAILS WITH 1 OR 2 INCHES OF SUPERELEVATION	24-Aug-09
DD-E03-WD616	WD616		TRACKWORK DIRECTIVE DIRECT FIXATION TRACK PLINTH REINFORCING DETAILS WITH 3 OR 4 INCHES OF SUPERELEVATION	24-Aug-09
DD-E03-WD620	WD620		TRACKWORK DIRECTIVE SPECIAL TRACKWORK DIRECT FIXATION CONCRETE PLINTH REINFORCING DETAILS	24-Aug-09
DD-E03-WD625	WD625		TRACKWORK DIRECTIVE SPECIAL TRACKWORK SWITCH MACHINE MOUNTING DIRECT FIXATION TRACK	24-Aug-09
DD-E03-WD641	WD641		TRACKWORK DIRECTIVE BRACKET FOR 33C1 RESTRAINING RAIL DIRECT FIXATION TRACK	24-Aug-09
DD-E03-WD643	WD643		TRACKWORK DIRECTIVE 33C1 RESTRAINING RAIL DETAILS	24-Aug-09
DD-E03-WD650	WD650		TRACKWORK DIRECTIVE BALLASTED & DIRECT FIXATION TRACK AT STATION PLATFORMS (LIGHT METRO VEHICLE)	24-Aug-09
DD-E03-WD675	WD675		TRACKWORK DIRECTIVE PEDESTRIAN CROSSWALK DIRECT FIXATION TRACK	24-Aug-09
DD-E03-WS898	WD898		TRACKWORK DIRECTIVE FRICTION TYPE (10EB) BUFFER STOP DIRECT FIXATION TRACK INSTALLATION END OF TRACK	24-Aug-09
DD-E03-WS899	WD899		TRACKWORK DIRECTIVE DF FRICTION BUFFER STOP INSTALLATION END OF TRACK DETAILS	24-Aug-09
STRUCTURAL				
DD-G02-WP001	WP001		GENERAL STRUCTURAL NOTES	24-Aug-09
DD-G11-WP002	WP002		STRUCTURAL DESIGN DIRECTVE CHAIN LINK FENCE	24-Aug-09
DD-G11-WP003	WP003		STRUCTURAL DESIGN DIRECTVE RETAINING WALL TYPE 1 H=4' THROUGH 30'	24-Aug-09
DD-G11-WP004	WP004		STRUCTURAL DESIGN DIRECTVE RETAINING WALL TYPE 2 H=4' THROUGH 12'	24-Aug-09
DD-G11-WP005	WP005		STRUCTURAL DESIGN DIRECTVE RETAINING WALL DETAILS	24-Aug-09
DD-G11-WP006	WP006		STRUCTURAL DESIGN DIRECTVE GUIDEWAY STAIRS TO STATION PLATFORM SHEET 1 OF 5	24-Aug-09
DD-G11-WP007	WP007		STRUCTURAL DESIGN DIRECTVE GUIDEWAY STAIRS TO STATION PLATFORM SHEET 2 OF 5	24-Aug-09
DD-G11-WP008	WP008		STRUCTURAL DESIGN DIRECTVE GUIDEWAY STAIRS TO STATION PLATFORM SHEET 3 OF 5	24-Aug-09
DD-G11-WP009	WP009		STRUCTURAL DESIGN DIRECTVE GUIDEWAY STAIRS TO STATION PLATFORM SHEET 4 OF 5	24-Aug-09
DD-G11-WP010	WP010		STRUCTURAL DESIGN DIRECTVE GUIDEWAY STAIRS TO STATION PLATFORM SHEET 5 OF 5	24-Aug-09
DD-G11-WP011	WP011		STRUCTURAL DESIGN DIRECTVE WATERPROOFING DETAILS SHEET 1 OF 3	24-Aug-09
DD-G11-WP012	WP012		STRUCTURAL DESIGN DIRECTVE WATERPROOFING DETAILS SHEET 2 OF 3	24-Aug-09
DD-G11-WP013	WP013		STRUCTURAL DESIGN DIRECTVE WATERPROOFING DETAILS SHEET 3 OF 3	24-Aug-09

RTD DIRECTIVE DRAWINGS

File	Drawing No.	Applicable	Drawing Title	Date
ARCHITECTURAL				
DD-H01-AG001	AG001		ARCHITECTURAL DIRECTIVE GENERAL ARCHITECTURAL NOTES, SYMBOLS, AND ABBREVIATIONS SHEET 1 OF 3	24-Aug-09
DD-H01-AG002	AG002		ARCHITECTURAL DIRECTIVE GENERAL ARCHITECTURAL NOTES, SYMBOLS, AND ABBREVIATIONS SHEET 2 OF 2	24-Aug-09
DD-H01-AG003	AG003		ARCHITECTURAL DIRECTIVE GENERAL ARCHITECTURAL NOTES, SYMBOLS, AND ABBREVIATIONS SHEET 3 OF 3	24-Aug-09
DD-H09-AD001	AD001		ARCHITECTURAL DIRECTIVE STAIR/ESCALATOR DESIGN LAYOUT	24-Aug-09
DD-H09-AD002	AD002		ARCHITECTURAL DIRECTIVE STAIR/ESCALATOR DESIGN REQUIREMENTS	24-Aug-09
DD-H09-AD003	AD003		ARCHITECTURAL DIRECTIVE TRACTION ELEVATOR DESIGN REQUIREMENT AND CONFIGURATION	24-Aug-09
DD-H09-AD004	AD004		ARCHITECTURAL DIRECTIVE HYDRAULIC ELEVATOR DESIGN REQUIREMENT AND CONFIGURATION	24-Aug-09
DD-H09-AD005	AD005		ARCHITECTURAL DIRECTIVE HOLELESS HYDRAULIC ELEVATOR DESIGN REQUIREMENT AND CONFIGURATION	24-Aug-09
DD-H09-AD006	AD006		ARCHITECTURAL DIRECTIVE ELEVATOR HOISTWAY SECTIONS	24-Aug-09
DD-H09-AD007	AD007		ARCHITECTURAL DIRECTIVE END OF PLATFORM DESIGN LAYOUT SIDE PLATFORM	24-Aug-09
DD-H09-AD008	AD008		ARCHITECTURAL DIRECTIVE END OF PLATFORM DESIGN LAYOUT CENTER PLATFORM	24-Aug-09
DD-H09-AD009	AD009		ARCHITECTURAL DIRECTIVE STAIR/ESCALATOR DETAILS	24-Aug-09
DD-H09-AD010	AD010		ARCHITECTURAL DIRECTIVE FORMLINER DETAILS PIER COLUMN 1	24-Aug-09
DD-H09-AD011	AD011		ARCHITECTURAL DIRECTIVE FORMLINER DETAILS STATION COLUMN 2	24-Aug-09
DD-H09-AD012	AD012		ARCHITECTURAL DIRECTIVE FORMLINER DETAILS COLUMN SECTIONS	24-Aug-09
DD-H09-AD013	AD013		ARCHITECTURAL DIRECTIVE STAIR/ESCALATOR 1 LANDING REQUIREMENTS - CONCOURSE LEVEL	24-Aug-09
DD-H09-AD014	AD014		ARCHITECTURAL DIRECTIVE STAIR/ESCALATOR 2 LANDINGS REQUIREMENTS - CONCOURSE LEVEL	24-Aug-09
DD-H09-AD015	AD015		ARCHITECTURAL DIRECTIVE ELEVATOR HOISTWAY PLANS, SECTION, AND DETAILS	24-Aug-09
DD-H09-AD016	AD016		ARCHITECTURAL DIRECTIVE ELEVATOR HOISTWAY SECTION AND DETAILS	24-Aug-09
DD-H09-AD017	AD017		ARCHITECTURAL DIRECTIVE ELEVATOR HOISTWAY ELEVATIONS, DATA TABULATION, AND DETAILS	24-Aug-09
DD-H09-AD018	AD018		ARCHITECTURAL DIRECTIVE ELEVATOR SCHEDULE SHEET 1 OF 2	24-Aug-09
DD-H09-AD019	AD019		ARCHITECTURAL DIRECTIVE ELEVATOR SCHEDULE SHEET 2 OF 2	24-Aug-09
DD-H09-AD020	AD020		ARCHITECTURAL DIRECTIVE TYPICAL TOILET LAYOUT AND ELEVATIONS	24-Aug-09
DD-H09-AD021	AD021		ARCHITECTURAL DIRECTIVE TACTILE WARNING PAVER DETAILS	24-Aug-09
DD-H09-AD101	AD101		ARCHITECTURAL DIRECTIVE CONCOURSE LEVEL PLAN SIDE PLATFORM PROTOTYPE	24-Aug-09

Rev	By	Date	Description

Designed: N/A
Drawn: J Derosier
Checked: J Davis
Approved: A Borst
Date: 09-25-09

HONOLULU HIGH-CAPACITY TRANSIT CORRIDOR PROJECT
CITY & COUNTY OF HONOLULU - DEPARTMENT OF TRANSPORTATION SERVICES - RAPID TRANSIT DIVISION

Prime Consultant: PB PARSONS BRINCKERHOFF
1003 Bishop Street, Suite 2250 – Honolulu, HI 96813

Subconsultant:

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DIRECTIVE DRAWING SUMMARY
CITY AND COUNTY OF HONOLULU (RTD)

SHEET 1 OF 2

Contract No.: SV-140
CADD File: SB2-A06-GN007
Drawing No.: GN007 Rev.
Scale: N/A
Page No. 6 of 77

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RTD DIRECTIVE DRAWINGS

RTD DIRECTIVE DRAWINGS

File	Drawing No.	Applicable	Drawing Title	Date
ARCHITECTURAL				
DD-H09-AD102	AD102		ARCHITECTURAL DIRECTIVE PLATFORM LEVEL PLAN SIDE PLATFORM PROTOTYPE	24-Aug-09
DD-H09-AD103	AD103		ARCHITECTURAL DIRECTIVE ROOF PLAN SIDE PLATFORM PROTOTYPE	24-Aug-09
DD-H09-AD104	AD104		ARCHITECTURAL DIRECTIVE CONCOURSE REFLECTED CEILING PLAN SIDE PLATFORM PROTOTYPE	24-Aug-09
DD-H09-AD105	AD105		ARCHITECTURAL DIRECTIVE PLATFORM REFLECTED CEILING PLAN SIDE PLATFORM PROTOTYPE	24-Aug-09
DD-H09-AD106	AD106		ARCHITECTURAL DIRECTIVE FLOOR FINISH PLAN - CONCOURSE SIDE PLATFORM PROTOTYPE	24-Aug-09
DD-H09-AD107	AD107		ARCHITECTURAL DIRECTIVE FLOOR FINISH PLAN - PLATFORM SIDE PLATFORM PROTOTYPE	24-Aug-09
DD-H09-AD108	AD108		ARCHITECTURAL DIRECTIVE LONGITUDINAL & CROSS SECTIONS SIDE PLATFORM PROTOTYPE	24-Aug-09
DD-H09-AD111	AD111		ARCHITECTURAL DIRECTIVE INTERIOR ELEVATIONS SIDE PLATFORM PROTOTYPE	24-Aug-09
DD-H09-AD112	AD112		ARCHITECTURAL DIRECTIVE ENLARGED ELEVATIONS SIDE PLATFORM PROTOTYPE SHEET 1 OF 2	24-Aug-09
DD-H09-AD114	AD114		ARCHITECTURAL DIRECTIVE ENLARGED ELEVATIONS SIDE PLATFORM PROTOTYPE SHEET 2 OF 2	24-Aug-09
DD-H09-AD116	AD116		ARCHITECTURAL DIRECTIVE TYPICAL BAY SIDE PLATFORM PROTOTYPE	24-Aug-09
DD-H09-AD117	AD117		ARCHITECTURAL DIRECTIVE PLATFORM CANOPY DETAILS SIDE PLATFORM PROTOTYPE	24-Aug-09
DD-H09-AD118	AD118		ARCHITECTURAL DIRECTIVE STAIR & BRIDGE CANOPY DETAILS SIDE PLATFORM PROTOTYPE SHEET 1 OF 2	24-Aug-09
DD-H09-AD119	AD119		ARCHITECTURAL DIRECTIVE STAIR & BRIDGE CANOPY DETAILS SIDE PLATFORM PROTOTYPE SHEET 2 OF 2	24-Aug-09
DD-H09-AD120	AD120		ARCHITECTURAL DIRECTIVE GUARDRAIL DETAILS SIDE PLATFORM PROTOTYPE	24-Aug-09
DD-H09-AD122	AD122		ARCHITECTURAL DIRECTIVE 3D VIEWS SIDE PLATFORM PROTOTYPE SHEET 1 OF 3	24-Aug-09
DD-H09-AD123	AD123		ARCHITECTURAL DIRECTIVE 3D VIEWS SIDE PLATFORM PROTOTYPE SHEET 2 OF 3	24-Aug-09
DD-H09-AD124	AD124		ARCHITECTURAL DIRECTIVE 3D VIEWS SIDE PLATFORM PROTOTYPE SHEET 3 OF 3	24-Aug-09
DD-H09-AD201	AD201		ARCHITECTURAL DIRECTIVE CONCOURSE LEVEL PLAN CENTER PLATFORM PROTOTYPE	24-Aug-09
DD-H09-AD202	AD202		ARCHITECTURAL DIRECTIVE PLATFORM LEVEL PLAN CENTER PLATFORM PROTOTYPE	24-Aug-09
DD-H09-AD203	AD203		ARCHITECTURAL DIRECTIVE ROOF PLAN CENTER PLATFORM PROTOTYPE	24-Aug-09
DD-H09-AD204	AD204		ARCHITECTURAL DIRECTIVE CONCOURSE REFLECTED CEILING PLAN CENTER PLATFORM PROTOTYPE	24-Aug-09
DD-H09-AD205	AD205		ARCHITECTURAL DIRECTIVE PLATFORM REFLECTED CEILING PLAN CENTER PLATFORM PROTOTYPE	24-Aug-09

RTD DIRECTIVE DRAWINGS

File	Drawing No.	Applicable	Drawing Title	Date
ARCHITECTURAL				
DD-H09-AD206	AD206		ARCHITECTURAL DIRECTIVE CONCOURSE FLOOR FINISH PLAN CENTER PLATFORM PROTOTYPE	24-Aug-09
DD-H09-AD207	AD207		ARCHITECTURAL DIRECTIVE PLATFORM FLOOR FINISH PLAN CENTER PLATFORM PROTOTYPE	24-Aug-09
DD-H09-AD208	AD208		ARCHITECTURAL DIRECTIVE LONGITUDINAL & CROSS SECTIONS CENTER PLATFORM PROTOTYPE	24-Aug-09
DD-H09-AD210	AD210		ARCHITECTURAL DIRECTIVE TYPICAL BAY END CONDITION DETAILS CENTER PLATFORM PROTOTYPE	24-Aug-09
DD-H09-AD211	AD211		ARCHITECTURAL DIRECTIVE TYPICAL BAY DETAILS CENTER PLATFORM PROTOTYPE SHEET 1 OF 2	24-Aug-09
DD-H09-AD212	AD212		ARCHITECTURAL DIRECTIVE TYPICAL BAY DETAILS CENTER PLATFORM PROTOTYPE SHEET 2 OF 2	24-Aug-09
DD-H09-AD214	AD214		ARCHITECTURAL DIRECTIVE PLATFORM CANOPY DETAILS CENTER PLATFORM PROTOTYPE	24-Aug-09
DD-H09-AD215	AD215		ARCHITECTURAL DIRECTIVE STAIR & BRIDGE CANOPY DETAILS CENTER PLATFORM PROTOTYPE SHEET 1 OF 2	24-Aug-09
DD-H09-AD216	AD216		ARCHITECTURAL DIRECTIVE STAIR & BRIDGE CANOPY DETAILS CENTER PLATFORM PROTOTYPE SHEET 2 OF 2	24-Aug-09
DD-H09-AD217	AD217		ARCHITECTURAL DIRECTIVE GUARDRAIL DETAILS CENTER PLATFORM PROTOTYPE	24-Aug-09
DD-H09-AD218	AD218		ARCHITECTURAL DIRECTIVE MISC DETAILS CENTER PLATFORM PROTOTYPE	24-Aug-09
DD-H09-AD219	AD219		ARCHITECTURAL DIRECTIVE 3D VIEWS CENTER PLATFORM PROTOTYPE	24-Aug-09
MECHANICAL				
DD-K11-MD101	MD101		MECHANICAL DIRECTIVE HVAC SYSTEMS	24-Aug-09
DD-K11-MD201	MD201		MECHANICAL DIRECTIVE PLUMBING AND DRAINAGE SYSTEMS	24-Aug-09
DD-K11-MD301	MD301		MECHANICAL DIRECTIVE FIRE PROTECTION SYSTEMS	24-Aug-09
DD-K11-MD401	MD401		MECHANICAL DIRECTIVE SEISMIC AND WIND INDICATOR SYSTEMS	24-Aug-09
DD-K11-MD501	MD501		MECHANICAL DIRECTIVE TYPICAL TPSS AND GBS AIR CONDITIONING AND CONTROL SYSTEM	24-Aug-09
ELECTRICAL				
DD-L01-ED001	ED001		GENERAL ELECTRICAL NOTES	3-Apr-09
DD-L03-ED002	ED002		ELECTRICAL DIRECTIVE TYPICAL PASSENGER STATION ONE-LINE DIAGRAM	3-Jun-09
DD-L05-ED003	ED003		GUIDEWAY ELECTRICAL DIRECTIVE ELECTRICAL GUIDEWAY LIGHTING PLANS	3-Apr-09
DD-L05-ED004	ED004		GUIDEWAY ELECTRICAL DIRECTIVE ELECTRICAL GUIDEWAY LIGHTING DOUBLE TRACK	3-Apr-09
DD-L05-ED005	ED005		GUIDEWAY ELECTRICAL DIRECTIVE ELECTRICAL GUIDEWAY LIGHTING SINGLE TRACK	3-Apr-09
DD-L05-ED006	ED006		ELECTRICAL DIRECTIVE PASSENGER STATION - CENTER PLATFORM PLATFORM LIGHTING	-
DD-L05-ED007	ED007		ELECTRICAL DIRECTIVE PASSENGER STATION - SIDE PLATFORM SIDE LIGHTING	-
DD-L08-ED008	ED008		ELECTRICAL DIRECTIVE PASSENGER STATION ELECTRICAL, UPS, TCC ROOMS	-

RTD DIRECTIVE DRAWINGS

File	Drawing No.	Applicable	Drawing Title	Date
TRACTION POWER				
DD-N06-TD001	TD001		TRACTION POWER DIRECTIVE TYPICAL SUBSTATION RACEWAY LAYOUT	24-Jul-09
DD-N06-TD002	TD002		TRACTION POWER DIRECTIVE TYPICAL DC RACEWAYS ON AERIAL GUIDEWAY SECTIONS AND DETAILS	24-Jul-09
DD-N06-TD003	TD003		TRACTION POWER DIRECTIVE TYPICAL MANHOLE/PULLBOX DETAILS	24-Jul-09
DD-N06-TD004	TD004		TRACTION POWER DIRECTIVE TYPICAL UNDERGROUND DUCTBANK SECTIONS & DETAILS	24-Jul-09
DD-N06-TD005	TD005		TRACTION POWER DIRECTIVE SUBSTATION CABLE TRENCH DETAILS	24-Jul-09
DD-N06-TD006	TD006		TRACTION POWER DIRECTIVE SUBSTATION CABLE TRENCH DETAILS ALTERNATIVE	24-Jul-09
DD-N06-TD050	TD050		TRACTION POWER DIRECTIVE TYPICAL SUBSTATION GROUND GRID ARRANGEMENT	24-Jul-09
DD-N06-TD051	TD051		TRACTION POWER DIRECTIVE TYPICAL GAP BREAKER STATION GROUND GRID ARRANGEMENT	24-Jul-09
DD-N06-TD052	TD052		TRACTION POWER DIRECTIVE TYPICAL SUBSTATION GROUND GRID DETAILS	24-Jul-09
DD-N06-TD100	TD100		TRACTION POWER DIRECTIVE CONTACT RAIL INSTALLATION SPLICE JOINT ASSEMBLY	24-Jul-09
DD-N06-TD101	TD101		TRACTION POWER DIRECTIVE CONTACT RAIL INSTALLATION END-APPROACH ASSEMBLY	24-Jul-09
DD-N06-TD102	TD102		TRACTION POWER DIRECTIVE CONTACT RAIL INSTALLATION EXPANSION JOINT ASSEMBLY	24-Jul-09
DD-N06-TD103	TD103		TRACTION POWER DIRECTIVE CONTACT RAIL INSTALLATION ANCHOR ASSEMBLY DIRECT FIXATION TRACK	24-Jul-09
DD-N06-TD104	TD104		TRACTION POWER DIRECTIVE CONTACT RAIL INSTALLATION MOUNTING AND PEDESTAL DETAILS	24-Jul-09
DD-N06-TD105	TD105		TRACTION POWER DIRECTIVE CONTACT RAIL INSTALLATION INSULATOR BRACKET & ANCHOR BALLASTED TRACKS	24-Jul-09
DD-N06-TD106	TD106		TRACTION POWER DIRECTIVE CONTACT RAIL INSTALLATION COVERBOARD ASSEMBLY	24-Jul-09
DD-N06-TD107	TD107		TRACTION POWER DIRECTIVE CONTACT RAIL INSTALLATION COVERBOARD MOUNTING DETAILS	24-Jul-09
DD-N06-TD108	TD108		TRACTION POWER DIRECTIVE CONTACT RAIL INSTALLATION COVERBOARD ASSEMBLY AT EXPANSION JOINT	24-Jul-09
TRAIN CONTROL				
DD-P04-ND001	ND001		TRAIN CONTROL DIRECTIVE MAINLINE SWITCH MACHINE LAYOUT DIRECT FIXATION	24-Jul-09
DD-P04-ND002	ND002		TRAIN CONTROL DIRECTIVE MAINLINE SWITCH MACHINE LAYOUT BALLASTED TRACK	24-Jul-09
DD-P04-ND003	ND003		TRAIN CONTROL DIRECTIVE YARD SWITCH MACHINE LAYOUT BALLASTED TRACK	24-Jul-09
SYSTEMS INTEGRATION				
DD-V11-ID001	ID001		SYSTEMS INTEGRATION DIRECTIVE CONTRACT WORK DELINEATION AERIAL GUIDEWAY	12-Oct-09

Rev	By	Date	Description

Designed: N/A
Drawn: J Derosier
Checked: J Davis
Approved: A Borst
Date: 09-25-09

HONOLULU HIGH-CAPACITY TRANSIT CORRIDOR PROJECT
CITY & COUNTY OF HONOLULU - DEPARTMENT OF TRANSPORTATION SERVICES - RAPID TRANSIT DIVISION

Prime Consultant: PB PARSONS BRINCKERHOFF
1003 Bishop Street, Suite 2250 – Honolulu, HI 96813

Subconsultant:

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DIRECTIVE DRAWING SUMMARY
CITY AND COUNTY OF HONOLULU (RTD)

SHEET 2 OF 2

Contract No.: SV-140
CADD File: SB2-A06-GN008
Drawing No.: GN008 Rev.
Scale: N/A
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STANDARD DETAILS SUMMARY–CITY AND COUNTY OF HONOLULU

SHEET NO.	APPLICABLE	TITLE	DATE
R–1		Pre–cast Concrete Curb	09/1984
R–2		Pre–cast Concrete Driveway Curb	09/1984
R–3		Pre–cast Concrete Drop Curb Block	09/1984
R–4		Integral Curb and Gutter, Integral Driveway Curb and Gutter	R01/1995
R–4A		Integral Curb and Gutter, Integral Driveway Curb and Gutter for R/W of 70' or More	R01/1995
R–5		Rolled Curb	09/1984
R–6		Rolled Curb Transition to Curbs and Catch Basins	09/1984
R–7		Driveway Apron with Rolled Curb	09/1984
R–8		Thru Gutter	09/1984
R–9		Concrete Pavement	09/1984
R–10		Concrete Pavement Joint Details	09/1984
R–11		Concrete Pavement Joint Details	09/1984
R–12		Street Survey Monument	09/1984
R–13		Street Survey Monument Castings	09/1984
R–14		Centerline Monument	09/1984
R–15		Temporary Wooden Barricade	09/1984
R–16		Sidewalk Reinforcement Details at Utility Boxes or Openings	09/1984
R–17		Tree Well with Concrete Cover	09/1984
R–18		3' or 4' Chain Link Fence	09/1984
R–19		6' Chain Link Fence	09/1984
R–20		Typical Single Gate	09/1984
R–21A		Typical Double Gate	R03/1991
R–22		Metal Guardrail Details	09/1984
R–23		Metal Guradrail Details	09/1984
R–24		Metal Guardrail Details	09/1984
R–25		Curb Ramp	R09/1992
R–25A		Curb Ramp	R04/2000
R–26		Private Driveway Ramp	09/1984
R–27		Full Width Sidewalk at Curb Return	09/1984
R–28		Sidewalk Details	09/1984
R–29		Driveway Apron	09/1984
R–29A		Driveway Apron	R04/2000
R–30		Driveway Layout	09/1984
R–31		Grade Adjustment Walls	09/1984
R–32		Street Cross–sections with Sidewalk	09/1984
R–33		Street Cross–sections without Sidewalk	09/1984
R–34		Road Pavement and Shoulders	09/1984
R–35		Typical Roadway Utility Location with Sidewalk	09/1984
R–36		Typical Roadway Utility Location without Sidewalk	09/1984
R–37		Residential Driveway without Curb and Gutter	09/1984
R–38		Driveway Layout	09/1984
R–39		Non–dedicable Streets	09/1984
R–40		Dry Well Cover	09/1984
R–41		Street Cross–sections with Curb and Gutter	09/1984
R–42		Street Cross–sections without Curb and Gutter	09/1984
R–43		Road Pavements and Shoulders	09/1984
R–44		Cul–de–sac	09/1984

SHEET NO.	APPLICABLE	TITLE	DATE
R–45		Tapered Road Intersection	09/1984
R–46		Typical Roadway Utility Location	09/1984
R–47		Space Allocation for Underground Utilities	09/1984
R–48		Residential Driveway without Curb and Gutter	09/1984
R–49		Driveway Layouts for Concrete Curb Streets	09/1984
R–50		Driveway Layouts for Non–Curb Streets	09/1984
R–51		Concrete Driveway with Existing Sidewalk	09/1984
R–52		Roadway Typical Sections	09/1984
R–53		Roadway Typical Sections	09/1984
R–54		Roadway Typical Sections	09/1984
R–55		Roadway Swales	09/1984
R–56		Sidewalk Details	09/1984
R–57		Cul–de–sac	09/1984
R–58		Space Allocation for Underground Utilities	09/1984
R–59		Space Allocation for Underground Utilities	09/1984
D–1		Type "A" Catch Basin	09/1984
D–2		Type "A" Catch Basin Reinforcement Details	09/1984
D–3		Type "E" Catch Basin	09/1984
D–4		Type "E" Catch Basin Reinforcement Details	09/1984
D–5		Type "B" Catch Basin	09/1984
D–6		Type "B" Catch Basin Reinforcement Details	09/1984
D–7		Type "F" Catch Basin	09/1984
D–8		Type "F" Catch Basin Reinforcement Details	09/1984
D–9		Type "C" Catch Basin	09/1984
D–10		Type "C" Catch Basin Reinforcement Details	09/1984
D–11		Type "D" Catch Basin	09/1984
D–12		Type "D" Catch Basin Reinforcement Details	09/1984
D–13		Catch Basin Details	09/1984
D–14		Details for Catch Basin with 5" Curb	09/1984
D–15		Deflector Inlet for Catch Basin	09/1984
D–16		Monolithic Construction of Catch Basin Top Slab and Sidewalk	09/1984
D–17		Shallow Drain Manhole for Sidewalk Area	09/1984
D–18		Shallow Drain Manhole for Pavement Area	09/1984
D–19		Pre–cast Top Slab for Shallow Drain Manhole	09/1984
D–20		Concrete Wall Drain Manhole	09/1984
D–21		Brick Wall Drain Manhole	09/1984
D–22		Pre–cast Concrete Drain Manhole	09/1984
D–23		Pre–cast Concrete Drain Manhole Details	09/1984
D–24		Pre–cast Concrete Drain Manhole Details	09/1984
D–25		Pre–cast Concrete Drain Manhole Details	09/1984
D–26		Channelizing Details for Drain Manhole	09/1984
D–27		Rungs for Catch Basins and Manholes	09/1984
D–28		Type "DA" Frame for Catch Basin and Manhole	09/1984
D–29		Type "DB" Frame for Catch Basin and Manhole	09/1984
D–30		Catch Basin and Manhole Cover	09/1984
D–31		Payment Trench Width and Repaving for Drain Pipes	09/1984
D–32		Sidewalk Culvert	09/1984
D–33		Driveway Drainage – Box Culvert	09/1984
D–34		Driveway Drainage – Pipe Culvert	09/1984

SHEET NO.	APPLICABLE	TITLE	DATE
D–35		Driveway Drainage – Swale	09/1984
D–36		Type G1 and Type G2 Drainage Inlets	09/1984
D–37		Type G3 Drainage Inlet	09/1984
D–38		Type G4 Drainage Inlet	09/1984
D–39		Standard Frame and Grate	09/1984
D–40		Local Depression without Curb and Gutter	09/1984
D–41		Junction Structure B	09/1984
D–42		Junction Structure C	09/1984
D–43		Junction Structure D	09/1984
D–44		Monolithic Catch Basin Connection for Pipes 12" to 72"	09/1984
D–45		Concrete Collar Details	09/1984
D–46		Single Box Culverts	09/1984
D–47		Double Box Culverts	09/1984
D–48		Triple Box Culverts	09/1984
D–49		Rectangular Transition	09/1984
D–50		Circular Transition	09/1984
D–51		Parapet Details for Box Culverts	09/1984
D–52		Support for Drain and Sewer Pipes Across Trenches	09/1984

Rev	By	Date	Description
.			

PRELIMINARY ENGINEERING SUBJECT TO REVISION

Designed: N/A
Drawn: J Derosier
Checked: L Karamatsu
Approved: M Hall
Date: 09–25–09

HONOLULU HIGH-CAPACITY TRANSIT CORRIDOR PROJECT
CITY & COUNTY OF HONOLULU - DEPARTMENT OF TRANSPORTATION SERVICES - RAPID TRANSIT DIVISION

Prime Consultant: PB PARSONS BRINCKERHOFF
1003 Bishop Street, Suite 2250 – Honolulu, HI 96813

Subconsultant:

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STANDARD DETAILS SUMMARY
CITY AND COUNTY OF HONOLULU

SHEET 1 OF 2

Contract No.: SV–140
CADD File: SB2–A06–GN009
Drawing No.: GN009 Rev.
Scale: N/A
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STANDARD DETAILS SUMMARY—CITY AND COUNTY OF HONOLULU

SHEET NO.	APPLICABLE	TITLE	DATE
S–1		Rock Cradle for Sewer Pipe	09/1984
S–2		Concrete Cradle for Vitrified Clay Pipe	09/1984
S–3		Method of Laying Pipe	09/1984
S–4		Pre–cast Concrete Pipe Block	09/1984
S–5		Concrete Jacket, Reinforced Concrete Cradle	09/1984
S–6		Laterals	09/1984
S–7		Advance Riser Connection	09/1984
S–8		Method of Backfill	09/1984
S–9		Chimney	09/1984
S–10		Index to Sewer Manhole Details	09/1984
S–11		Manhole Notes	09/1984
S–12		Manhole Notes	09/1984
S–13		Pre–cast Concrete Plain Manhole	09/1984
S–14		Pre–cast Concrete Plain Manhole – Section and Alternate Base	09/1984
S–15		Pre–cast Concrete Shallow Drop Manhole	09/1984
S–16		Pre–cast Concrete Shallow Drop Manhole – Butt Joint Details	09/1984
S–17		Pre–cast Concrete Drop Manhole	09/1984
S–18		Pre–cast Concrete Drop Manhole – Sections	09/1984
S–19		Pre–cast Concrete Plain Manhole for 27" to 48" R.C. Pipe	09/1984
S–20		Pre–cast Concrete Plain Manhole for 27" to 48" R.C. Pipe – Section	09/1984
S–21		Pre–cast Concrete Manhole Wall	09/1984
S–22		Pre–cast Concrete Eccentric Manhole Cone	09/1984
S–23		Pre–cast Concrete Manhole Wall to Brick Wall Adapter Ring	09/1984
S–24		Pre–cast Concrete Manhole Wall Joints	09/1984
S–25		Pre–cast Concrete Manhole – Detail at Top Rung	09/1984
S–26		Brick Manhole	09/1984
S–27		Plain Manhole	09/1984
S–28		Shallow Drop Manhole	09/1984
S–29		Drop Manhole	09/1984
S–30		Drop Manhole – Sections	09/1984
S–31		Manhole Cover – Type SA	09/1984
S–32		Manhole Frame – Type SA	09/1984
S–33		Manhole Cover – Type SB, Top View	09/1984
S–34		Manhole Cover – Type SB, Bottom View	09/1984
S–35		Manhole Frame – Type SB	09/1984
S–36		Modified Type SB Pressure Manhole Frame and Cover	09/1984
S–37		Pressure Manhole Cover – Type SC	09/1984
S–38		Pressure Manhole Cover – Type SC	09/1984
S–39		Pressure Manhole Frame and Cover – Type SC	09/1984
S–40		Manhole Frame – Type SD	09/1984
S–41		Drop Manhole Chimney Casting	09/1984
S–42		Manhole Rung Details – Type SA	09/1984
S–43		Manhole Rung Details – Type SC	09/1984
S–44		Manhole Rung Details – Type SD	09/1984
S–45		Manhole Rung Details – Type SE	09/1984
S–46		Manhole Rung Details – Type SF	09/1984
S–47		PVC Pipe – Bedding Requirements	09/1984
S–48		PVC Pipe – Resilient Manhole Connection	09/1984
P–1		Backflow Preventer	09/1984
P–2		Fence and Gate Details	09/1984
P–3		Oil Seals and Related Piping	09/1984
P–4		Oil Seals and Related Piping	09/1984
P–5		Oil Seals and Related Piping	09/1984
P–6		Removable Post and Chain Details	09/1984
P–7		Removable Railing Details	09/1984
P–8		Typical Wall Sleeve	09/1984
P–9		Sprinkler Valve Control	09/1984
P–10		Motor Shaft and Coupling	09/1984
P–11		Typical Pump Motor Drive Shaft Guard	09/1984
P–12		Typical Pump Coupling Guard	09/1984
P–13		Typical Hoizontal Shaft Guard No. 1	09/1984
P–14		Typical Hoizontal Shaft Guard No. 2	09/1984
P–15		Safety Guard General Notes	09/1984
P–16		1 1/2" Stand Pipe Detail	09/1984
T–1		Street Name and Stop Sign Details	09/1984
T–2		Height and Lateral Location of Sign	09/1984
T–3		Typical Locations for Stop Signs	09/1984
T–4		Typical Detail for Crosswalk and Stop Lines	09/1984
T–5		Typical Sign Installations in Cul–de–sacs	09/1984
T–6		Road Marker	09/1984
T–7		Raised Pavement Markers	09/1984
T–8		Typical Installation of Raised Pavement Markers	09/1984
T–9		Typical Intersection Detail for Striping	09/1984
T–10		Striping Details	09/1984
T–11		Street Name and Stop Sign Details	09/1984
T–12		Parking Design Standard, One–Way Traffic	09/1984
T–13		Parking Design Standard, Two–Way Traffic	09/1984
T–14		Standard Street Name Sign	09/1984

SHEET NO.	APPLICABLE	TITLE	DATE

Rev	By	Date	Description
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PRELIMINARY ENGINEERING SUBJECT TO REVISION

Designed: N/A
Drawn: J Derosier
Checked: L Karamatsu
Approved: M Hall
Date: 09–25–09

HONOLULU HIGH-CAPACITY TRANSIT CORRIDOR PROJECT
CITY & COUNTY OF HONOLULU - DEPARTMENT OF TRANSPORTATION SERVICES - RAPID TRANSIT DIVISION

Prime Consultant: PB PARSONS BRINCKERHOFF
1003 Bishop Street, Suite 2250 – Honolulu, HI 96813

Subconsultant:

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STANDARD DETAILS SUMMARY
CITY AND COUNTY OF HONOLULU

SHEET 2 OF 2

Contract No.: SV–140
CADD File: SB2–A06–GN010
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STANDARD PLANS SUMMARY—STATE OF HAWAII DEPARTMENT OF TRANSPORTATION (HDOT)

STANDARD PLAN NO.	APPLICABLE	TITLE	DATE
B–01		Notes and Miscellaneous Details	R05/31/07
B–03		Backfill Details at Earth Retaining Structures	R05/31/07
B–12		Prestressed Concrete Piles and Compression Splice Can Details	R05/31/07
B–12A		Prestressed Concrete Piles, Pile and Compression Splice Can Details and Pile Notes	R05/31/07
B–12B		Pile Interaction Diagram	R05/31/07
B–13		Prestressed Concrete Pile Build–Up Details	R05/31/07
D–01		Cattle Gate	R05/31/07
D–02		Chain Link Fence with Toprail	R05/31/07
D–03		Chain Link Fence without Toprail	R05/31/07
D–04		Wire Fence with Metal Posts	R05/31/07
D–05		Typical Details of Curbs and/or Gutters	R05/31/07
D–06		Typical Detail of Reinforced Concrete Drop Driveway	R05/31/07
D–07		Centerline and Reference Survey Monument	R05/31/07
D–08		Street Survey Monument	R05/31/07
D–15		Concrete Sidewalk	R05/31/07
D–16		P.C.C. Bus Pad	R05/31/07
D–17		P.C.C. Bus Pad	R05/31/07
D–18		P.C.C. Pavement Layout	R05/31/07
D–19		P.C.C. Pavement w/ Permeable Base Joint Details	R05/31/07
D–20		P.C.C. Pavement w/ Permeable Base Joint Details	R05/31/07
D–21		P.C.C. Longitudinal Joint Details	R05/31/07
D–22		P.C.C. Connection to Curbs and Gutters	R05/31/07
D–23		Joints	R05/31/07
H–01A		Type A Catch Basin	R05/31/07
H–01B		Type B Catch Basin	R05/31/07
H–01C		Type C Catch Basin	R05/31/07
H–01D		Type D Catch Basin	R05/31/07
H–01E		Catch Basin Sections	R05/31/07
H–02A		Type A1 Catch Basin	R05/31/07
H–02B		Type B1 Catch Basin	R05/31/07
H–02C		Type C1 Catch Basin	R05/31/07
H–02D		Type D1 Catch Basin	R05/31/07
H–02E		Catch Basin Sections	R05/31/07
H–03		Type A, B, and C Storm Drain Manhole	R05/31/07
H–04		Type D Storm Drain Manhole	R05/31/07
H–05		Typical Reinforcing Details for Drainage Structures	R05/31/07
H–06		Typical Reinforcing Details for Drainage Structures	R05/31/07
H–07		Catch Basin and Manhole Castings	R05/31/07
H–08		Type 1A–9 and 1A–9P Grated Drop Inlet	R05/31/07
H–09		Type 2A–9 and 2A–9P Grated Drop Inlet	R05/31/07
H–10		Type A–9 or A–9P Steel Frames	R05/31/07
H–11		Type A–9 and A–9P Steel Grates	R05/31/07
H–12		Type 61614P and 1211214P Grated Drop Inlet	R05/31/07
H–13		Type 61616P and 1211216P Grated Drop Inlet	R05/31/07
H–14		Type 61214P Grated Drop Inlet	R05/31/07
H–15		Type 1211214, 1211214P and 1211216, 1211216P Steel Frame and Grates	R05/31/07

STANDARD PLAN NO.	APPLICABLE	TITLE	DATE
H–16		Type 61614, 61614P, 61616, 61616P Steel Frame and Grates	R05/31/07
H–17		Type 61214 Steel Frames and Grates	R05/31/07
H–18		Type 61214P Steel Grates	R05/31/07
H–19		Type 61614B Steel Frame and Grates	R05/31/07
H–20		Cement Rubble Masonry Structures	R05/31/07
H–21		Concrete and Cement Rubble Masonry Structures	R05/31/07
H–22		Inlet/Outlet Structure	R05/31/07
H–23		Inlet/Outlet Structure	R05/31/07
H–24		Flared End Section for Culverts	R05/31/07
H–25		Flared End Section for Culverts	R05/31/07
H–26		Concrete Spillway Inlet	R05/31/07
H–27		Cap Coupling Details Standard Joint	R05/31/07
H–28		Reinforced Concrete Collar & Jacket	R05/31/07
H–29		Underdrain Cleanout Steel Frame and Cover	R05/31/07
H–30		Underdrain Connection to Drainage Structure	R05/31/07
L–01		Tree Planting	R08/16/06
L–02		Tree Planting	R08/16/06
L–03		Tree Transplanting	R08/16/06
L–04		Palm Planting	R08/16/06
L–05		Shrub Planting	R08/16/06
L–06		Landscape Details	R08/16/06
L–07		Landscape Details	R08/16/06
L–08		Landscape Details	R08/16/06
L–09		Landscape Details	R08/16/06
L–10		Landscape Details	R08/16/06
L–11		Planting Notes	R08/16/06
L–12		Irrigation Details	R08/16/06
L–13		Irrigation Details	R08/16/06
L–14		Irrigation Details	R08/16/06
L–15		Irrigation Details	R08/16/06
L–16		Irrigation Details	R08/16/06
L–17		Irrigation Details	R08/16/06
L–18		Irrigation Details	R08/16/06
L–19		Irrigation Details	R08/16/06
L–20		Irrigation Details	R08/16/06
L–21		Irrigation Details	R08/16/06
L–22		Irrigation Details	R08/16/06
L–23		Irrigation Details	R08/16/06
L–24		Irrigation Notes	R08/16/06
TE–01		Sign Height and Location	07/11/08
TE–01A		Sign Installation	07/11/08
TE–02A		Galvanized Flanged Channel Sign Post Mounting	R05/31/07
TE–02B		Galvanized Flanged Channel Sign Post Mounting	R05/31/07
TE–02C		Galvanized Flanged Channel Sign Post Mounting	R05/31/07
TE–03A		Galvanized Square Tube Sign Post Mounting	R05/31/07
TE–03B		Galvanized Square Tube Sign Post Mounting	R05/31/07
TE–04		Regulatory Signs	07/11/08
TE–05		Warning Signs	07/11/08
TE–06		Miscellaneous Signs	07/11/08

STANDARD PLAN NO.	APPLICABLE	TITLE	DATE
TE–07		Construction Signs	07/11/08
TE–08		Miscellaneous Intersection Signs	07/11/08
TE–09		Bike Route Sign & Supplementary Plates	07/11/08
TE–10		Interstate Route Marker	07/11/08
TE–11		State Route Marker and Auxiliary Markers	07/11/08
TE–12		State Route Marker and Border Detail for Guide Signs	07/11/08
TE–12A		Route Sign Assemblies	07/11/08
TE–13		Street Name Sign on Mast Arm	07/11/08
TE–14		Miscellaneous Reflector Markers	07/11/08
TE–15		Object Markers	07/11/08
TE–16		Mile Posts	07/11/08
TE–17A		Cantilever Overhead Sign Elevation & Details	R05/31/07
TE–17B		Cantilever Sign Frame Detail and Sections	R05/31/07
TE–17C		Cantilever Sign Frame Detail	R05/31/07
TE–17D		Cantilever Sign Frame Sections	R05/31/07
TE–17E		Cantilever Sign Frame Details	R05/31/07
TE–18A		Two Post Overhead Sign Frame Elevations	R05/31/07
TE–18B		Two Post Sign Framing Plan Section	R05/31/07
TE–18C		Two Post Sign Framing Sections and Details	R05/31/07
TE–18D		Two Post Sign Frame Details	R05/31/07
TE–18E		Two Post Sign Frame Details	R05/31/07
TE–19A		Overhead Sign Framing Schedule	R05/31/07
TE–19B		Sign Post Drilled Shaft Foundation	R05/31/07
TE–19C		Spread Footing	R05/31/07
TE–19D		Sign Frame Foundation Schedule	R05/31/07
TE–19D.1		Sign Frame Foundation Schedule	R05/31/07
TE–19D.2		Sign Frame Foundation Schedule	R05/31/07
TE–19D.3		Sign Frame Foundation Schedule	R05/31/07
TE–19D.4		Sign Frame Foundation Schedule	R05/31/07
TE–19D.5		Sign Frame Foundation Schedule	R05/31/07
TE–19E		Anchorage Details	R05/31/07
TE–19F		Anchorage Details	R05/31/07
TE–19G		Miscellaneous Sign Frame Details	R05/31/07
TE–19H		Luminaire Walkway Support	R05/31/07
TE–19J		Fixed Message Luminaire Support	R05/31/07
TE–19K		Miscellaneous Sign Details	R05/31/07
TE–19L		Miscellaneous Sign Details	R05/31/07
TE–19M		Miscellaneous Sign Frame Details	R05/31/07
TE–20		Supports for Ground Mounted Guide Sign	R05/31/07
TE–20A		Supports for Ground Mounted Guide Sign	R05/31/07
TE–20B		Supports for Ground Mounted Guide Sign	R05/31/07
TE–20C		Supports for Ground Mounted Guide Sign	R05/31/07
TE–21A		Sign Breakaway Mounts	R05/31/07
TE–21B		Sign Breakaway Mounts	R05/31/07
TE–22		Laminated Aluminum Sign Panels (Overhead)	07/11/08
TE–23		Laminated Aluminum Sign Panels (Ground Mounted)	R05/31/07
TE–24		Solid Aluminum Extruded Sign Panel and Accessory Details	R05/31/07
TE–25		Guide Signs Luminaire Mountings	R05/31/07
TE–26		Raised Pavement Markers and Striping	07/11/08

Rev	By	Date	Description
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PRELIMINARY ENGINEERING SUBJECT TO REVISION

Designed: N/A
Drawn: J Derosier
Checked: L Karamatsu
Approved: M Hall
Date: 09–25–09

HONOLULU HIGH-CAPACITY TRANSIT CORRIDOR PROJECT
CITY & COUNTY OF HONOLULU - DEPARTMENT OF TRANSPORTATION SERVICES - RAPID TRANSIT DIVISION

Prime Consultant: PB PARSONS BRINCKERHOFF
1003 Bishop Street, Suite 2250 – Honolulu, HI 96813

Subconsultant:

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STANDARD PLANS SUMMARY
STATE OF HAWAII (HDOT)

SHEET 1 OF 2

Contract No.: SV–140
CADD File: SB2–A06–GN011
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STANDARD PLANS SUMMARY—STATE OF HAWAII DEPARTMENT OF TRANSPORTATION (HDOT)

STANDARD PLAN NO.	APPLICABLE	TITLE	DATE
TE–27		Raised Pavement Markers and Striping	07/11/08
TE–28		Entrance and Exit Pavement Markings	07/11/08
TE–28A		Miscllaneous Pavement Markings	07/11/08
TE–29		Pavement Arrows and Symbols	07/11/08
TE–30		Pavement Alphabets, Numbers & Symbols	07/11/08
TE–31		Pavement Alphabets, Numbers & Symbols	07/11/08
TE–32		Type I & II Traffic Signal System Miscellaneous Details	R05/31/07
TE–33		Type II Traffic Signal System	08/16/06
TE–33A.1		Type II Traffic Signal Standard	R05/31/07
TE–33A.2		Type II Traffic Signal Standard	R05/31/07
TE–34		Loop Detector Details	07/11/08
TE–35		Loop Detectors & Duct Details	07/11/08
TE–36		Traffic Signal Details	07/11/08
TE–37		Pullbox & Cover Details	07/11/08
TE–37A		Type "A" Traffic Pullbox	R05/31/07
TE–37B		Type "A" Traffic Pullbox Reinforcing	R05/31/07
TE–37C		Type "B" Traffic Pullbox	R05/31/07
TE–37D		Type "B" Traffic Pullbox Reinforcing	R05/31/07
TE–37E		Type "B" Traffic Pullbox Foundation	R05/31/07
TE–37F		Type "C" Traffic Pullbox	R05/31/07
TE–37G		Type "C" Traffic Pullbox Reinforcing	R05/31/07
TE–37H		Type "C" Traffic Pullbox Foundation	R05/31/07
TE–37J		Traffic Pullbox Cover & Details	R05/31/07
TE–38		Type III Traffic Signal Standard	R05/31/07
TE–38A.1		Type III Traffic Signal Standard	R05/31/07
TE–38A.2		Type III Traffic Signal Standard	R05/31/07
TE–39		Metal Guardrail Connection to Concrete Barrier	07/11/08
TE–40		Concrete Barrier Transition	R05/31/07
TE–40A		Concrete Barrier Transition Sections	R05/31/07
TE–41		Guardrail Type 4 (Rigid Barrier)	R05/31/07
TE–42		Portable Concrete Barrier	R05/31/07
TE–43		Portable Concrete Barrier	R05/31/07
TE–44		Guardrail Type 4 Miscellaneous Details	07/11/08
TE–45		Barricades	07/11/08
TE–46		Delineation & Pavement Markings at Narrow Bridges	07/11/08
TE–47		Highway Light Standard	R05/31/07

STANDARD PLAN NO.	APPLICABLE	TITLE	DATE

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STANDARD PLANS SUMMARY
STATE OF HAWAII (HDOT)

SHEET 2 OF 2

Contract No.: SV–140
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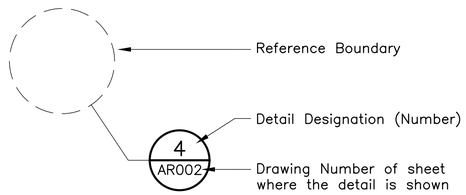
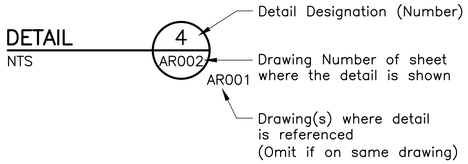
GENERAL NOTES

1. "EB Track" denotes the centerline of the Eastbound Track. "WB Track" denotes centerline of the Westbound Track.
2. Origin of Coordinates: Hawaii State Plane Coordinate Grid System, Zone III with the North American Datum of 83 High Accuracy Reference Network (NAD83 HARN).
3. Elevations shown on these plans are reference to Mean Sea Level (MSL).
4. Underground facilities, poles, structures, and utilities have been plotted from available surveys and records. Their locations must be considered approximate only. There may be others, the existence of which is at present unknown. Verification of all the locations, shown or not shown, will be the responsibility of the contractor.
5. The existing conditions shown hereon are based on LiDAR data collected in September and October of 2007, supplemental ground surveys were performed between September of 2007 and December of 2008, and record information from various design projects either constructed, under construction or proposed. The selected Designer is responsible for verifying existing conditions prior to supplying advanced design documents to the RTD.
6. Contact the Hawaii Department of Transportation (HDOT) and/or the City and County of Honolulu for additional plan sheet details not included in the Standard Details Summary and Standard Plans Summary plan sheets.
7. For Survey Control Data see RTD Standard Drawings.

SYMBOLS

DETAILS





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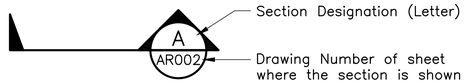
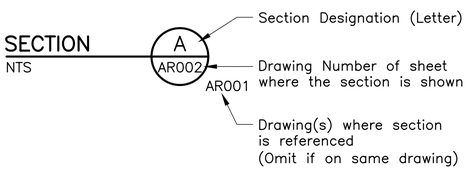
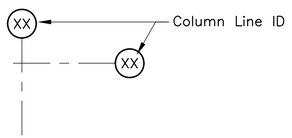




COLUMN LINE GRID INDICATOR



GENERAL SYMBOLS

&	And
@	At
#	Number
ø	Diameter
%	Percent
=	Equal to
>	Greater Than
<	Less Than
≥	Greater Than or Equal To
≤	Less Than or Equal To

CIVIL SYMBOLS

△	Point of Intersection
○	PVC
	Station Equation
XX–X	Roadway Curve Number
—— CUT ——	Limit of Cut Slope (Top of Slope)
—— FILL ——	Limit of Fill Slope (Toe of Slope)

SPECIAL TERMS

Makai	Ocean
Mauka	Mountain

231° 41' 16" South Azimuth

ABBREVIATIONS

Aggr	Aggregate
AHD, AH	Ahead
Align	Alignment
Approx	Approximate
℄	Baseline
BK	Back
BT	Back Tangent
Bldg	Building
BVC	Begin Vertical Curve
BVCE	Begin Vertical Curve Elevation
BVCS	Begin Vertical Curve Station
℄	Centerline
CB	Catch Basin
CCTV	Closed Circuit Television Camera
Comm	Communications
Conc	Concrete
Const	Construction
CS	Curve to Spiral
DF	Direct Fixation
DI	Drainage Inlet
Dia	Diameter
△	Delta
DMH	Drainage Manhole
DS	Downspout
Dwg	Drawing
E	East
Ea	Actual Superelevation
Eu	Unbalanced Elevation
EB	Eastbound
EG	Existing Ground
El	Elevation
Elev	Elevation
EVC	End Vertical Curve
EVCE	End Vertical Curve Elevation
EVCS	End Vertical Curve Station
Exist	Existing
FA	Fire Alarm
FG	Finish Grade
Fin	Finish, Finished
FOC	Face of Curb
ft	Foot, Feet
GB	Grade Break
GBS	Gap Breaker Station
Gnd	Ground
H, Horiz	Horizontal
HWY	Highway
Jt(s)	Joint(s)
L	Length
Lc	Length of Curve
LH, L.H.	Left Hand
LiDAR	Light Detection and Ranging
Ls	Length of Spiral
LT	Left
LVC	Length of Vertical Curve
Max	Maximum
Min	Minimum
MHN	Manhole, Negative
MHP	Manhole, Positive
MPH	Miles Per Hour
N	North
N/A	Not Applicable
NB	Northbound
NIC	Not in Contract
N.I.C.	Not in Contract
No.	Number
OD	Outside Diameter
PC	Point of Curve
PI	Point of Intersection
PITO	Point of Intersection of Turnout
POB	Point of Beginning
POC	Point on Curve
POE	Point of Ending
POT	Point on Tangent
POVC	Point on Vertical Curve
POVT	Point on Vertical Tangent
PS	Point of Switch
PSI	Pounds Per Square Inch
PT	Point of Tangent
PVC	Point of Vertical Curvature
PVI	Point of Vertical Intersection
PVT	Point of Vertical Tangency
R	Radius
Reinf	Reinforce, Reinforcing
RH, R.H.	Right Hand
Rm	Room
ROW	Right–of–Way
RPM	Revolutions Per Minute
RT	Right
S	South
SB	Southbound
SC	Spiral to Curve
SDMH	Storm Drain Manhole
Shldr	Shoulder
Sht	Sheet
Sig	Signal
Sq	Square
St	Street
ST	Spiral to Tangent
Sta	Station
T	Tangent Distance
T&B	Top & Bottom
T.O.	Turnout
TOR	Top of Rail
TPSS	Traction Power Substation
TS	Tangent to Spiral
Typ	Typical
UG	Underground
V	Speed
Vert	Vertical
W	West
WB	Westbound
w/	With

Rev	By	Date	Description
.			

PRELIMINARY ENGINEERING SUBJECT TO REVISION

Designed: N/A
Drawn: T Cochran
Checked: E Liberman
Approved: A Borst
Date: 09–25–09

HONOLULU HIGH-CAPACITY TRANSIT CORRIDOR PROJECT
CITY & COUNTY OF HONOLULU - DEPARTMENT OF TRANSPORTATION SERVICES - RAPID TRANSIT DIVISION

Prime Consultant: PB PARSONS BRINCKERHOFF
1003 Bishop Street, Suite 2250 – Honolulu, HI 96813

Subconsultant:

For reduced prints, original page size in inches: 0 1 2 3 4

UH WEST O'AHU STATION

GENERAL CIVIL NOTES, SYMBOLS, AND ABBREVIATIONS

Contract No.: SV–140
CADD File: SB2–B01–CG001
Drawing No.: CG001 Rev.:
Scale: N/A
Page No. 12 of 77

2009–09–23 8:28 AM K:\CADD\03 Civil\Segment B\Sheet Files\SB2 – UH West Oahu Station\SB2–B01–CG001.dwg

ROADWAY CONSTRUCTION NOTES:

1. Construct Concrete Curb, Type 2A, Per HDOT Std Plan No. D–05.
2. Construct Concrete Curb, Type 2D, Per HDOT Std Plan No. D–05.
3. Construct Concrete Curb and Gutter, Type 2DG, Per HDOT Std Plan No. D–05.
4. Construct Concrete Sidewalk, Per HDOT Std Plan No. D–15.
5. Construct Reinforced Concrete Drop Driveway, Per HDOT Std Plan No. D–06.
6. Construct Concrete Curb Ramp.
7. Install Chain Link Fence with Toprail, 6', Per HDOT Std Plan No. D–02.
8. Install Chain Link Fence without Toprail, 6', Per HDOT Std Plan No. D–03.
9. Install Double Swing Chain Link Drive Gate, 20', Per HDOT Std Plan No. D–02 and D–03.
10. Construct Concrete Barrier Rail, Type 4A, Per HDOT Std Plan No. TE–41.
11. Construct Concrete Half Barrier Rail.
12. Install Guardrail.
13. Construct Concrete Retaining Wall.
14. Construct PCC Bus Pad, Per HDOT Std Plan No. D–16.
15. Construct Plantmix Bituminous Surface Overlay.
16. Construct Plantmix Bituminous Pavement.
17. Construct Concrete Median Island Paving.
18. Construct Double Swing Drive Gate.
19. Construct Reinforced Concrete Driveway.
20. Place Aggregate Base Surface.
21. Construct Concrete Barrier Rail, Type 4B, Per HDOT Std Plan No. TE–41.
22. Construct Landscaped Median Island

ROADWAY CONSTRUCTION LEGEND:

- Proposed full depth pavement area.
- Proposed concrete pavement.
- Proposed pavement mill & overlay area.
- Proposed sidewalk, curb & gutter, curb, and median island paving area.
- Proposed landscaped median island area.
- Full Depth Construction – Proposed Decorative Concrete, Seating Walls & Planted Areas (See Landscape Plans).
- Guideway Column (NIC)

GENERAL ROADWAY CONSTRUCTION NOTES:

1. See RTD Standard Drawings for references to horizontal and vertical survey control datums.
2. See structural sheets for proposed structural details.
3. See landscaping plan sheets for proposed landscaping details.
4. See ROW plan sheets for proposed ROW details.
5. See utility plan sheets for proposed modifications and/or improvements to existing above and below ground utility systems.
6. See Informative Drawings for modifications and/or improvements to existing traffic signal systems.
7. See Informative Drawings for TPSS and GBS details.
8. See Informative Drawings for track alignment details.

Rev	By	Date	Description
.			

PRELIMINARY ENGINEERING SUBJECT TO REVISION

Designed: B Wardell
Drawn: J Derosier
Checked: E Liberman
Approved: M Hall
Date: 09–25–09

HONOLULU HIGH-CAPACITY TRANSIT CORRIDOR PROJECT
CITY & COUNTY OF HONOLULU - DEPARTMENT OF TRANSPORTATION SERVICES - RAPID TRANSIT DIVISION

Prime Consultant: PB PARSONS BRINCKERHOFF
1003 Bishop Street, Suite 2250 – Honolulu, HI 96813

Subconsultant:

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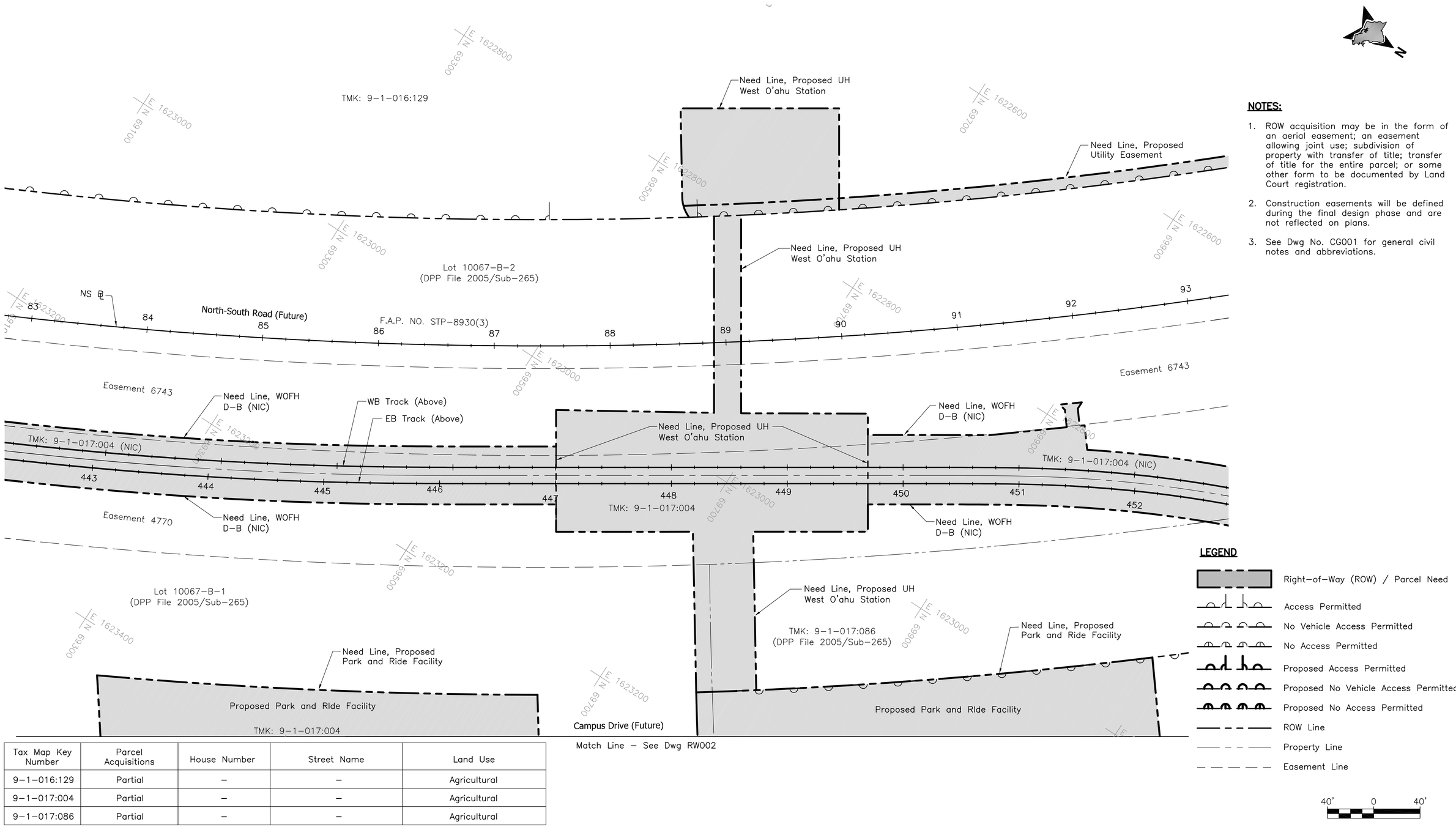
UH WEST O'AHU STATION

ROADWAY CONSTRUCTION NOTES AND LEGEND

Contract No.: SV–140
CADD File: SB2–B01–CG002
Drawing No: CG002 Rev.
Scale: NTS
Page No. 13 of 77

2009–09–23 8:31 AM K:\CADD\03 Civil\Segment B\Sheet Files\SB2 – UH West Oahu Station\SB2–B01–CG002.dwg



NOTES:

1. ROW acquisition may be in the form of an aerial easement; an easement allowing joint use; subdivision of property with transfer of title; transfer of title for the entire parcel; or some other form to be documented by Land Court registration.
2. Construction easements will be defined during the final design phase and are not reflected on plans.
3. See Dwg No. CG001 for general civil notes and abbreviations.

LEGEND

- Right-of-Way (ROW) / Parcel Need
- Access Permitted
- No Vehicle Access Permitted
- No Access Permitted
- Proposed Access Permitted
- Proposed No Vehicle Access Permitted
- Proposed No Access Permitted
- ROW Line
- Property Line
- Easement Line

40' 0 40'

Tax Map Key Number	Parcel Acquisitions	House Number	Street Name	Land Use
9-1-016:129	Partial	–	–	Agricultural
9-1-017:004	Partial	–	–	Agricultural
9-1-017:086	Partial	–	–	Agricultural

Rev	By	Date	Description

PRELIMINARY ENGINEERING SUBJECT TO REVISION

Designed: L Karamatsu
Drawn: L Karamatsu
Checked: K Wong
Approved: A Borst
Date: 09-25-09

HONOLULU HIGH-CAPACITY TRANSIT CORRIDOR PROJECT
CITY & COUNTY OF HONOLULU - DEPARTMENT OF TRANSPORTATION SERVICES - RAPID TRANSIT DIVISION

Prime Consultant: PARSONS BRINCKERHOFF
1003 Bishop Street, Suite 2250 – Honolulu, HI 96813

Subconsultant:

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WEST O'AHU STATION

EXISTING RIGHT-OF-WAY & PROPOSED ACQUISITION TABULATIONS

SHEET 1 OF 2

Contract No.: SV-140
CADD File: SB2-B04-RW001
Drawing No: RW001
Rev.
Scale: 1"=40'
Page No. 14 of 77

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NOTES:

1. ROW acquisition may be in the form of an aerial easement; an easement allowing joint use; subdivision of property with transfer of title; transfer of title for the entire parcel; or some other form to be documented by Land Court registration.
2. Construction easements will be defined during the final design phase and are not reflected on plans.
3. See Dwg No. CG001 for general civil notes and abbreviations.
4. See Dwg No. RW001 for Right–of–Way legend.

Tax Map Key Number	Parcel Acquisitions	House Number	Street Name	Land Use
9–1–017:004	Partial	–	–	Agricultural
9–1–017:086	Partial	–	–	Agricultural

40' 0 40'

Rev	By	Date	Description

PRELIMINARY ENGINEERING SUBJECT TO REVISION

Designed: L Karamatsu
Drawn: L Karamatsu
Checked: K Wong
Approved: A Borst
Date: 09–25–09

HONOLULU HIGH-CAPACITY TRANSIT CORRIDOR PROJECT
CITY & COUNTY OF HONOLULU - DEPARTMENT OF TRANSPORTATION SERVICES - RAPID TRANSIT DIVISION

Prime Consultant: PARSONS BRINCKERHOFF
1003 Bishop Street, Suite 2250 – Honolulu, HI 96813

Subconsultant:

For reduced prints, original page size in inches: 0 1 2 3 4

WEST O'AHU STATION

EXISTING RIGHT-OF-WAY & PROPOSED ACQUISITION TABULATIONS

SHEET 2 OF 2

Contract No.: SV–140
CADD File: SB2–B04–RW002
Drawing No: RW002
Rev.
Scale: 1"=40'
Page No. 15 of 77

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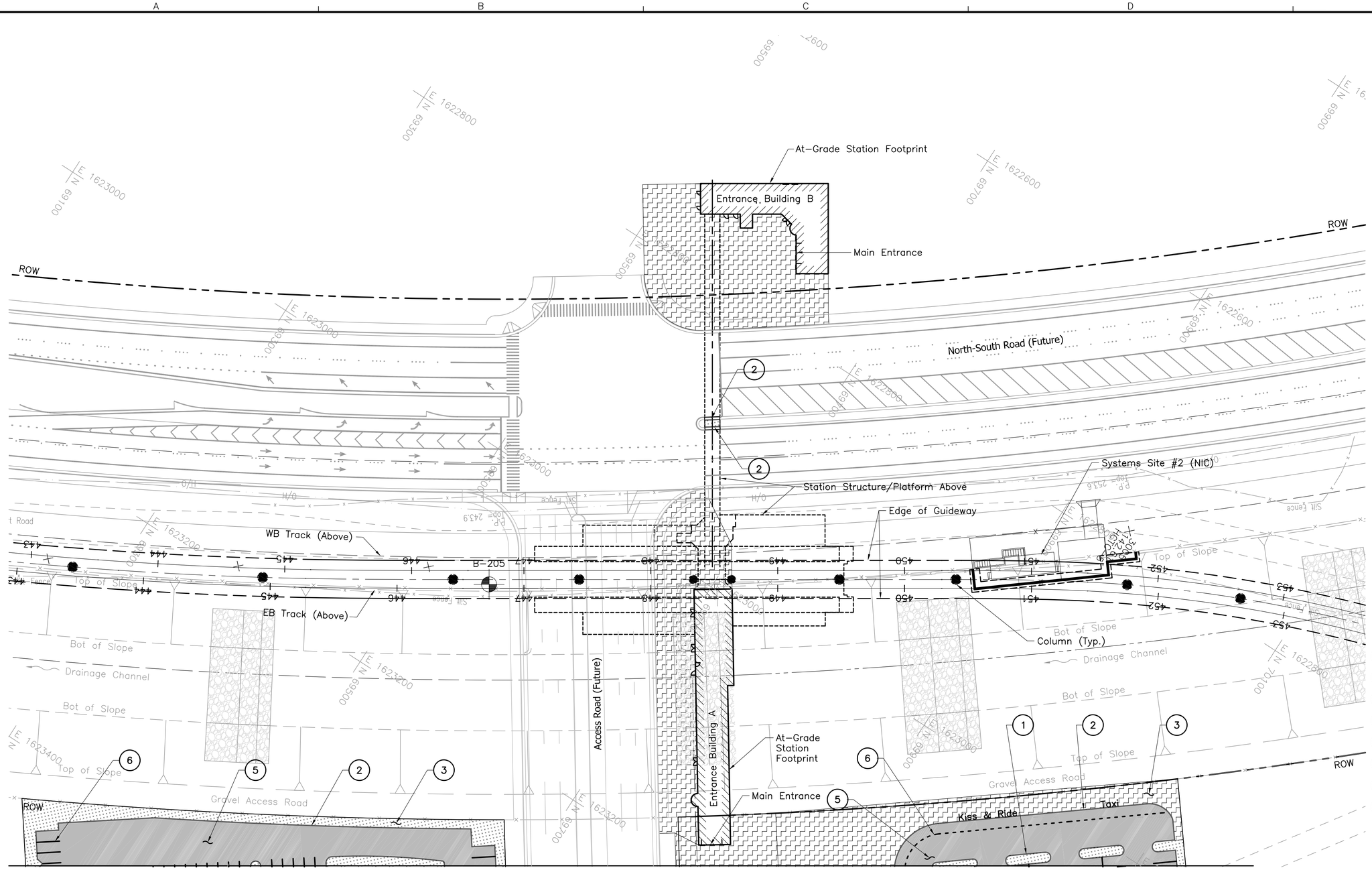

LEGEND:

- Full Depth Construction – Decorative Concrete, Seating Walls & Planted Areas (See Landscape Plans).
- Proposed full depth pavement area.
- Proposed concrete pavement.
- Proposed pavement mill & overlay area.
- Proposed sidewalk, curb & gutter, curb, and median island paving area.
- Proposed landscaped median island area.
- Proposed gravel pavement.
- Guideway Column (NIC).

NOTES:

1. For General Notes, Symbols and Abbreviations, see Dwg No. CG001.
2. See architectural plans for architectural details.
3. See landscape plans for landscape details.

CONSTRUCTION NOTES:

1. Construct Concrete Curb
2. Construct Concrete Curb and Gutter
3. Construct Concrete Sidewalk
4. Construct Concrete Driveway
5. Construct Plantmix Bituminous Pavement
6. Pavement Markings
7. Pavement Marking Symbols
8. Construct Concrete Pavement

40' 0 40'

Rev	By	Date	Description

PRELIMINARY ENGINEERING SUBJECT TO REVISION

Designed: B Wardell
Drawn: J Derosier
Checked: E Liberman
Approved: M Hall
Date: 09–25–09

HONOLULU HIGH-CAPACITY TRANSIT CORRIDOR PROJECT

CITY & COUNTY OF HONOLULU - DEPARTMENT OF TRANSPORTATION SERVICES - RAPID TRANSIT DIVISION

Prime Consultant: PB PARSONS BRINCKERHOFF
1003 Bishop Street, Suite 2250 – Honolulu, HI 96813

Subconsultant:

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UH WEST O'AHU STATION

CIVIL SITE PLAN

SHEET 1 OF 2

Contract No.: SV–140
CADD File: SB2–B10–RP001
Drawing No: RP001 Rev.
Scale: 1"=40'
Page No. 16 of 77

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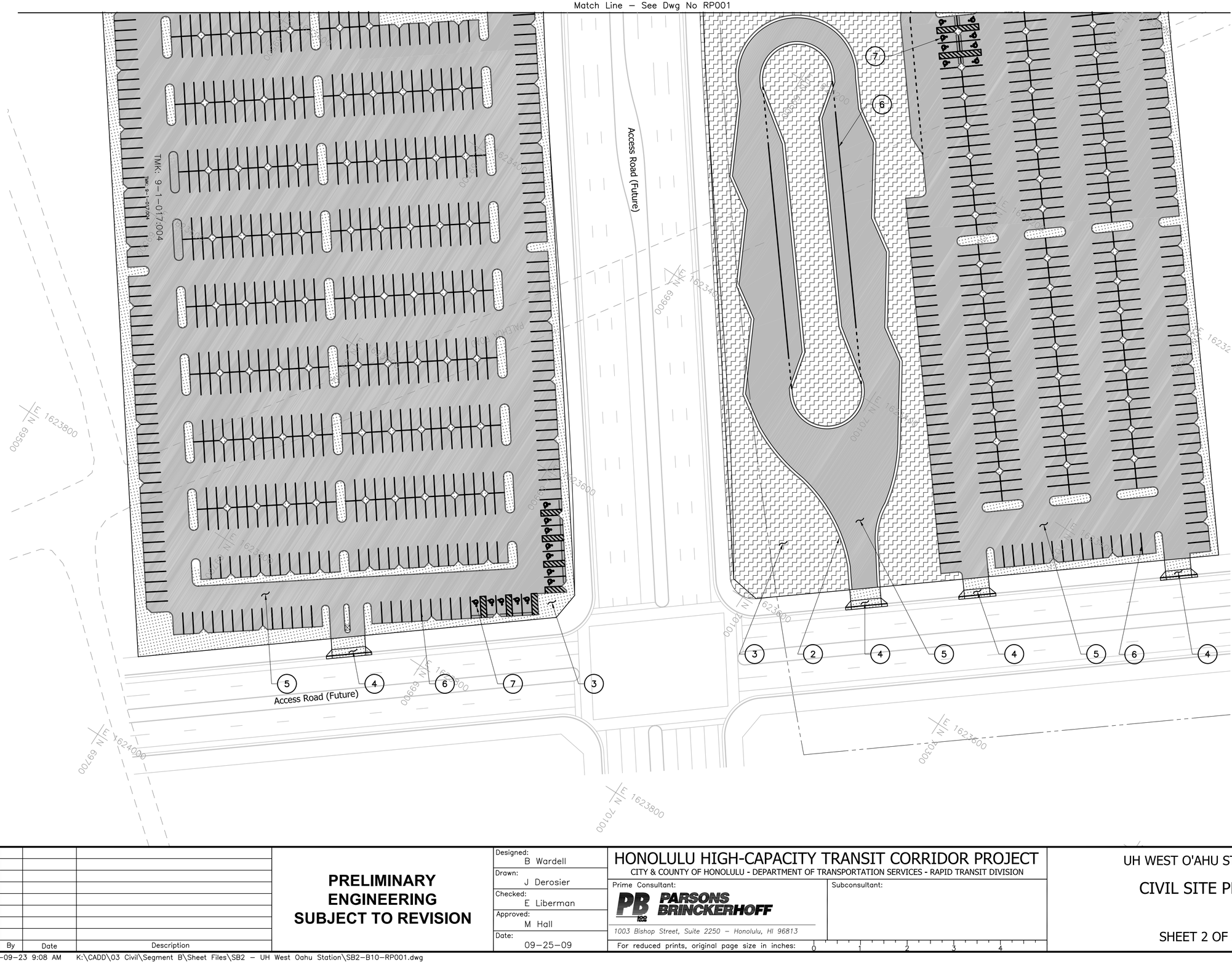
Match Line – See Dwg No RP001



LEGEND:

- Full Depth Construction – Decorative Concrete, Seating Walls & Planted Areas (See Landscape Plans).
- Proposed full depth pavement area.
- Proposed concrete pavement.
- Proposed pavement mill & overlay area.
- Proposed sidewalk, curb & gutter, curb, and median island paving area.
- Proposed landscaped median island area.
- Proposed gravel pavement.
- Guideway Column (NIC).

NOTES:

1. For General Notes, Symbols and Abbreviations, see Dwg No. CG001.
2. See architectural plans for architectural details.
3. See landscape plans for landscape details.

CONSTRUCTION NOTES:

1. Construct Concrete Curb
2. Construct Concrete Curb and Gutter
3. Construct Concrete Sidewalk
4. Construct Concrete Driveway
5. Construct Plantmix Bituminous Pavement
6. Pavement Markings
7. Pavement Marking Symbols
8. Construct Concrete Pavement

40' 0 40'

Rev	By	Date	Description

PRELIMINARY ENGINEERING SUBJECT TO REVISION

Designed: B Wardell
Drawn: J Derosier
Checked: E Liberman
Approved: M Hall
Date: 09-25-09

HONOLULU HIGH-CAPACITY TRANSIT CORRIDOR PROJECT
CITY & COUNTY OF HONOLULU - DEPARTMENT OF TRANSPORTATION SERVICES - RAPID TRANSIT DIVISION

Prime Consultant: PB PARSONS BRINCKERHOFF
1003 Bishop Street, Suite 2250 – Honolulu, HI 96813

Subconsultant:

For reduced prints, original page size in inches: 0 1 2 3 4

UH WEST O'AHU STATION

CIVIL SITE PLAN

SHEET 2 OF 2

Contract No.: SV-140
CADD File: SB2-B10-RP002
Drawing No: RP002 Rev.
Scale: 1"=40'
Page No. 17 of 77

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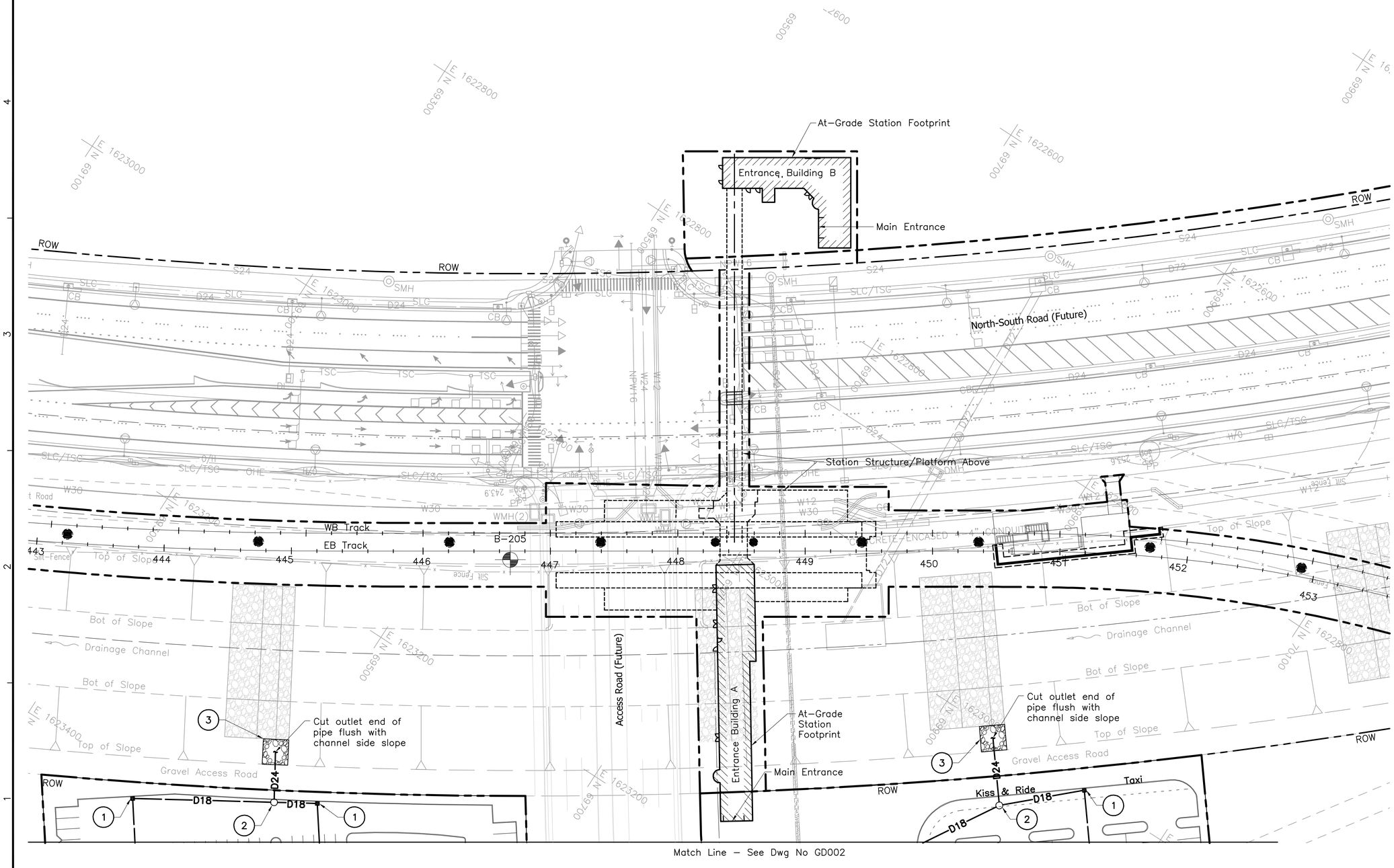


LEGEND:

DI — Drain Inlet

D18 — Drain Line & Size

NOTE:

For Station Drainage, see Drawing No. UP001.

CONSTRUCTION NOTES:

1. Construct Drain Inlet.
2. Construct Storm Water Treatment Unit, CDS Model Manufactured by Contech, or approved equivalent.
3. Construct grouted riprap apron extending to top of channel.

40' 0 40'

Rev	By	Date	Description

PRELIMINARY ENGINEERING SUBJECT TO REVISION

Designed: E Leung
Drawn: D Chua
Checked: N Orense
Approved: M Yonamine
Date: 09–25–09

HONOLULU HIGH-CAPACITY TRANSIT CORRIDOR PROJECT
CITY & COUNTY OF HONOLULU - DEPARTMENT OF TRANSPORTATION SERVICES - RAPID TRANSIT DIVISION

Prime Consultant: PB PARSONS BRINCKERHOFF
1003 Bishop Street, Suite 2250 – Honolulu, HI 96813

Subconsultant: LYON ASSOCIATES
CIVIL ENGINEERING / CONSTRUCTION MANAGEMENT
841 Bishop Street, Suite 2006
Honolulu, HI 96813 USA
Voice: (808) 536-6621
Fax: (808) 523-1738
E-mail: adminhi@lyonassociates.com
www.lyonassociates.com

For reduced prints, original page size in inches: 0 1 2 3 4

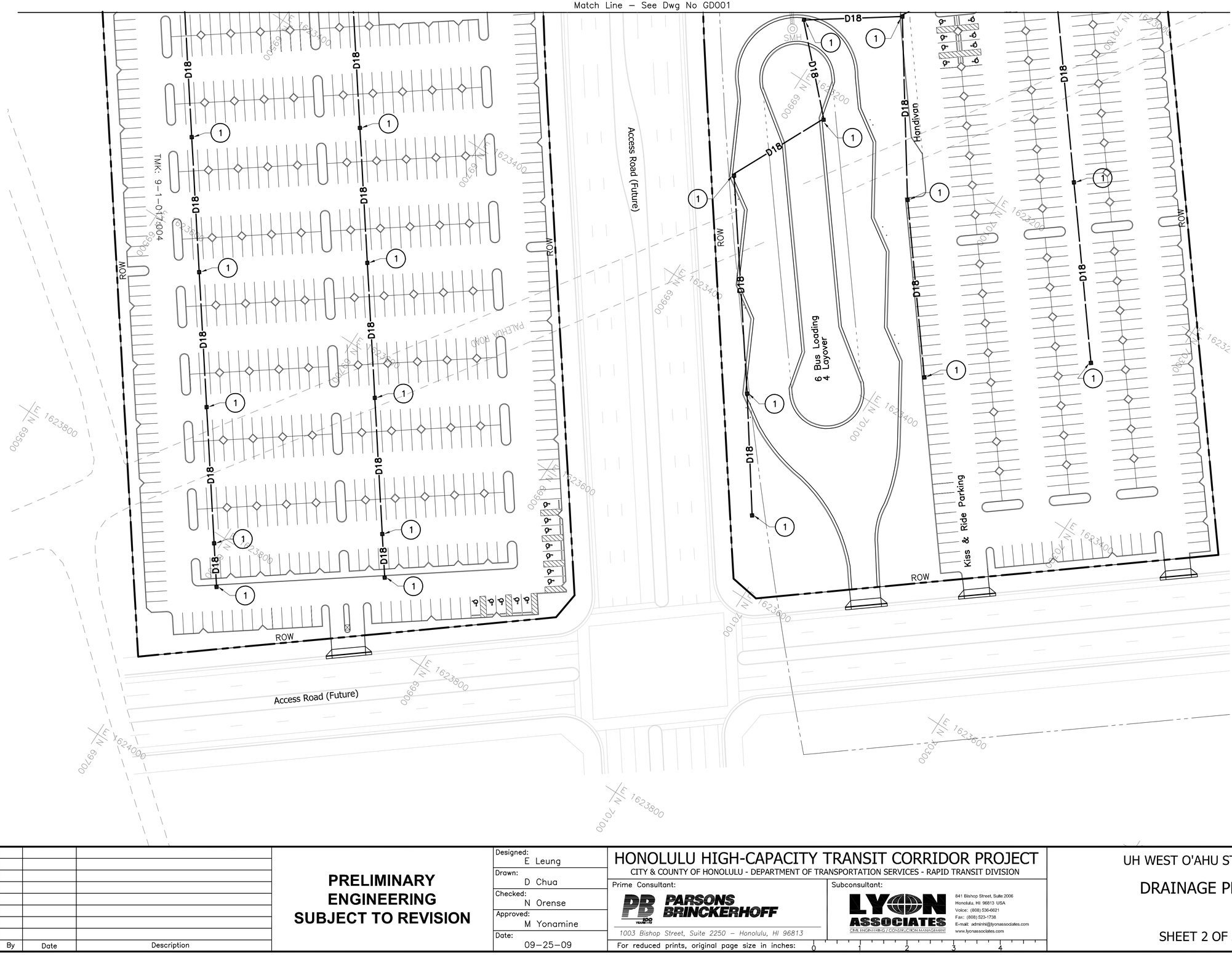
UH WEST O'AHU STATION

DRAINAGE PLAN

SHEET 1 OF 2

Contract No.: SV–140
CADD File: SB2–B16–GD001
Drawing No.: GD001 Rev.
Scale: 1"=40'
Page No.: 18 of 77

Match Line – See Dwg No GD001



LEGEND:

DI — Drain Inlet

D18 — Drain Line & Size

NOTE:

For Station Drainage, see Drawing No. UP001.

CONSTRUCTION NOTE:

(1) Construct Drain Inlet.

40' 0 40'

Rev	By	Date	Description

PRELIMINARY ENGINEERING SUBJECT TO REVISION

Designed: E Leung
Drawn: D Chua
Checked: N Orense
Approved: M Yonamine
Date: 09-25-09

HONOLULU HIGH-CAPACITY TRANSIT CORRIDOR PROJECT

CITY & COUNTY OF HONOLULU - DEPARTMENT OF TRANSPORTATION SERVICES - RAPID TRANSIT DIVISION

Prime Consultant: PB PARSONS BRINCKERHOFF
1003 Bishop Street, Suite 2250 – Honolulu, HI 96813

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For reduced prints, original page size in inches: 0 1 2 3 4

UH WEST O'AHU STATION

DRAINAGE PLAN

SHEET 2 OF 2

Contract No.: SV-140
CADD File: SB2-B16-GD002
Drawing No.: GD002 Rev.
Scale: 1"=40'
Page No. 19 of 77

UTILITIES SYMBOLS

- Exist AT&T Line
- Exist Cable Television
- Exist Cable Television, Overhead
- Exist Communication Fiber Optic
- Exist Drain Line (Size in Inches)
- Exist Electrical Line, Overhead
- Exist Electrical Line
- Exist Fire Alarm
- Exist Fuel or Oil Line (Size in Inches)
- Exist Force Main (Size in Inches)
- Exist Gas Line (Size in Inches)
- Exist Non–Potable Water Line (Size in Inches)
- Exist Sandwich Isle Communications Line
- Exist Sewer Line (Size in Inches)
- Exist Signal Corps Line
- Exist Street Light Conduit
- Exist Telephone Line, Overhead
- Exist Telephone Line
- Exist Traffic Signal Conduit
- Exist Water Line (Size in Inches)

- Exist Air Relief Valve
- Exist AT&T Box
- Exist AT&T Manhole
- Exist Backflow Preventor
- Exist Utility Box
- Exist Catch Basin
- Exist Catch Basin
- Exist Cable TV Box
- Exist Clean Out
- Exist Drain Inlet
- Exist Drain Manhole
- Exist Dry Standpipe
- Exist Electrical Box
- Exist Electrical Manhole
- Exist Electrical Transformer
- Exist Fire Alarm Box
- Exist Fire Hydrant
- Exist Gas Manhole
- Exist Gas Valve
- Exist Guy Wire
- Exist Irrigation Control Valve Box
- Exist Irrigation Control Valve
- Exist Light Pole
- Exist Manhole
- Exist Street Monument
- Exist Pole (EP, U.P.)
- Exist Pedestrian Street Light

- Exist Traffic Sensor
- Exist Street Light
- Exist Street Light Box
- Exist Sewer Manhole
- Exist Telephone Box
- Exist Telephone Manhole
- Exist Traffic/Pedestrian Street Light
- Exist Traffic Signal Box
- Exist Traffic Street Light
- Exist Water Meter
- Exist Water Manhole
- Exist Water Valve

- Prop Drain Line (Size in Inches)
- Prop Fuel or Oil Line (Size in Inches)
- Prop Gas Line (Size in Inches)
- Prop Non–Potable Water Line (Size in Inches)
- Prop Sewer Line (Size in Inches)
- Prop Water Line (Size in Inches)

- Prop Air Relief Valve
- Prop Backflow Preventor
- Prop Catch Basin
- Prop Catch Basin
- Prop Clean Out
- Prop Drain Inlet
- Prop Drain Manhole
- Prop Swale
- Prop Fire Hydrant
- Prop Gas Manhole
- Prop Gas Valve
- Prop Sewer Manhole
- Prop Water Meter
- Prop Water Manhole
- Prop Water Valve
- Cut and Plug
- Abandon in Place
- Demolish/Remove

UTILITIES ABBREVIATIONS

&	And
Abnd	Abandoned
AC	Asphalt Concrete
AF	Air Force
Approx	Approximate
ARV	Air Relief Valve
Ave	Avenue
℄	Baseline
BFP	Backflow Preventor
BGGV	Bevel–geared gate valve
Blvd	Boulevard
BWS	Board of Water Supply
℄	Centerline
C&C	City and County
CB	Catch Basin
CBMH	Catch Basin Manhole
CO	Cleanout
Comm	Communication
Conc	Concrete
CTV	Cable TV
D	Drain
DI	Drainage Inlet
DMH	Drainage Manhole
DS	Down Spout
Dwg	Drawing
E	Electric, Electrical
EB	Electrical Box
EH	Electrical Handhole
Elec	Electric, Electrical
EP	Electric Pole
EMH	Electrical Manhole
EV	Electrical Vault
Exist	Existing
F	Fuel
FA	Fire Alarm
FAB	Fire Alarm Box
FH	Fire Hydrant, Farrington Highway
FM	Force Main
FMH	Fuel Manhole
FOC	Fiber Optic Cable
FSA	Fire Safety Alarm
Fwy	Freeway
G	Gas
GM	Gas Meter
GMH	Gas Manhole
GV	Gas Valve, Gate Valve
GW	Guy Wire
HECO	Hawaiian Electric Company
HH	Handhole
HITS	Hawaii Information Transfer System
HP	High Pressure
HT	Hawaiian Telcom
HVP	High Voltage Power
HW	Headwall
Hwy	Highway
ICB	Irrigation Control Box
ICV	Irrigation Control Valve
Irr	Irrigation
kV	Kilovolt
Lat	Lateral
Ln	Lane
LP	Light Pole
Lt	Light
MH	Manhole
MHP	Manhole (Positive)
MHN	Manhole (Negative)
Misc	Miscellaneous
MTCO	Mutual Telephone Company
MW	Monitoring Well
NPW	Non–Potable Water
N/A	Not Applicable
NS	North–South Road
OCTv	Overhead Cable Television
OH	Overhead
OHE	Overhead Electrical
OT	Overhead Telephone
PB	Pullbox
Pkwy	Parkway
PPB	Pedestrian Push Button
PI	Place
PM	Petroleum Marker
PP	Power Pole
Prop	Proposed
PVC	Polyvinyl Chloride
Pwr	Power
RCP	Reinforced Concrete Pipe
Rd	Road
ROW	Right–of–Way
S	Sewer
SC	Signal Corps Line
SDMH	Storm Drain Manhole
SIC	Sandwich Isle Communications
Sig	Signal
SL	Street Light
SL	Sewer Line
SLB	Street Light Box
SLC	Street Light Conduit
SMH	Sewer Manhole
St	Street
St Mon	Street Monument
T	Top
TBD	To Be Determined
TCB	Traffic Control Box
Tel	Telephone
Temp	Temporary
TGC	The Gas Company
TL	Traffic Light
TMH	Telephone Manhole
TP	Telephone Pole
TPOL	Traffic Signal Pole
TRB	Traffic Box
TS	Top Stem
TSB	Traffic Signal Box
TSC	Traffic Signal Conduit
TSL	Traffic Signal
TV	Television
Typ.	Typical
UB	Utility Box
UD	Underdrain
UMH	Utility Manhole
UP	Utility Pole
USN	United States Navy
USAF	United States Air Force
Util	Utility
W	Water
WL	Water Line
WM	Water Meter
WMH	Water Manhole
Wtr	Water
WV	Water Valve
WVB	Water Valve Box
WVMH	Water Valve Manhole

Rev	By	Date	Description

PRELIMINARY ENGINEERING SUBJECT TO REVISION

Designed: N/A
Drawn: D Toba
Checked: H Andrews
Approved: J Yamamoto
Date: 09–25–09

HONOLULU HIGH-CAPACITY TRANSIT CORRIDOR PROJECT
CITY & COUNTY OF HONOLULU - DEPARTMENT OF TRANSPORTATION SERVICES - RAPID TRANSIT DIVISION

Prime Consultant: PB PARSONS BRINCKERHOFF
1003 Bishop Street, Suite 2250 – Honolulu, HI 96813

Subconsultant: R. M. TOWILL CORPORATION
Planning – Engineering – Environmental Services – Photogrammetry – Surveying – Construction Management
808 842 1133 2024 North King Street Suite 200 Honolulu Hawaii 96819–3470

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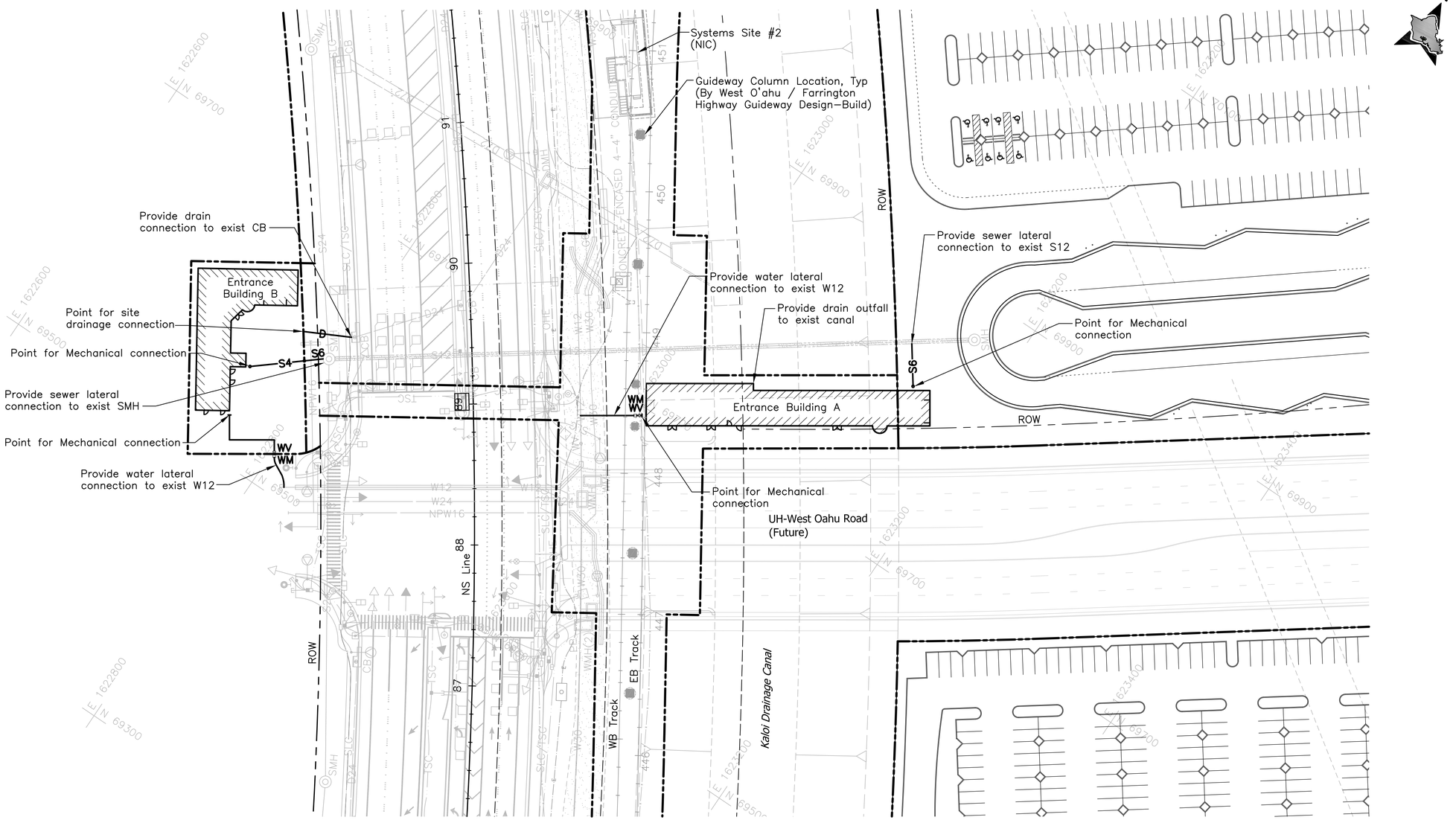
UH WEST O`AHU STATION

GENERAL UTILITIES SYMBOLS AND ABBREVIATIONS

Contract No.: SV–140
CADD File: SB2–D01–UG001
Drawing No: UG001 Rev.
Scale: None
Page No. 20 of 77



For Park & Ride drainage, see Drawing No. GD001.

Rev	By	Date	Description

PRELIMINARY ENGINEERING SUBJECT TO REVISION

Designed: D Toba
Drawn: D Toba
Checked: H Andrews
Approved: J Yamamoto
Date: 09–25–09

HONOLULU HIGH-CAPACITY TRANSIT CORRIDOR PROJECT

CITY & COUNTY OF HONOLULU - DEPARTMENT OF TRANSPORTATION SERVICES - RAPID TRANSIT DIVISION

Prime Consultant: PB PARSONS BRINCKERHOFF
1003 Bishop Street, Suite 2250 – Honolulu, HI 96813

Subconsultant: R. M. TOWILL CORPORATION
Planning – Engineering – Environmental Services – Photogrammetry – Surveying – Construction Management
808 842 1133 2024 North King Street Suite 200 Honolulu Hawaii 96819–3470

For reduced prints, original page size in inches: 0 1 2 3 4

UH WEST O`AHU STATION

UTILITIES PLAN
WATER, SEWER & DRAINAGE

Contract No.: SV–140
CADD File: SB2–D03–UP001
Drawing No.: UP001 Rev.
Scale: 1"=40'
Page No. 21 of 77

GENERAL

1. All work shall conform to the 2006 International Building Code (IBC) with the City and County of Honolulu Amendments unless noted otherwise.
2. The Contractor shall verify all dimensions and conditions prior to the start of the job and notify all discrepancies to the City. Where actual dimensions/conditions relative to existing structures conflict with the drawings, they shall be reported to the City so that proper clarification may be made.
3. All work shall conform to the best practice prevailing in the various trades comprising the work.
4. Features of construction shown are typical, and they shall apply generally throughout for similar conditions. Modify typical details as directed to meet special conditions.
5. Specific notes and details shall take precedence over general notes and typical details.
6. The Contractor shall refer to the specifications and technical provisions for information not covered by these general notes or the structural drawings.
7. The Contractor shall refer to the architectural, electrical, mechanical and utility drawings for conditions, depressions, openings, items to be embedded or attached to structural elements, etc., not shown on the structural drawings.
8. The Contractor shall provide temporary erection bracing and shoring for all structural members as required for stability of the structure during all phases of construction. The Contractor shall be responsible for all shoring.
9. The Contractor shall take all steps necessary to insure the correct location and orientation of the structure.
10. The Contractor shall protect and shield from damage all existing structures and elements adjacent to and surrounding the construction work. Existing elements damaged by the Contractor's operation shall be repaired to its original condition or replaced at no added cost.

FOUNDATION

1. City-developed geotechnical data through the contract area (Leeward Community College) is presented in "Geotechnical Data Report, HHCTP – East Kapolei to Pearl Highlands" dated March 27, 2009, by GeoLabs, Inc. as amended May 15, 2009. Also Available for reference is "Fixed Guideway Foundation Technical Memorandum, HHCTP – East Kapolei to Pearl Highlands" dated April 30, 2009, by GeoLabs, Inc. The latter document is made available for information only. The interpretations and recommendations contained therein are solely for the benefit of the City's Engineer in advancing alternatives and preliminary design. The Designer shall engage the services of a Hawaii licensed geotechnical engineer to perform subsurface exploration, investigation, testing, and analyses for the design and construction of the foundations of the indicated buildings and structures.
2. All earthwork shall be performed in accordance with the above-mentioned recommendations. All foundation excavations shall be observed and approved by a Hawaii licensed geotechnical engineer prior to placement of reinforcement and concrete. All structural fill material (both onsite and imported) shall be reviewed and approved by the geotechnical engineer.
3. The Contractor shall provide for dewatering of excavations from surface water, ground water or seepage.
4. The Contractor shall be responsible for design and installation of all cribbing, sheeting, and shoring necessary to preserve excavations and earth banks.
5. Footings shall bear on undisturbed in-situ firm soil or on properly compacted fill. Bottom of footings shall be compacted to provide a firm, level and smooth bearing surface prior to placement of reinforcing steel and concrete. If soft and/or loose materials are encountered at the bottom of footing excavations, they shall be over-excavated to expose the underlying firm materials. The over excavation shall be backfilled with "lean concrete" or with structural fill compacted to a minimum of 95% relative compaction; or the footing bottom may be extended down to the underlying competent material.
6. All building slabs-on-grade shall be underlain by a 6-inch layer of aggregate subbase compacted to a minimum of 95% relative compaction.
7. All building slabs-on-grade receiving moisture sensitive flooring material shall be protected by a 15 mil vapor barrier, placed directly upon the compacted aggregate subbase.
8. The Contractor shall brace or protect all walls below grade from lateral earth pressures until attaching floor supporting members are completely in-place and have attained their full design strength.

STRUCTURAL CONCRETE

1. The design and construction of structural concrete shall conform to the "Building Code Requirements for Structural Concrete", ACI 318-05, including the following:
   A. Concrete mixing..... ASTM C94
   B. Concrete placement..... ACI 304
2. Materials shall conform to the following standard specifications, current edition:
   A. Portland cement..... ASTM C150, Type I or II
   B. Normal weight aggregates..... ASTM C33
   C. Air entraining admixture..... ASTM C260
   D. Water-reducing and retarding admixtures..... ASTM C494
3. Verify locations and dimensions of slots, anchors, ducts, etc., relating to mechanical, electrical and architectural work before pouring concrete.
4. All inserts, anchor bolts, plates, etc. embedded in concrete shall be hot-dipped galvanized unless noted otherwise.
5. All concrete shall be thoroughly consolidated during placement using a mechanical vibrator. All concrete shall be cured for a period of not less than 7 days.
6. Unless otherwise indicated on architectural drawings, provide exposed corners of beams, walls columns, etc. with 3/4" chamfers.
7. Notify the City three (3) working days prior to any concrete pour. No concrete shall be poured prior to observation by the City or its authorized representative.
8. Unless otherwise specified, concrete shall have a minimum 28-day compressive strength as follows:
   A. Sidewalks..... 2,500 PSI
   B. Floor Slab on Grade..... 3,000 PSI
   C. Footings, Grade Beams & Piers..... 3,000 PSI
   D. Walls (incl precast or Tilt-up concrete)..... 3,000 PSI
   E. Columns..... 4,000 PSI
   F. Suspended Slabs and Beams..... 4,000 PSI
   G. Concrete Fill on Metal Deck..... 3,000 PSI
   H. All Others..... 3,000 PSI
   I. Site Retaining Walls..... See wall schedule
9. For walks and slabs on grade, the concrete shall be designed such that the water-cement ratio does not exceed 0.50 by weight. For concrete fill on metal deck and suspended slabs, the water-cement ratio shall not exceed 0.45 by weight.

DESIGN CRITERIA

1. The structural design shall be based on the provisions of the International Building Code (IBC), 2006 Edition, as amended by the City and County of Honolulu.
2. The structural design shall comply with the applicable provisions of Section 9.0 – Structural and Section 23.0 – Fire/Life Safety of the HHCTCP Design Criteria.
3. Design loads:
   A. Dead loads = actual weight calculated using the material unit weights specified in Section 9.2 of the HHCTCP Design Criteria.
   B. Live loads = loads as specified in Sections 9.3 and 9.4 of the HHCTCP Design Criteria.
   C. Vehicle, crane, equipment loads = as noted on the drawings
4. Wind design data:
   A. Design effective wind speed..... 105 MPH
   B. Exposure..... C
   C. Importance factor..... 1.0
5. Seismic design data:
   A. Occupancy Category II
   B. Importance factor = 1.25
   C. Site class = C
   D. Mapped spectral response accelerations:
      * Ss = 0.60
      * S1 = 0.17
   E. Design spectral response acceleration:
      * Sds = 0.46
      * Sd1 = 0.18
   F. Seismic Design Category = C

CONCRETE TOPPING ON METAL DECK

1. Concrete topping shall not contain calcium chloride or admixtures containing calcium chloride.
2. Electrical conduits are not allowed to be embedded in concrete topping on metal deck without prior approval of the Design Engineer.
3. Connection bolts in composite floor beams shall be finger tightened only, until 72 hours after the concrete topping has been poured. At 72 hours, the bolts shall be tightened per AISC requirements.
4. The ceramic ferrule, if used to install the headed shear studs, must be removed for inspection. Under no circumstances is the ferrule to be left on any headed stud embedded in concrete topping.
5. Concrete topping shall be placed over beams first before pouring at midspan of the decking.
6. Concrete must be placed with care to avoid impacts by dropping or dumping. Buggies will not be allowed to transport and deposit concrete unless the runway is planked and the floor deck is adequately shored.
7. Pour joints across the deck shall be placed in the middle third of the bay span. Pour joints parallel to the deck shall be placed 3'-0" plus or minus from the girder line.

PRECAST CONCRETE (TILT-UP) WALL PANELS

1. The design, fabrication, transportation and erection of precast concrete (Tilt-up) wall panels shall be in accordance with Chapter 16 of the "Building Code Requirements for Structural Concrete (ACI 318-05)", and with "Tilt-Up Concrete Construction Guide", ACI 551.1R-05.
2. The Contractor shall submit shop drawings of panels showing dimensions, reinforcing, pick-up points, strong back locations, bracings, additional reinforcing for temporary lifting and bracing, and calculations showing erection stresses, stamped and signed by a structural engineer licensed in the State of Hawaii.
3. The Contractor shall verify all dimensions, openings in walls, and details prior to forming and pouring.
4. The Contractor shall be responsible for properly embedding all necessary plates, anchor bolts, inserts for dowels and anchor bolts, etc. Shown on the contract drawings. Anchor bolts shall not be substituted with expansion anchors unless approved by the City.
5. Panels shall not be lifted until concrete has cured for at least 7 days and has gained the compressive strength specified at lifting by the structural engineer responsible for preparing shop drawings or 3,000 PSI, whichever is greater. The Contractor shall make additional cylinders for each pour and field cure to be tested the day before lifting in order to make sure that the required compressive strength is reached. No panel shall be lifted before it has cured for 7 days.
6. Weld structural steel embed plates in accordance with ANSI/AWS D1.1. Welding of reinforcing bars shall be in conformance with ANSI/AWS D1.4. Rebars to be welded shall conform to ASTM A 706, grade 60.
7. In case the Contractor decides to cast panels stacked one above the other due to field conditions, he shall inform the City before proceeding with the work. Provide inserts in stacked panels for all rebar dowels and anchor bolts.
8. Panels more than one story high shall be braced at each floor level. In case the intermediate braces have to be removed due to field conditions, the Contractor shall submit plans for rebracing panels to the City for review and approval prior to removal of braces.

Rev	By	Date	Description

PRELIMINARY ENGINEERING SUBJECT TO REVISION

Designed: J Fujita
Drawn: J Tamanaha
Checked: K Hayashida
Approved: E Sugiyama
Date: 09-25-09

HONOLULU HIGH-CAPACITY TRANSIT CORRIDOR PROJECT
CITY & COUNTY OF HONOLULU - DEPARTMENT OF TRANSPORTATION SERVICES - RAPID TRANSIT DIVISION

Prime Consultant: PB PARSONS BRINCKERHOFF
1003 Bishop Street, Suite 2250 – Honolulu, HI 96813

Subconsultant: KAI HAWAII STRUCTURAL & FORENSIC ENGINEERS

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UH WEST O'AHU STATION

GENERAL STRUCTURAL NOTES

SHEET 1 OF 2

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REINFORCING STEEL

1. All reinforcing steel shall be deformed bars conforming to ASTM A 615 Grade 60, except ties and stirrups smaller than #4 which may be grade 40. All reinforcing steel to be welded shall conform to ASTM A 706 Grade 60.
2. Plain steel welded plain wire fabric shall conform to ASTM A 185, fabricated from as–drawn steel wire into flat sheets and galvanized.
3. Minimum concrete protection (cover) for reinforcement shall be provided in conformance with Chapter 7 of ACI 318–05.
4. Development and splices of reinforcement shall be in conformance with Chapter 12 of ACI 318–05.
5. Welding of reinforcing steel bars shall conform to "Structural Welding Code–Reinforcing Steel", AWS D1.4.
6. Bolster and support bars for slab and topping reinforcement (including slabs on grade) shall be a minimum of #4 at 36" o.c.
7. Before placing of concrete, reinforcement placement shall be inspected to insure conformance with the drawings. All discrepancies shall be corrected prior to concrete pour or grouting.

STRUCTURAL STEEL AND MISCELLANEOUS IRON

1. The design, fabrication and erection of structural steel shall be in accordance with the "Specifications for Structural Steel Buildings", AISC 360–05. Seismic design of steel structures shall be in accordance with the "Seismic Provisions for Structural Steel Buildings", including Supplement No.1 dated 2006, AISC 341–05.
2. W–shapes shall conform to ASTM A 992 (Fy = 50 ksi). All steel plates, bars, and other shapes shall comply with ASTM A 36 unless noted otherwise. Structural pipe shall conform to ASTM A 53, Grade B. Round HSS shall conform to ASTM A 500, Grade B, (Fy = 42 ksi). Rectangular and square HSS shall conform to ASTM A 500, Grade B (Fy = 46 ksi). All exposed steel members and assemblies shall be hot–dip galvanized after fabrication in accordance with ASTM A 123.
3. Common bolts shall comply with ASTM A 307, hot–dip galvanized per ASTM A 153.
4. High strength bolts shall comply with ASTM A 325N or A 325SC (where noted), Galvanized. Nuts shall conform to ASTM A 563, galvanized. Washers shall conform to ASTM F 436, Galvanized.
5. Anchor rod material shall conform to ASTM F 1554, Grade 36 (Grade 55 or 105 where noted), hot–dip galvanized, per ASTM A 153.
6. Shear stud connectors shall be as specified in AWS D1.1–04, Chapter 7, Type B made from ASTM A 108 material (Fu = 60 ksi).
7. All welds shall be arc welded, matching the electrode to the base steel, according to AWS standards and performed by certified welders. All welds shall be ground smooth and painted with 2 coats of Z.R.C. cold galvanizing compound.
8. Unless otherwise indicated, all steel joints not detailed shall be fully welded using minimum fillet welds per AISC.
9. Shop drawings shall be submitted to the City for all structural steel, fabricated brackets hardware and miscellaneous metals prior to fabrication.
10. All anchor plates embedded in concrete shall be hot–dip galvanized after fabrication.

STEEL JOISTS

1. The design, manufacture and installation of open web steel joists and joist girders shall be in accordance with the following Steel Joist Institute (SJI) specifications:
   a. Standard specifications for joist girders, JG–1.1–05
   b. Standard specifications for open web steel joists, K–series, K–1.1–05
   c. Standard specifications for longspan steel joists, LH series and deep longspan steel joists, DLH series, LH/DLH 1.1–05
2. Joist manufacturer shall provide all bridging and blocking, both permanent and erection. Shop drawings and design calculations stamped by a licensed Hawaii Structural Engineer shall be submitted to the City for approval two weeks prior to fabrication.
3. All roof joists, joist girders and bridging shall be designed for the net wind uplift pressures in accordance with the requirements of the 2006 International Building Code (IBC).
4. Roof joist design loads:
   Dead load.....Actual weight of roof system
   Additional (equipment) loads.....See roof framing plans (it shall be the responsibility of the Designer to verify the weight of all mechanical equipment.)
   Live load.....20 psf––unless noted otherwise
5. Floor joists design loads:
   Dead load.....Actual weight of floor system
   Live load.....As noted on the drawings
   Additional (equipment) loads.....See floor framing plans (It shall be the responsibility of the Designer to verify the weight of all mechanical equipment.)
6. Live load deflection limits:
   Floor.....Not to exceed L/360
   Roof.....Not to exceed L/360

COLD–FORMED LIGHT GAUGE STRUCTURAL STEEL FRAMING

1. The design, fabrication, installation and construction of cold–formed light gauge structural and non–structural steel framing shall be in accordance with the "North American Specification For Design of Cold–Formed Steel Structural Members", including 2004 Supplement, NAS–01 and the following American Iron and Steel Institute (AISI) standards:
   a. Standard for Cold–Formed Steel Framing – General Provisions, General–04
   b. Standard for Cold–Formed Steel Framing – Header Design, Header–04
   c. Standard for Cold–Formed Steel Framing – Truss Design, Truss–04
   d. Standard for Cold–Formed Steel Framing – Wall Stud Design, WSD–04
2. All light gauge structural steel members, plates and angles shall be hot dip galvanized. (Minimum G90 coating) per ASTM A 924.
3. All light gauge structural steel framing members shall be cold formed to shapes from structural quality sheet steel complying with the requirements of ASTM A 1003, Grade 50 for 14 and 16 gauge members; Grade 33 for 18 thru 26 gauge members.
4. Shop drawings shall be submitted to the City for all fabricated connections and hardware prior to fabrication.
5. Structural calculations and shop drawings stamped by a Structural Engineer licensed in the State of Hawaii shall be submitted for review to the City for all pre–engineered framing, including trusses prior to fabrication.
6. Fasteners shall be self–piercing and self–drilling, power–driven screws intended for cold formed steel application and shall be zinc plated or galvanized.
7. All welding shall be done in accordance with "Structural Welding Code", AWS D1.1 and "Structural Welding Code Sheet Steel", AWS D1.3 for sheet steel and performed by certified welders.
8. The Contractor shall be responsible for temporary bracing of all light metal structural framing including trusses.
9. Each joist, rafter, truss and structural wall stud shall be aligned vertically so that the distance between the web of the horizontal framing member to the edge of the wall stud does not exceed 1/8 inch (3 mm), unless otherwise indicated in the drawings.

PEDESTRIAN BRIDGES

1. Pedestrian bridges shall be designed in accordance with Section 9.4 of the HHCTCP Design Criteria.

METAL DECKING

1. Steel sheets for roof and composite floor metal deck and accessories shall conform to ASTM A 653, with minimum yield strength of 38 ksi. Decks shall be galvanized in accordance with ASTM A 653, G90.
2. Decking shall be continuous for 2 or more spans, where applicable, and bear on supports a minimum of 2 inches. Ends of roof deck units shall be lapped a minimum of 2 inches over supports.
3. Metal floor deck units shall be fastened to supporting structural steel members with ½–inch effective diameter puddle welds. If studs are welded through the deck to the structural steel, stud welds may replace the puddle welds. Use of powder actuated mechanical fasteners (PAMF) may be considered provided the manufacturer's information of the mechanical fastener includes an ICC–ES Legacy Report.
4. Roof deck units shall be fastened to supporting structural steel members with ½–inch effective diameter puddle welds or with ICC–ES approved powder actuated mechanical fasteners.
5. Rectangular or circular openings in metal deck shall be reinforced as shown.
6. Shop drawings showing the deck unit layout and fastener locations, manufacturer's brochures and ICC–ES Legacy Report shall be submitted to the Architect for approval.
7. Welding of metal deck to structural steel members shall conform to AWS D1.1 and AWS D1.3. Welders shall be certified prior to commencing work.
8. Construction loads (including those due to storage of construction materials) shall not exceed the design live load of the roof or floor system.

CONCRETE MASONRY UNIT

1. The design, construction and quality of masonry structures shall be in accordance with the "Building Code Requirements for Masonry Structures", ACI 530 – 05.
2. Hollow concrete masonry units: ASTM C 90, Grade N, 1,900 psi compressive strength, medium weight. Units shall be 2–core type, 8" nominal height, 16" nominal length and width indicated on the plans.
3. Mortar and grout materials:
   a. Portland Cement: ASTM C 150, Type I or II
   b. Masonry Cement: ASTM C 91
   c. Mortar Cement: ASTM C 1329
   d. Aggregate for Mortar: ASTM C 144
   e. Aggregate for Grout: ASTM C 404, with grading per ASTM D 448, No. 10
   f. Hydrated Lime: ASTM C 207, Type S
   g. Plasticizer Additive: Powder or liquid type with current ICC acceptance as a substitute for lime in mortar.
   h. Water: Potable and complying with ASTM C 94.
4. Mortar shall be ASTM C 270 Type 'M' or 'S' with a minimum 28–day compressive strength of 1,800 psi for Type S and 2,5000 psi for Type M. Use mortar within 2 hours after initial mixing.
5. Grout (fine) shall be proportioned to attain a 28–day compressive strength of 2,500 psi and a slump between 8 and 11 inches. Grout shall be placed within 90 minutes after mixing.
6. Reinforcing bar positioners: Commercial, non–metallic positioners that prevent displacement of reinforcing bars during construction. Install at intervals not exceeding 8 feet.
7. Fill all cells solid with grout. No grouting shall commence prior to inspection by the Engineer or Special Inspector.
8. Unless noted otherwise, all walls shall be constructed in running bond.
9. Post–installed anchors in grouted masonry: corrosion–resistant anchors with capacity to support design shear and tension loads with a factor of safety of at least 4.0 as documented in a current ICC legacy report.

TIMBER

1. The design of timber framing shall be in accordance with the International Building Code (IBC).
2. The design of glued–laminated (glulam) beams for the canopy system shall be in accordance with NDS National Design Specification for Wood Construction from the American Forest and Paper Assocation.
   a. The allowable bending stress, F_b, shall be taken as 3000 psi modified with the appropriate adjustment factors.

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UH WEST O'AHU STATION

GENERAL STRUCTURAL NOTES

SHEET 2 OF 2

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STRUCTURAL ABBREVIATIONS (CONTINUED)

&	And
@	At
AASHTO	American Association of State Highway & Transportation Officials
AB	Anchor Bolt
Abut	Abutment
AC	Asphalt Concrete
ACI	American Concrete Institute
ACU	Air Conditioning Unit
Aggr	Aggregate
AHU	Air Handling Unit
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
Anch	Anchor
ANSI	American National Standards Institute
Approx	Approximate
Arch.	Architect, Architectural
AREMA	American Railway Engineering & Maintenance–of–Way Association
ASCE	American Society of Civil Engineers
ASTM	American Society for Testing & Materials
AWS	American Welding Society
℄	Baseline
Bal	Balance
BF	Both Faces
Bldg	Building
Blkg	Blocking
Bm	Beam
Bot	Bottom
℄	Centerline
c	Camber
C–C	Center to Center
CCH	City and County of Honolulu
CFS	Cold–Formed Steel
CIP	Cast–in–Place
CJ	Construction Joint, Control Joint
Clr	Clear, Clearance
CMU	Concrete Masonry Unit
Col	Column
Conc	Concrete
Conn	Connect, Connection, Connector
Cont	Continuous, Continue
Cu	Cubic
CY	Cubic Yard
Dbl	Double
Dept	Department
Det	Detail
Dia	Diameter
Diag	Diagonal, Diagram
Diaph	Diaphragm
Dim	Dimension
Dir	Direction
Dist	Distance
DL	Dead Load
Dn	Down
DOT	Department of Transportation
DS	Downspout
Dwg	Drawing
Dwl	Dowel
E	East
ea	Each
EB	Eastbound
EE	Each End
EF	Each Face, Exhaust Fan
EJ	Expansion Joint
El, Elev	Elevation
Elec	Electric, Electrical
Elev	Elevator
Engr	Engineer, Engineering
EQ	Earthquake
Eq	Equal
Eqn	Equation
Est	Estimate
EW	Each Way
Exc	Excavation
Exist	Existing
Exp	Expansion
Ext	Exterior, External
Extn	Extension

FD	Floor Drain
Fdn	Foundation
FF	Finish Floor
FFE	Finish Floor Elevation
FHWA	Federal Highway Administration
Fig.	Figure
Fin	Finish
Fl	Floor
Fr	Frame
ft	Foot, Feet
Ftg	Footing
Fu	Ultimate Stress
Fy	Yield Stress
Ga	Gauge
Galv	Galvanized
GB	Grade Beam
Gen	General
Gnd	Ground
Govt	Government
Grd	Grade
H	High, Height, Horizontal
HDOT	Hawaii Department of Transportation
HHCTCP	Honolulu High–Capacity Transit Coridor Project
Horiz	Horizontal
Hr	Hour
HS	High Strength
HSS	Hawaii Standard Specifications for Road and Bridge Construction (Issued 2005)
HSS	Hollow Structural Shape
Ht	Height
Hwy	Highway
IBC	International Building Code
ICC–ES	International Code Council–Evaluation Service
ID	Inside Diameter
IF	Inside Face
in.	Inch
Incl	Included, Including, Inclusive
Int	Interior
Inv	Invert
JG	Joint Girders
Jt	Joint
Jt(s)	Joints
K	Kip(s)
KF	Kip Foot
KLF	Kips Per Linear Foot
KSF	Kips Per Square Foot
KSI	Kips Per Square Inch
L	Left, Length, Angle (Steel Shape)
LB	Pound (unit of measure)
LF	Linear Foot
Lin	LinearLinear
LL	Live Load
LLH	Long Leg Horizontal
LLV	Long Leg Vertical
Long.	Longitudinal
Max	Maximum
Mech	Mechanical
Met	Metal
Mezz	Mezzanine
Mfr	Manufacturer
MH	Manhole
Mil	One Thousandth of an inch
Min	Minimum
Misc	Miscellaneous
mm	Millimeter
Mom	Moment
MOW	Maintenance–of–Way
Mtg	Meeting
Mtl	Material

N	North
N/A	Not Applicable
NAS	North American Specification
NB	Northbound
NE	Northeast
Neg	Negative
NF	Near Face
NIC	Not in Contract
No.(Nos.)	Number (Numbers)
Nom	Nominal
NTS	Not to Scale
NW	Northwest
OC	On Center
OD	Outside Diameter
OF	Outside Face
Opng	Opening
Opp	Opposite
Opp Hd	Opposite Hand
oz	Ounce
PAMFP	Power Actuated Mechanical Fasteners
PCF	Pounds Per Cubic Feet
P/T	Post Tensioned
P.E.	Professional Engineer
Perp	Perpendicular
Ph	Phase
Plywd	Plywood
Pos	Positive
Proj	Project
Prop	Property
PSF	Pounds Per Square Feet
PSI	Pounds Per Square Inch
PVC	Polyvinyl Chloride
Pvmt	Pavement
QA/QC	Quality Assurance/Quality Control
Qty	Quantity
R	Radius
RC	Reinforced Concrete
RD	Roof Drain
Rdwy	Roadway
Rect	Rectangle
Ref	Reference
Reinf	Reinforce, Reinforcing
Repl	Replace, Replaced
Reqd	Required
Ret	Return, Retain, Retaining
Rev	Revision, Revised
RFP	Request for Proposal
Rm	Room
RO	Rough Opening
ROW	Rlgh–of–Way
Rt	Right
RTD	Rapid Transit Division
RW	Retaining Wall

S	South
S1	Mapped MCE Spectral Response Acceleration at a Period of 1–sec.
Sch	Schedule
SDS	Design Spectral Response Acceleration at Short Periods
SD1	Design Spectral Response Acceleration at a Period of 1–sec.
SE	Southeast
Sect	Section
SF	Square Foot, Square Feet
Sgl	Single
Sht	Sheet
Sim	Similar
SJI	Steel Joist Institute
SMS	Sheet Metal Screw
Spec	Specification
Sq	Square
SRP	Skylight Roof Post
SS	Stainless Steel
Sta	Station, Stationing
Std	Standard
Stiff	Stiffener
Stl	Steel
Struct	Structure
SW	Southwest
Sym	Symmetrical
T	Top
T&B	Top and Bottom
T&G	Tongue and Groove
Temp	Temporary, Temperature
Thk	Thick, Thickness
Thru	Through
TOC	Top of Concrete
Topo	Topography
TOR	Top of Rail
TOS	Top of Slab
TO Stl	Top of Steel
Tot.	Total
TOW	Top of Wall
Typ	Typical
UNO	Unless Noted Otherwise
V	Vertical
Var	Variable, Varies
Veh	Vehicle
Vert	Vertical
Vol	Volume
W	Wide Flange
w/	With
w/o	Without
WB	Westbound
WF	Wall Footing
WL	Wind Load
WP	Work Point
WSD	Wall Stud Design
Wt	Weight
WWF	Welded Wire Fabric

SPECIAL TERMS

Makai	Ocean
Mauka	Mountain

Rev	By	Date	Description

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STRUCTURAL ABBREVIATIONS

Contract No.: SV–140
CADD File: SB2–G01–SG003
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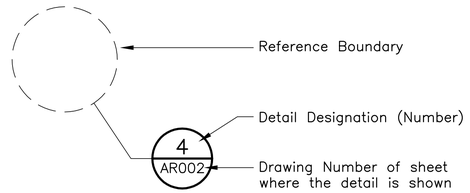
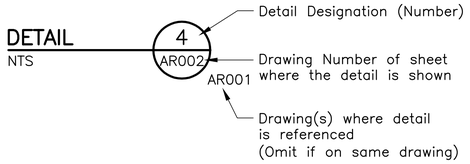
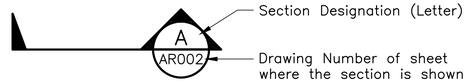
STRUCTURAL SYMBOLS

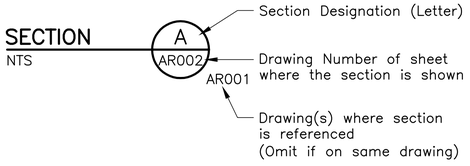
DETAILS



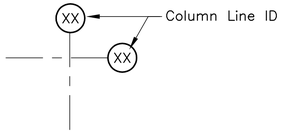


SECTIONS





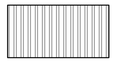
COLUMN LINE GRID INDICATOR



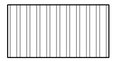
GENERAL SYMBOLS

&	And
@	At
#	Number
ø	Diameter
%	Percent
=	Equal to
>	Greater Than
<	Less Than
≥	Greater Than or Equal To
≤	Less Than or Equal To
±	Plus or Minus

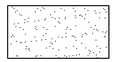
HATCH



Metal Deck w/Conc Topping (Plan View)



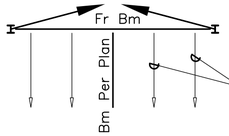
Metal Deck w/No Topping (Plan View)



Slab on Grade (Plan View)

LEGEND

Struct. Steel "X" Braced Frame (Above)

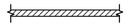


Struct. Steel Braced Frame (Above)

Bot. Flange Angle Bracing Angle

Non–Struct. Partition (See Arch. Drawings)

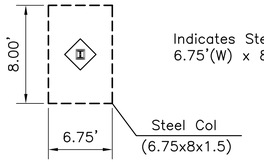
Non–Struct. Shaft Wall



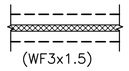
Tilt–Up Wall

CMU Wall

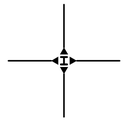
Wall Below



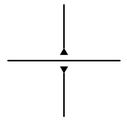
Indicates Steel Moment Frame Column & 6.75'(W) x 8.00'(L) x 1.5' Thk Footing



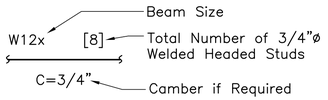
Indicates Continuous Footing 3'(W) x 1.5'(T)



Indicates Beam–to–Column Moment Connection



Indicates Beam–to–Beam Moment Connection



Indicates Direction of Metal Purlin Span

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Designed: J Fujita
Drawn: J Tamanaha
Checked: K Hayashida
Approved: E Sugiyama
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HONOLULU HIGH-CAPACITY TRANSIT CORRIDOR PROJECT
CITY & COUNTY OF HONOLULU - DEPARTMENT OF TRANSPORTATION SERVICES - RAPID TRANSIT DIVISION

Prime Consultant: PB PARSONS BRINCKERHOFF
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Subconsultant: KAI HAWAII STRUCTURAL & FORENSIC ENGINEERS

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UH WEST O'AHU STATION

STRUCTURAL SYMBOLS

Contract No.: SV–140
CADD File: SB2–G01–SG004
Drawing No: SG004 Rev.
Scale: N/A
Page No. 25 of 77

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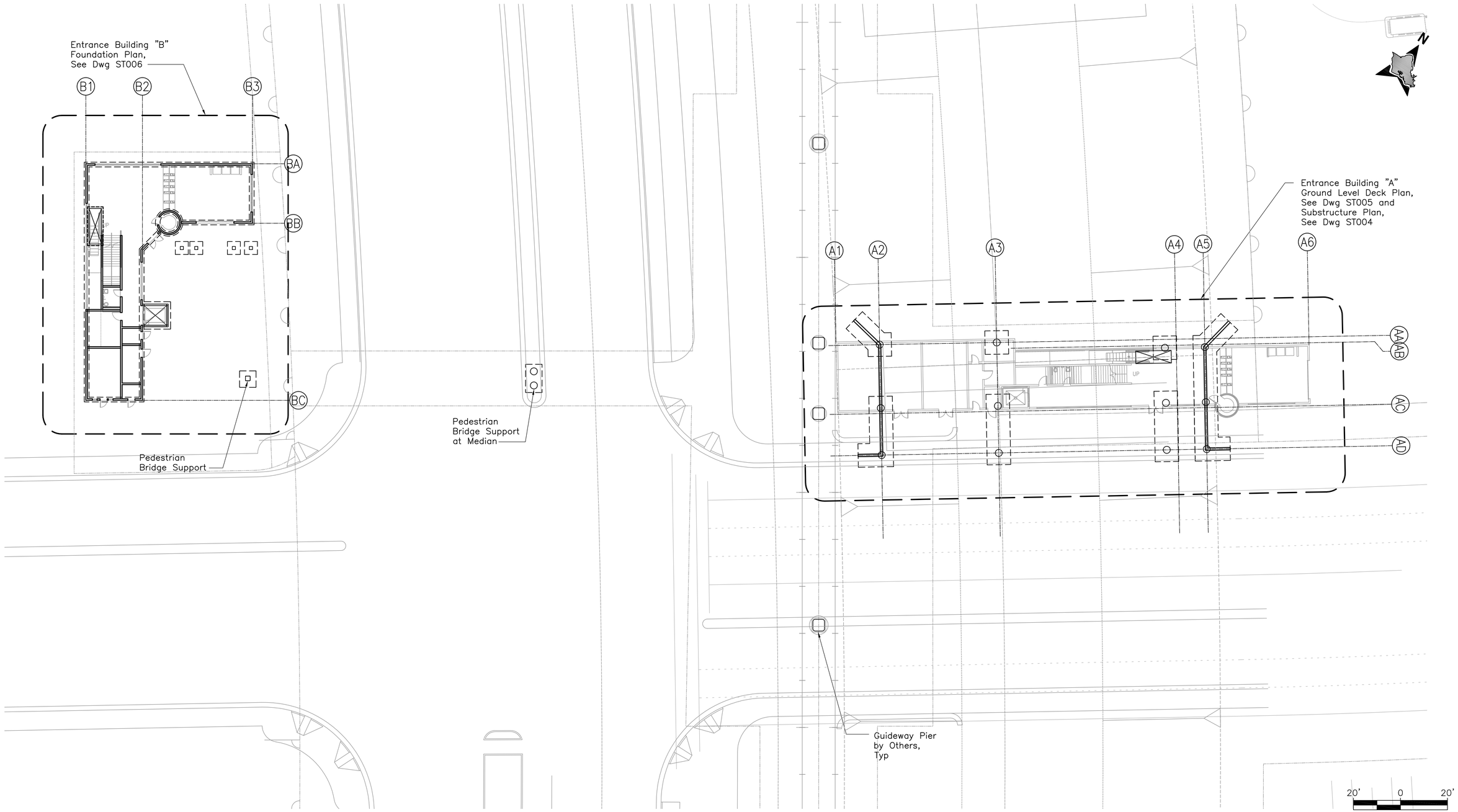

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UH WEST O'AHU STATION

OVERALL REFERENCE FOUNDATION PLAN

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CADD File: SB2–G12–ST001
Drawing No.: ST001 Rev.
Scale: 1"=20'
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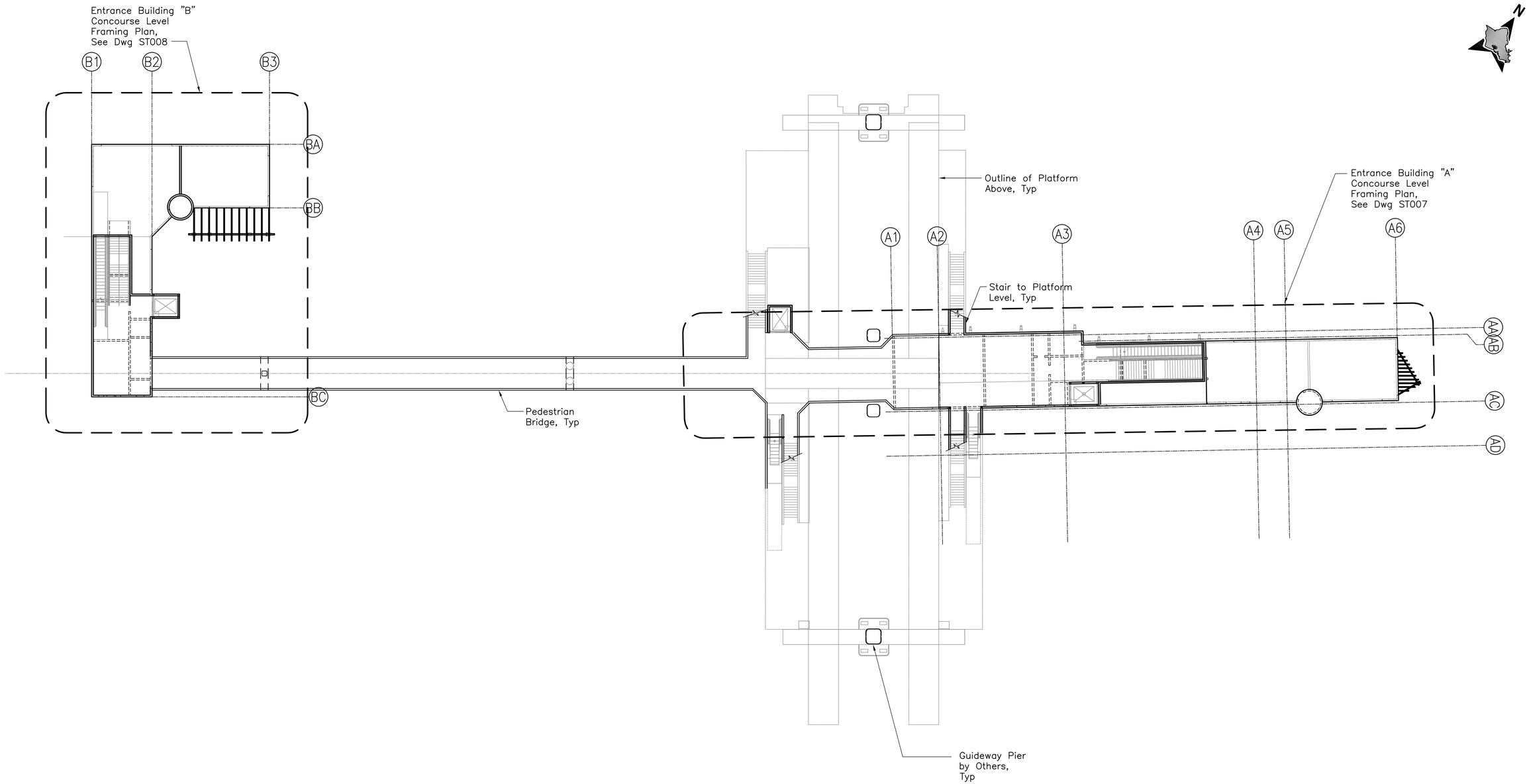

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UH WEST O'AHU STATION

OVERALL REFERENCE CONCOURSE LEVEL FRAMING PLAN

Contract No.: SV–140
CADD File: SB2–G12–ST002
Drawing No: ST002 Rev.
Scale: 1"=20'
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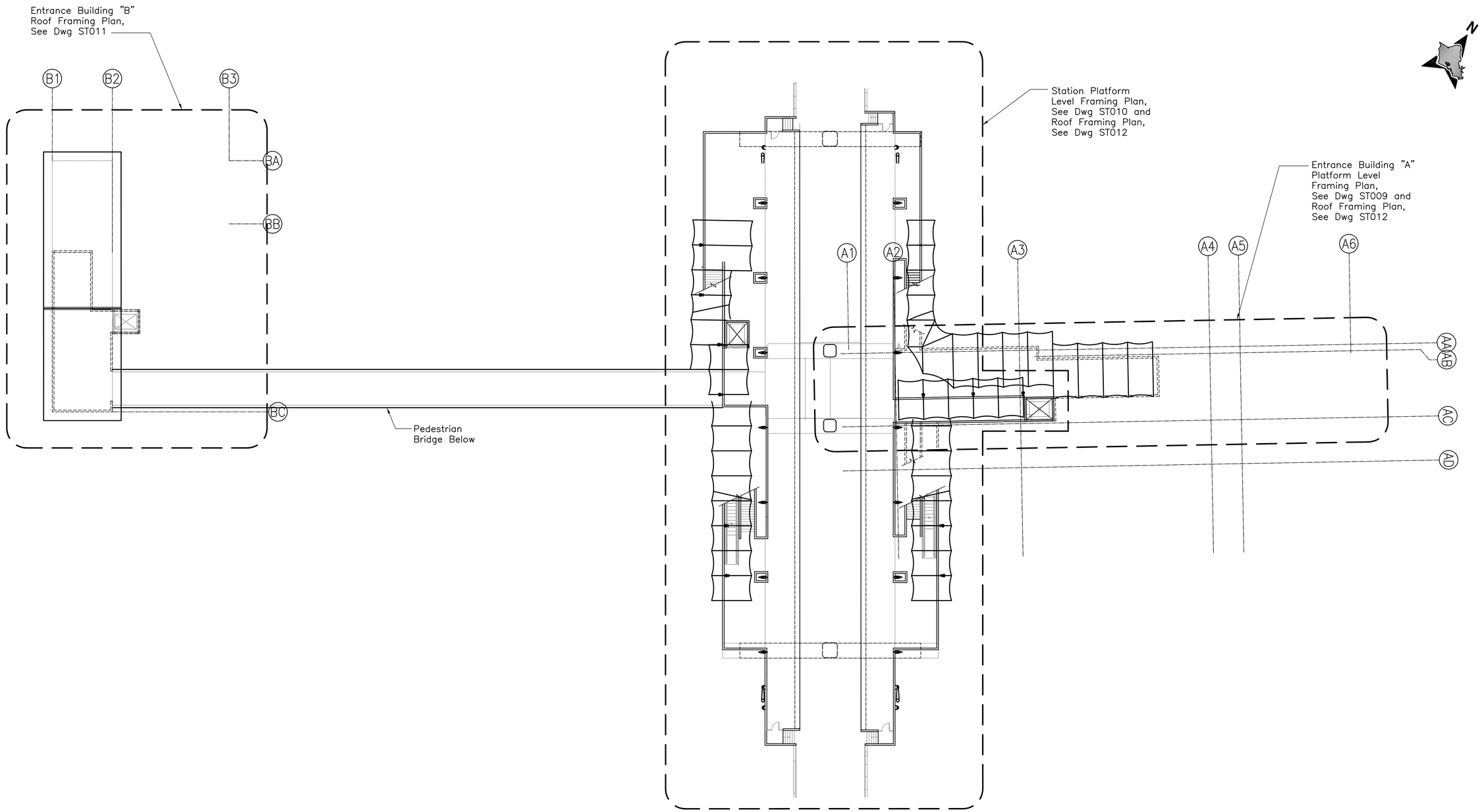

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UH WEST O'AHU STATION

OVERALL REFERENCE PLATFORM LEVEL AND ROOF FRAMING PLANS

Contract No.: SV–140
CADD File: SB2–G12–ST003
Drawing No.: ST003 Rev.
Scale: 1"=20'
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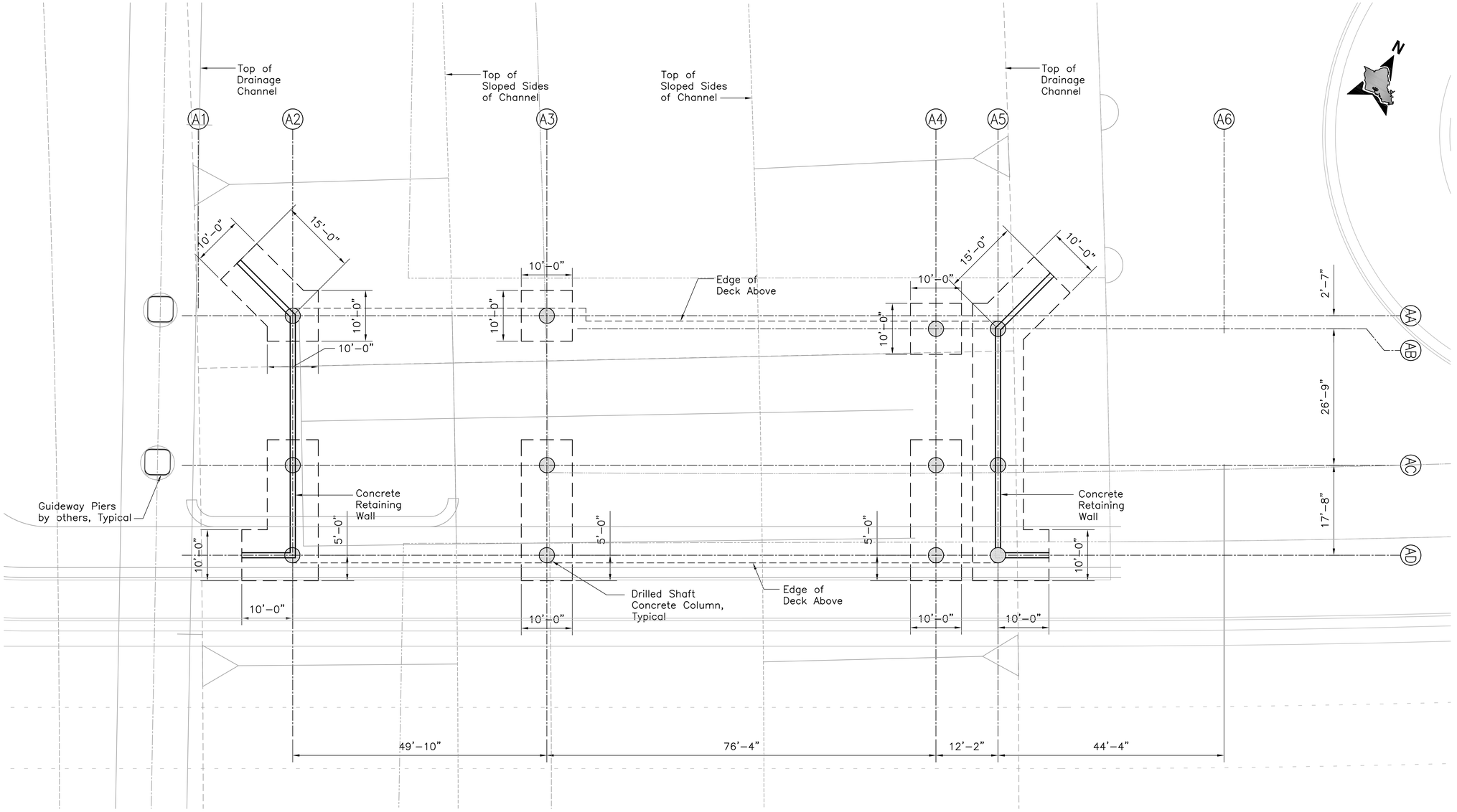

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UH WEST O'AHU STATION

ENTRANCE BUILDING "A" DECK SUBSTRUCTURE PLAN

Contract No.: SV–140
CADD File: SB2–G13–ST004
Drawing No: ST004 Rev.
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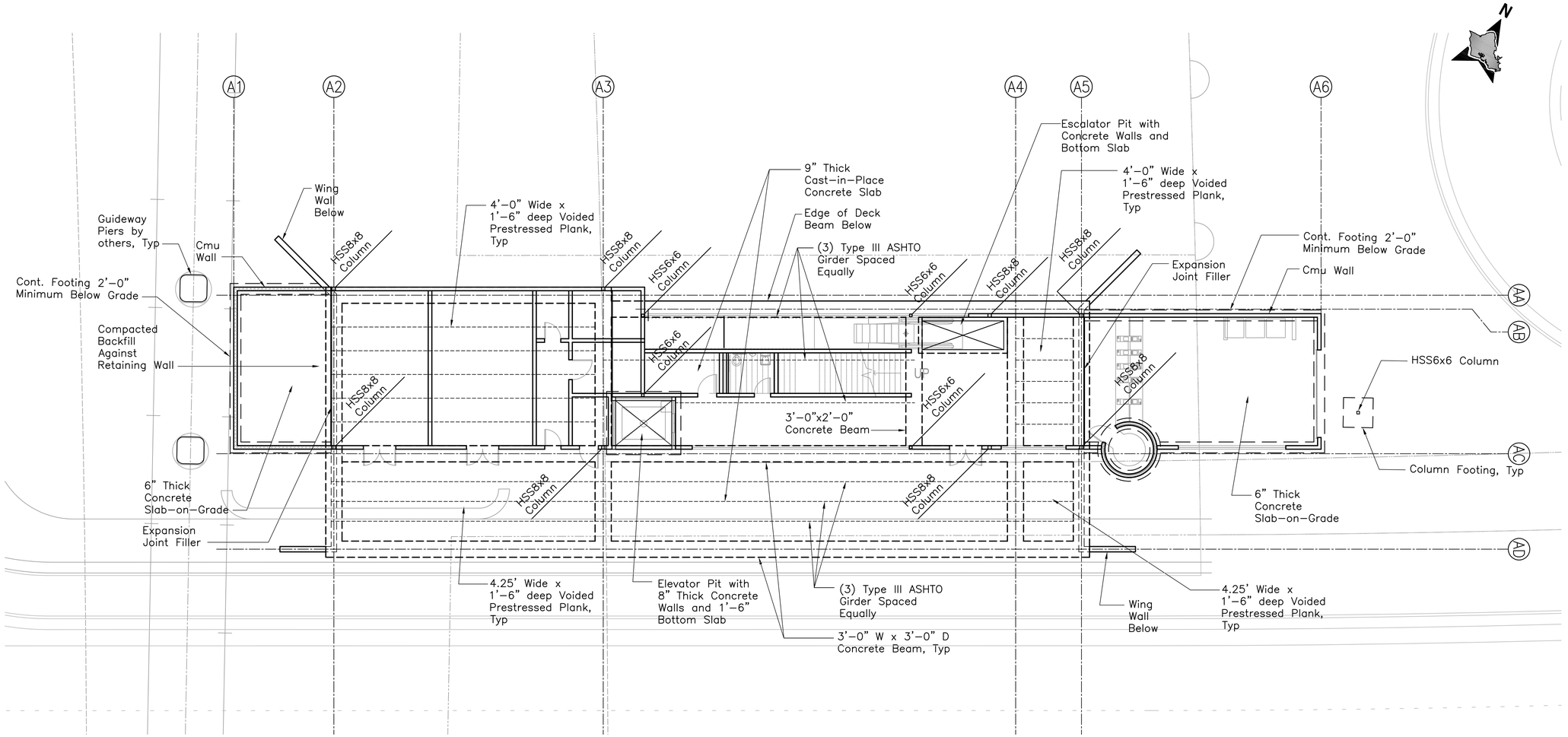

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UH WEST O'AHU STATION

ENTRANCE BUILDING "A" DECK FRAMING AND FOUNDATION PLAN

Contract No.: SV–140
CADD File: SB2–G13–ST005
Drawing No.: ST005 Rev.
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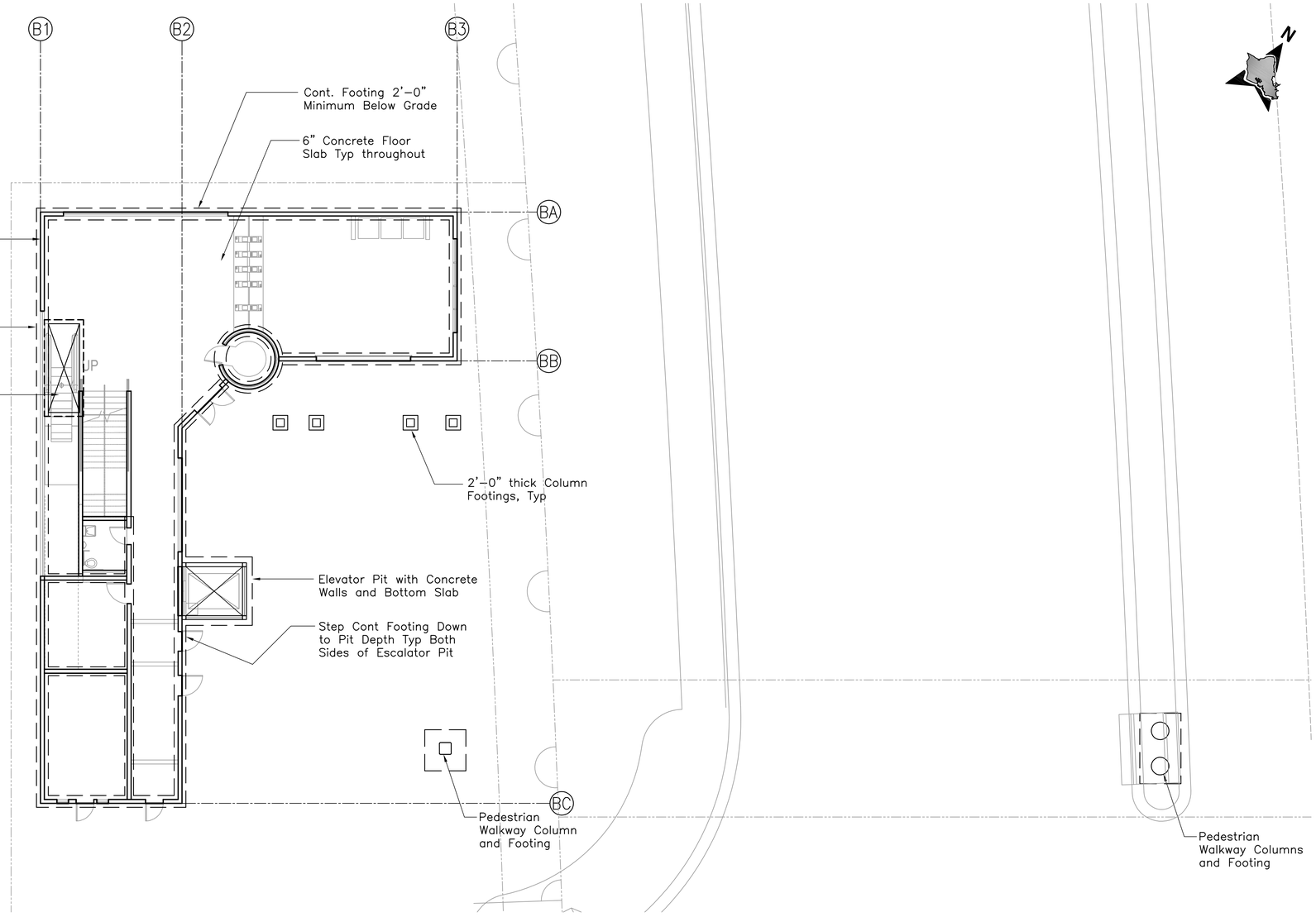

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UH WEST O'AHU STATION

ENTRANCE BUILDING "B" FOUNDATION PLAN

Contract No.: SV–140
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Drawing No: ST006 Rev.
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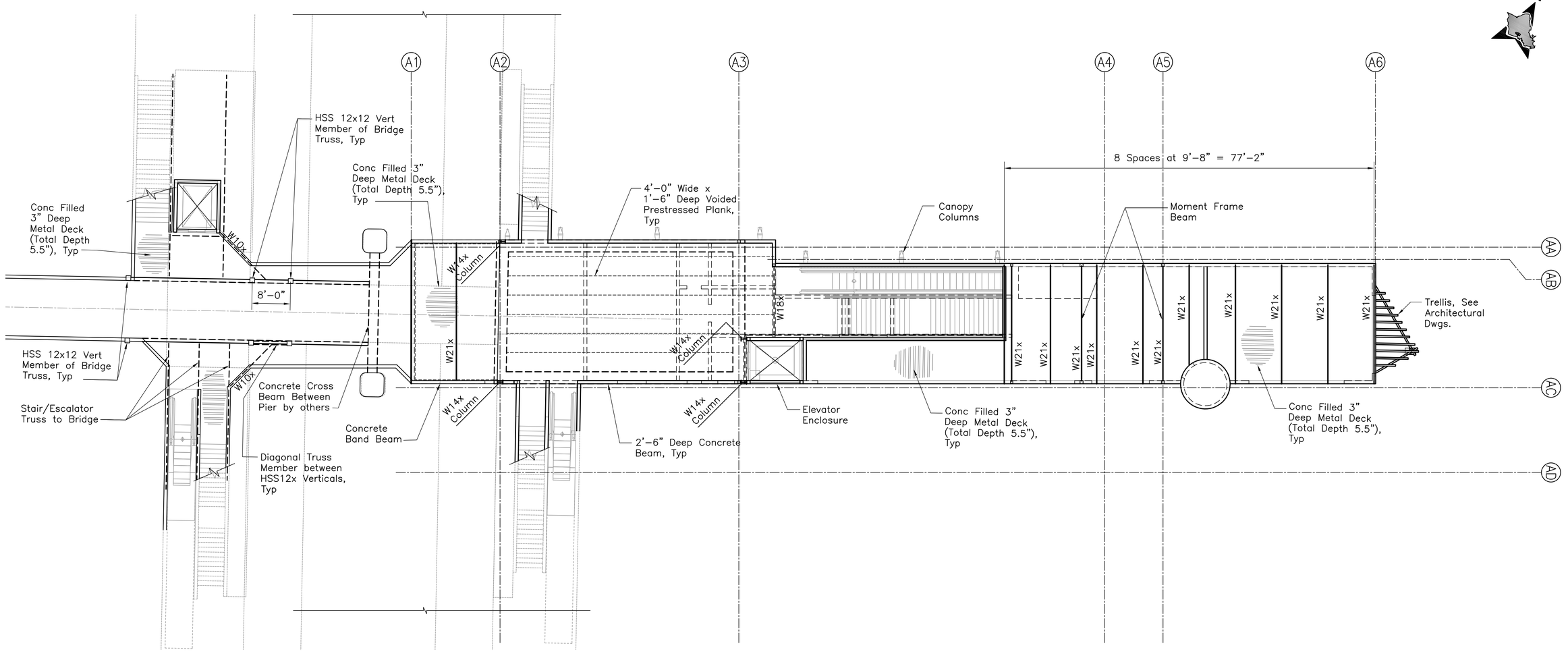

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UH WEST O'AHU STATION

ENTRANCE BUILDING "A" CONCOURSE LEVEL FRAMING PLAN

Contract No.: SV–140
CADD File: SB2–G14–ST007
Drawing No: ST007 Rev.
Scale: 3/32"=1'–0"
Page No. 32 of 77

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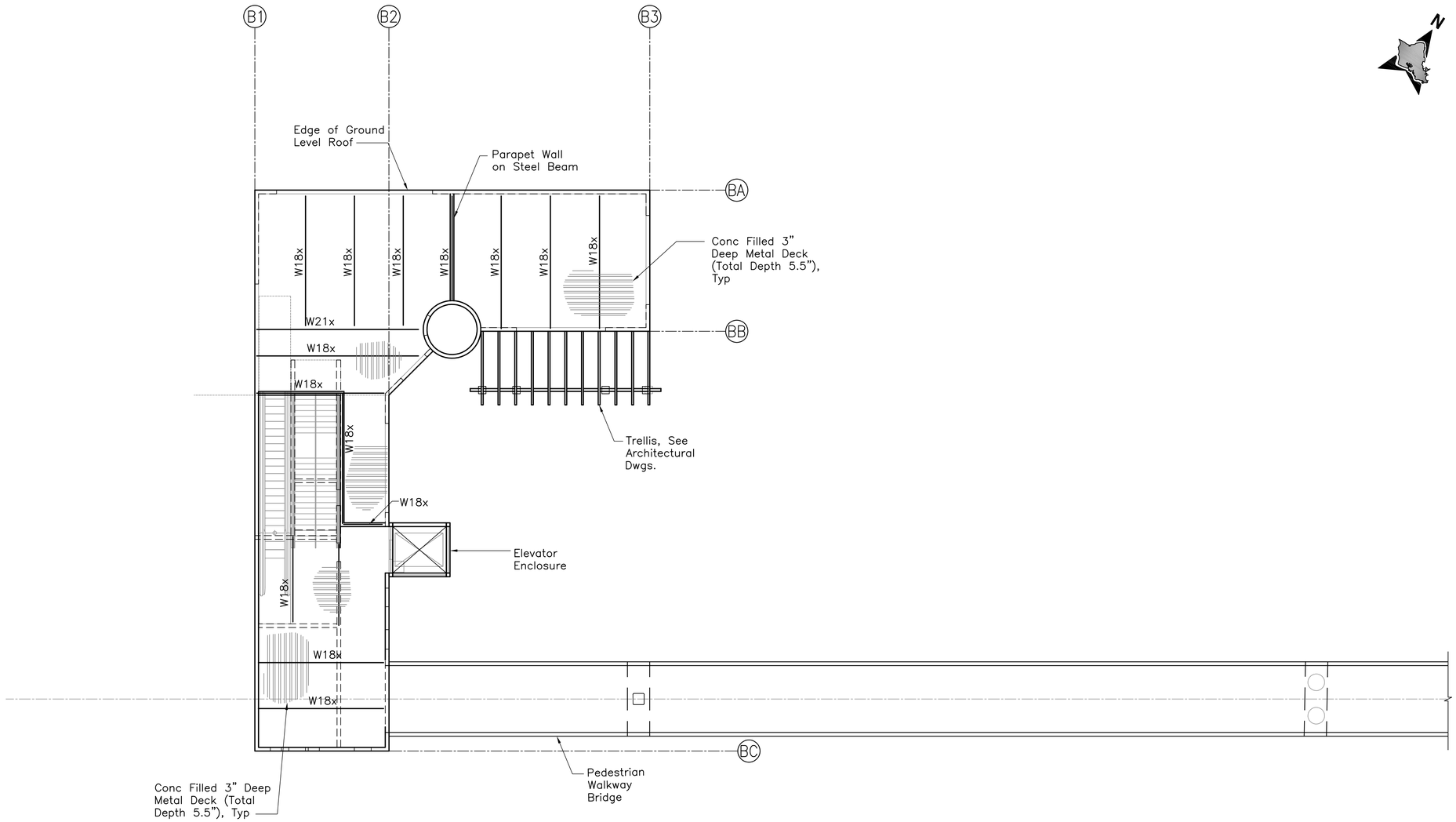

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UH WEST O'AHU STATION

ENTRANCE BUILDING "B" CONCOURSE LEVEL FRAMING PLAN

Contract No.: SV–140
CADD File: SB2–G14–ST008
Drawing No.: ST008 Rev.
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Page No. 33 of 77

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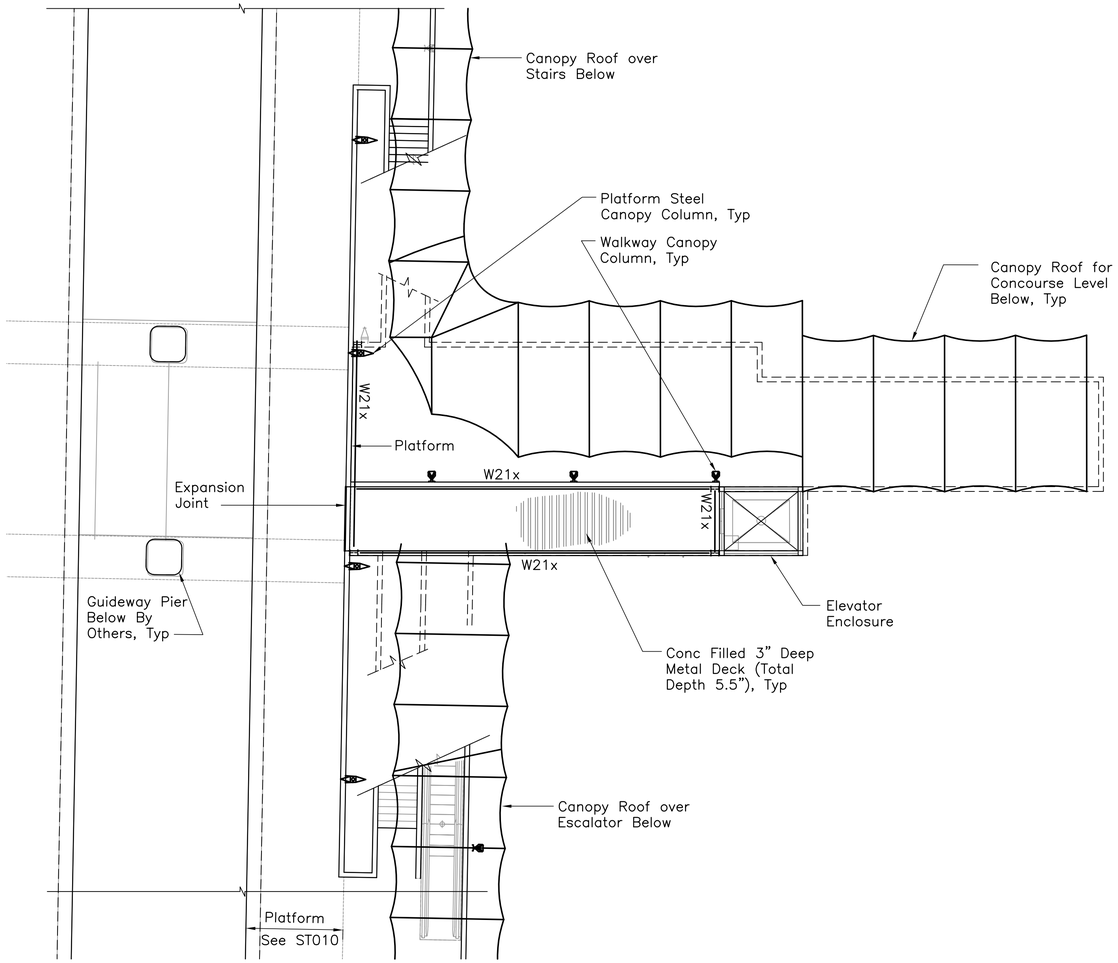

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2'0 2'4' 8' 12' 20'

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HONOLULU HIGH-CAPACITY TRANSIT CORRIDOR PROJECT

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UH WEST O'AHU STATION

ENTRANCE BUILDING "A" PLATFORM LEVEL FRAMING PLAN

Contract No.: SV-140
CADD File: SB2-G14-ST009
Drawing No: ST009 Rev.
Scale: 3/32"=1'-0"
Page No. 34 of 77

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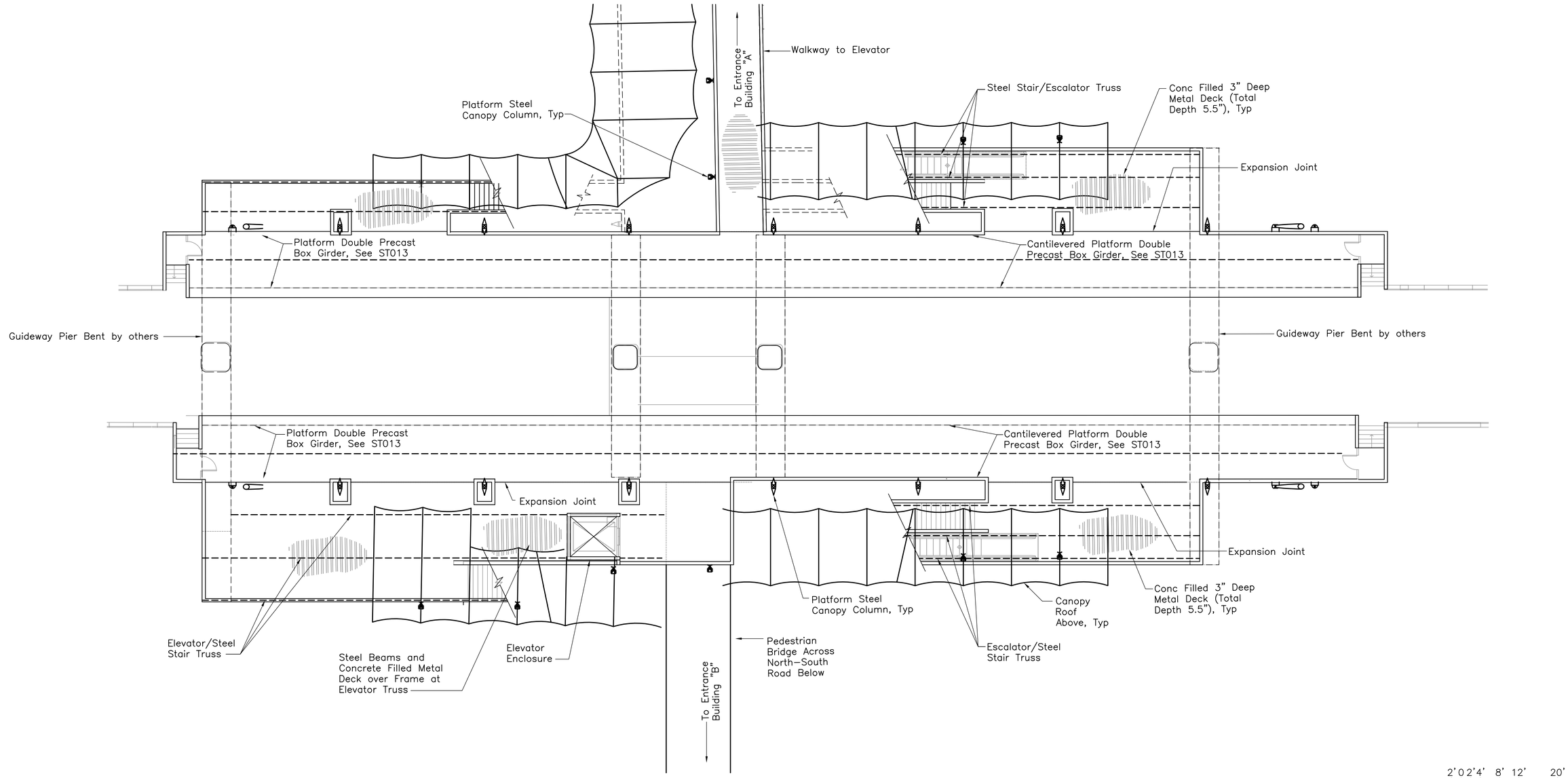

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UH WEST O'AHU STATION

STATION PLATFORM LEVEL FRAMING PLAN

Contract No.: SV-140
CADD File: SB2-G14-ST010
Drawing No: ST010 Rev.
Scale: 3/32"=1'-0"
Page No. 35 of 77

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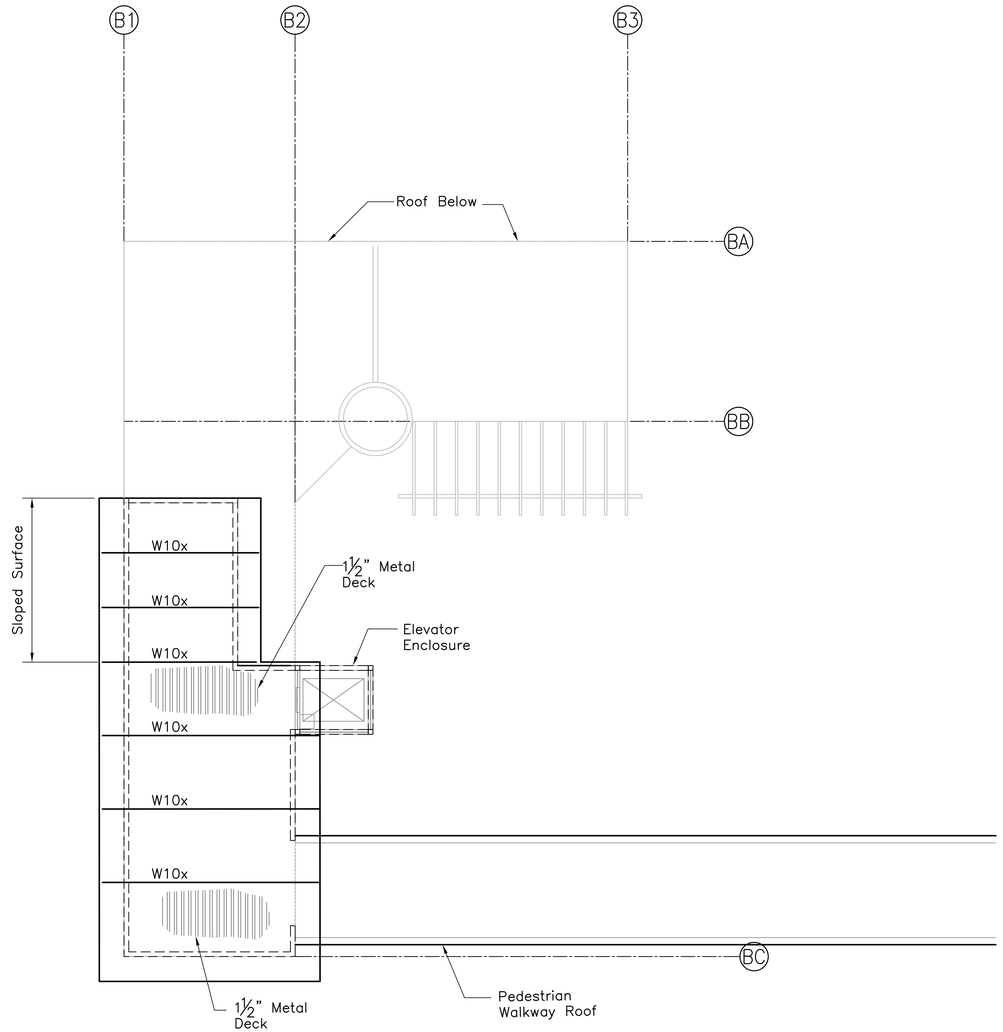

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UH WEST O'AHU STATION

ENTRANCE BUILDING "B" ROOF FRAMING PLAN

Contract No.: SV-140
CADD File: SB2-G14-ST011
Drawing No: ST011 Rev.
Scale: 3/32"=1'-0"
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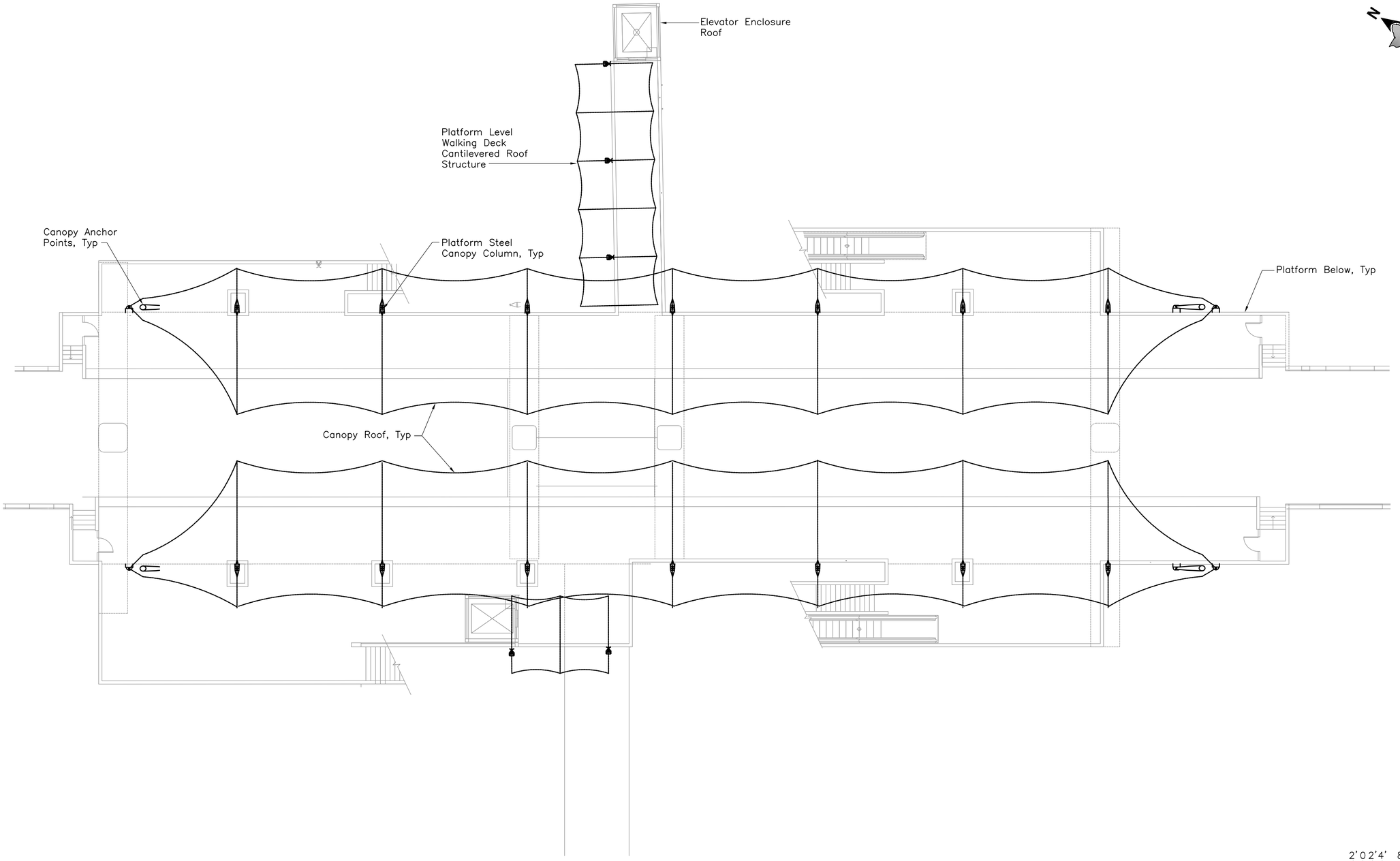

PRELIMINARY ENGINEERING SUBJECT TO REVISION

Rev	By	Date	Description

Designed: J Fujita
Drawn: J Tamanaha
Checked: K Hayashida
Approved: E Sugiyama
Date: 09-25-09

HONOLULU HIGH-CAPACITY TRANSIT CORRIDOR PROJECT
CITY & COUNTY OF HONOLULU - DEPARTMENT OF TRANSPORTATION SERVICES - RAPID TRANSIT DIVISION

Prime Consultant: PB PARSONS BRINCKERHOFF
1003 Bishop Street, Suite 2250 - Honolulu, HI 96813

Subconsultant: KAI HAWAII STRUCTURAL & FORENSIC ENGINEERS

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UH WEST O'AHU STATION

STATION AND ENTRANCE BUILDING "A" ROOF FRAMING PLAN

Contract No.: SV-140
CADD File: SB2-G14-ST012
Drawing No.: ST012 Rev.
Scale: 3/32"=1'-0"
Page No. 37 of 77

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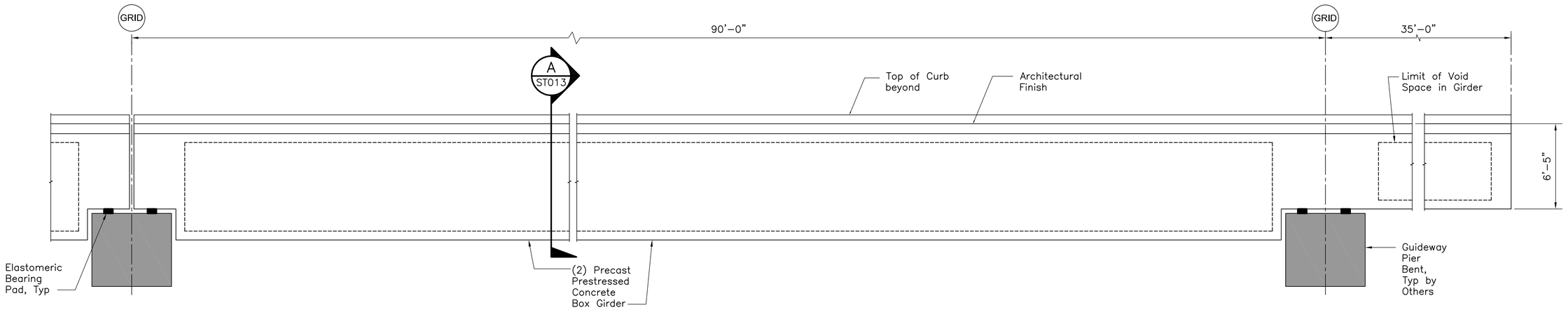
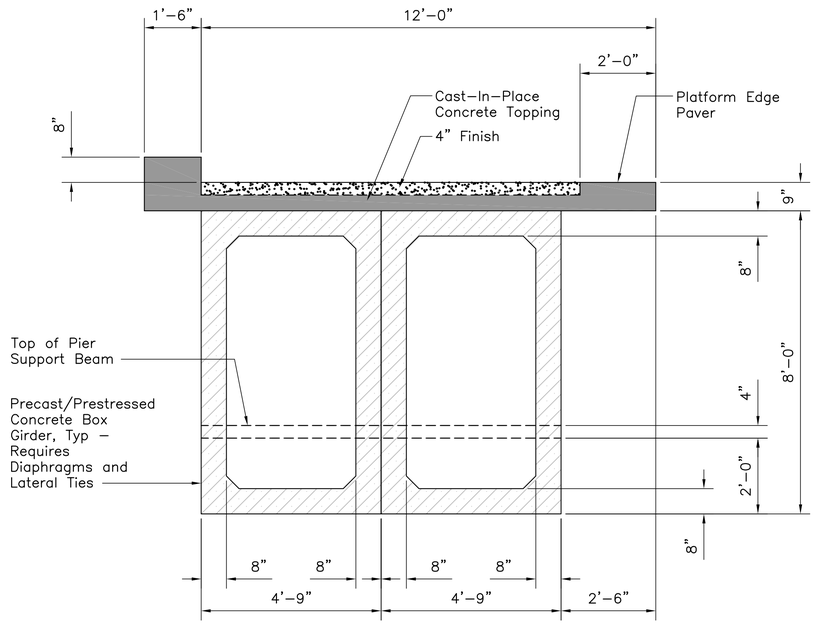


PLATFORM GIRDER ELEVATION

1/4" = 1'–0"

1 ST013



PRECAST DOUBLE–BOX GIRDER

1/2" = 1'–0"

A ST013

½" = 1'–0" (1' 0 2' 4')

¼" = 1'–0" (1' 0 2' 4' 8')

Rev	By	Date	Description

PRELIMINARY ENGINEERING SUBJECT TO REVISION

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Drawn: J Tamanaha
Checked: K Hayashida
Approved: E Sugiyama
Date: 09–25–09

HONOLULU HIGH-CAPACITY TRANSIT CORRIDOR PROJECT
CITY & COUNTY OF HONOLULU - DEPARTMENT OF TRANSPORTATION SERVICES - RAPID TRANSIT DIVISION

Prime Consultant: PB PARSONS BRINCKERHOFF
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UH WEST O'AHU STATION

PLATFORM PRECAST GIRDER

ELEVATION AND SECTION

Contract No.: SV–140
CADD File: SB2–G15–ST013
Drawing No.: ST013 Rev.
Scale: As Noted
Page No. 38 of 77

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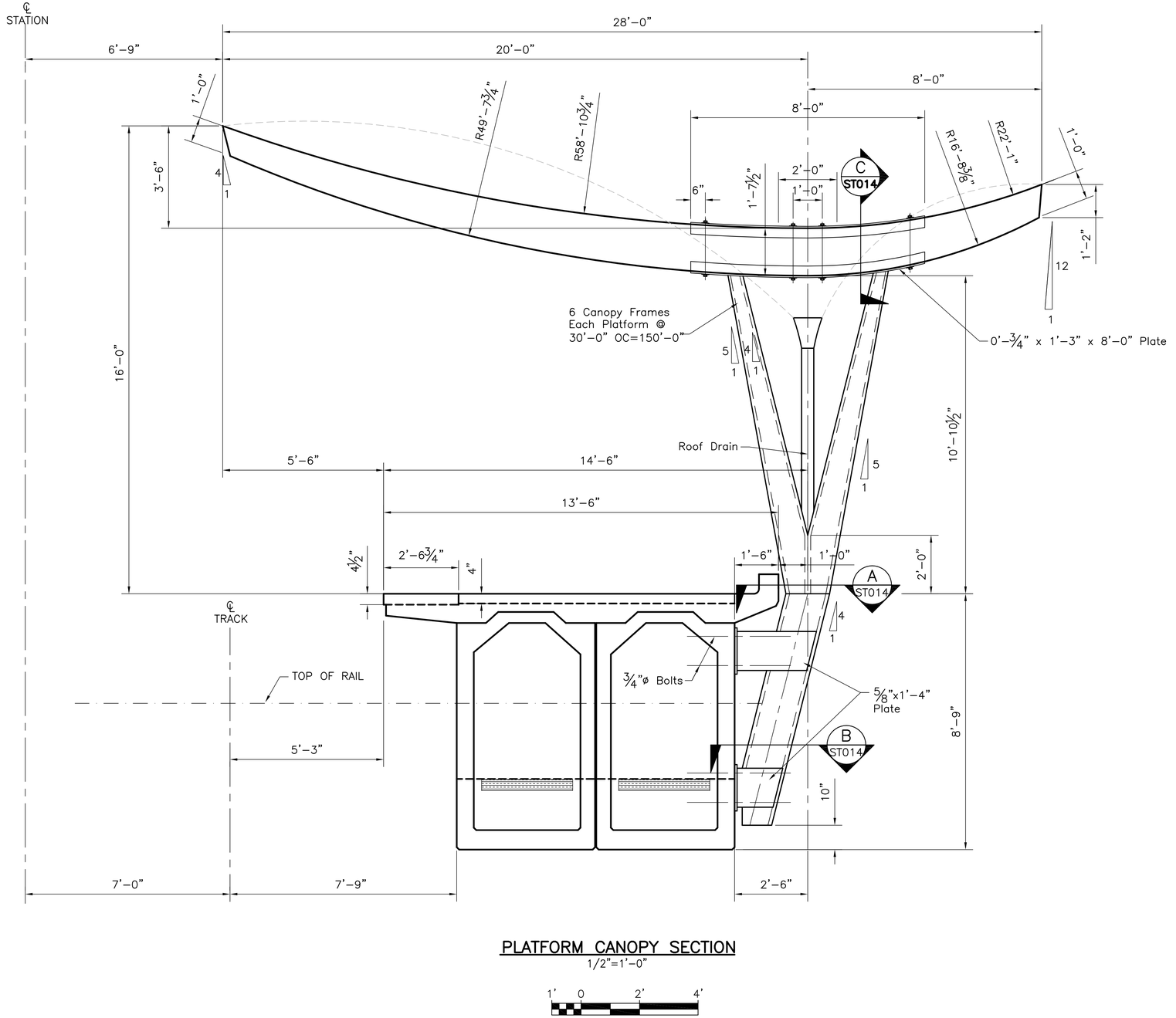
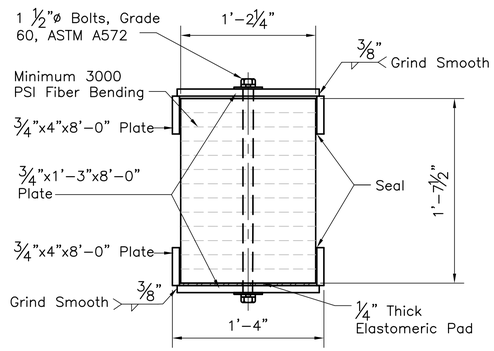


PLATFORM CANOPY SECTION

1/2"=1'–0"

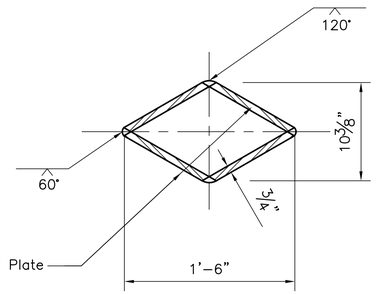
1' 0 2' 4'



SECTION C ST014

1 1/2"=1'–0"

DETAIL GLUELAM



SECTION A ST014

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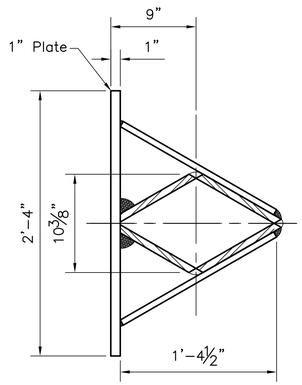

SECTION B ST014

1 1/2"=1'–0"

STRUCTURAL TUBE

6" 0 6" 12" 18"

Rev	By	Date	Description

PRELIMINARY ENGINEERING SUBJECT TO REVISION

Designed: J Fujita
Drawn: J Tamanaha
Checked: K Hayashida
Approved: E Sugiyama
Date: 09–25–09

HONOLULU HIGH-CAPACITY TRANSIT CORRIDOR PROJECT

CITY & COUNTY OF HONOLULU - DEPARTMENT OF TRANSPORTATION SERVICES - RAPID TRANSIT DIVISION

Prime Consultant: PB PARSONS BRINCKERHOFF

1003 Bishop Street, Suite 2250 – Honolulu, HI 96813

Subconsultant: KAI HAWAII STRUCTURAL & FORENSIC ENGINEERS

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UH WEST O'AHU STATION

STRUCTURAL PLATFORM CANOPY COLUMN

SECTION AND DETAILS

Contract No.: SV–140
CADD File: SB2–G15–ST014
Drawing No: ST014 Rev.
Scale: As Noted
Page No. 39 of 77

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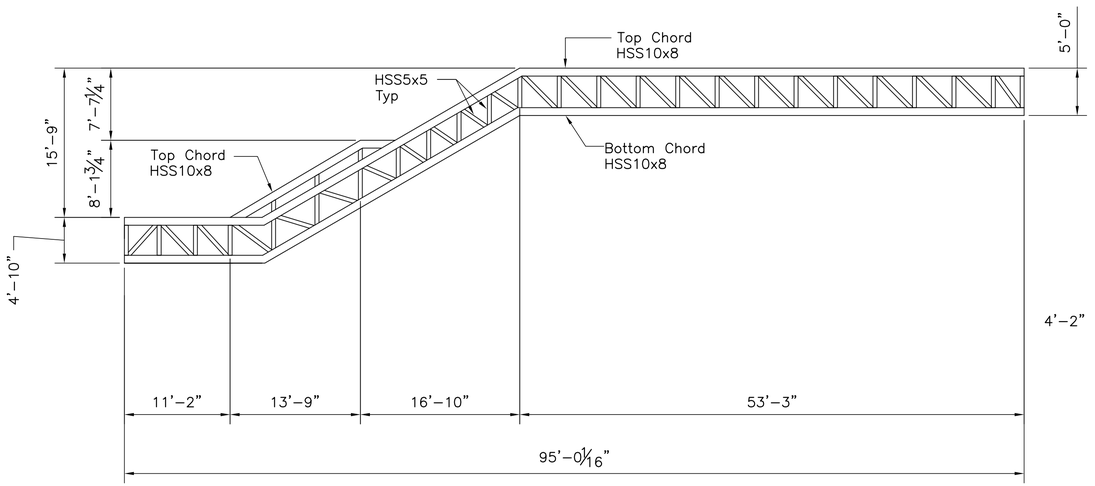
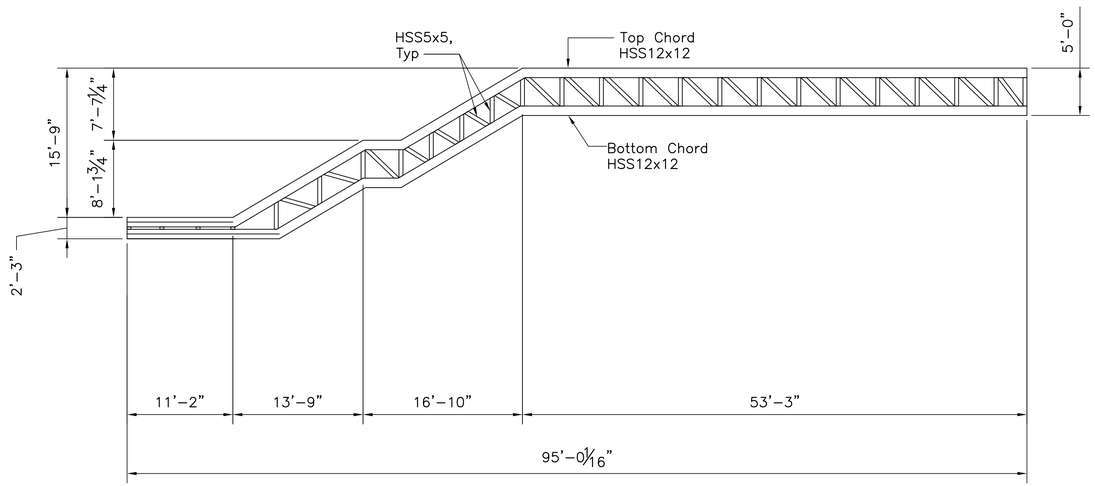


STAIR/ESCALATOR TRUSS ELEVATION



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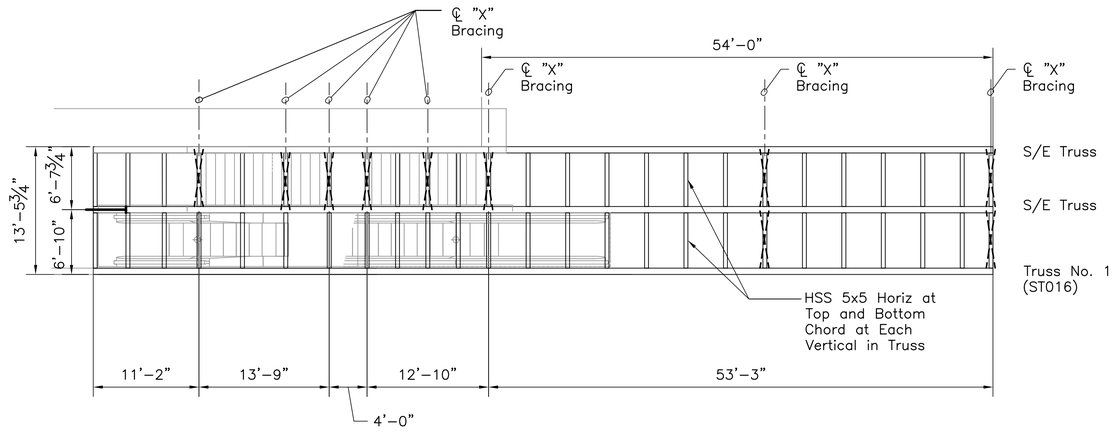
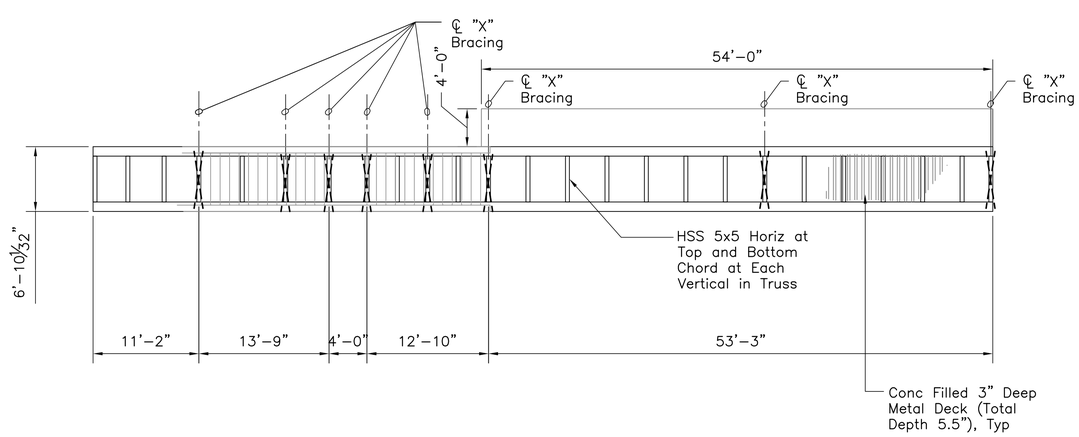


STAIR/ESCALATOR TRUSS PLAN



STAIR TRUSS PLAN

1' 0 2' 4' 8'

Rev	By	Date	Description

PRELIMINARY ENGINEERING SUBJECT TO REVISION

Designed: J Fujita
Drawn: J Tamanaha
Checked: K Hayashida
Approved: E Sugiyama
Date: 09–25–09

HONOLULU HIGH-CAPACITY TRANSIT CORRIDOR PROJECT

CITY & COUNTY OF HONOLULU - DEPARTMENT OF TRANSPORTATION SERVICES - RAPID TRANSIT DIVISION

Prime Consultant: PB PARSONS BRINCKERHOFF
1003 Bishop Street, Suite 2250 – Honolulu, HI 96813

Subconsultant: KAI HAWAII STRUCTURAL & FORENSIC ENGINEERS

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UH WEST O'AHU STATION

STATION STAIR / ESCALATOR TRUSSES PLANS AND ELEVATIONS

Contract No.: SV–140
CADD File: SB2–G15–ST015
Drawing No: ST015 Rev.
Scale: 1/8"=1'–0"
Page No. 40 of 77

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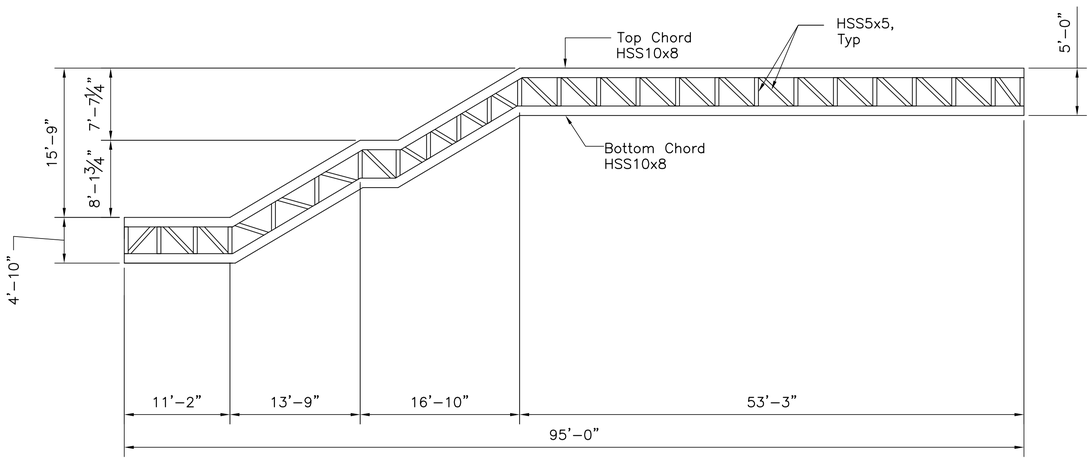
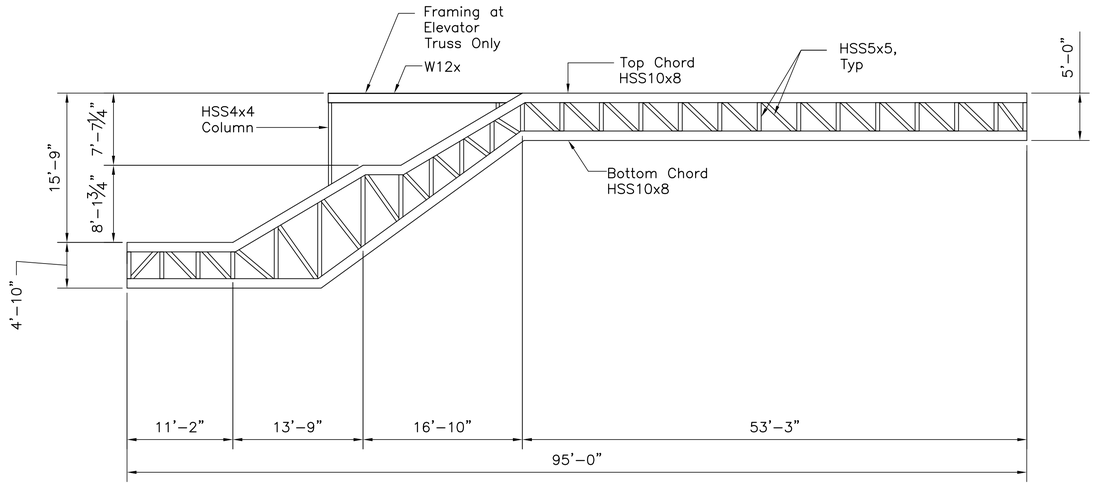
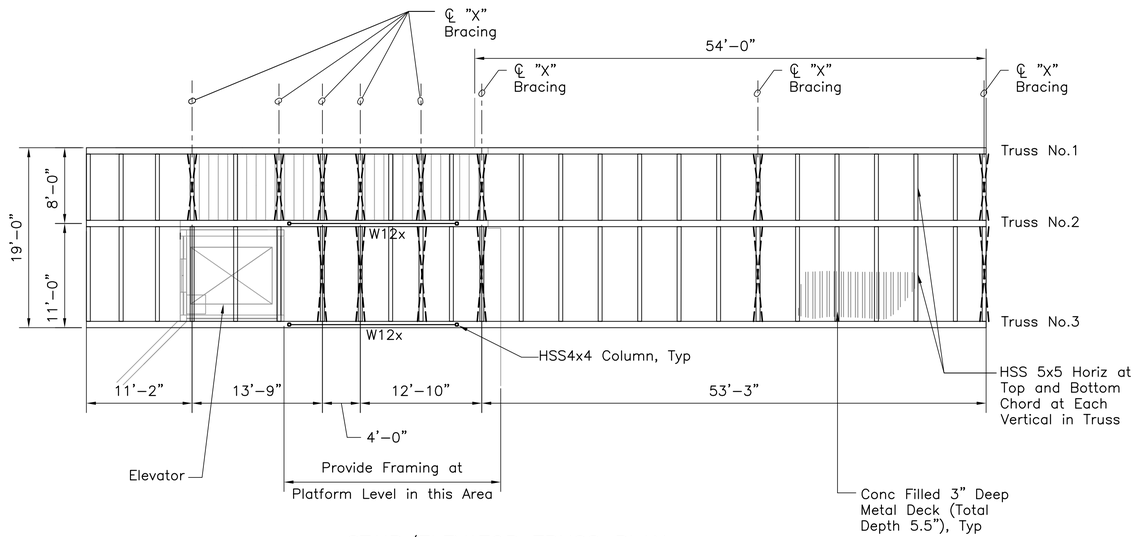


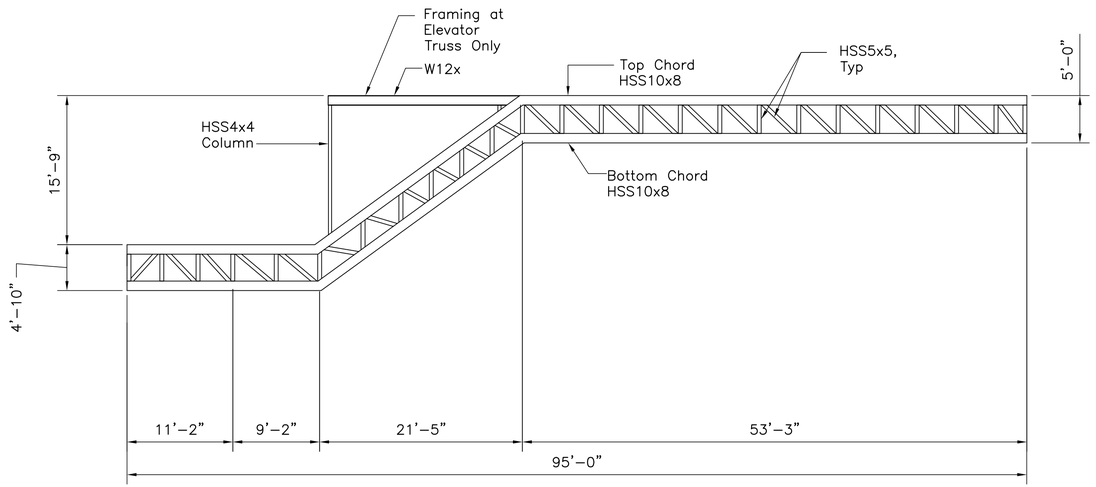
TRUSS No.1 ELEVATION



TRUSS No.2 ELEVATION



STAIR/ELEVATOR TRUSS PLAN



TRUSS No.3 ELEVATION

1' 0 2' 4' 8'

Rev	By	Date	Description

PRELIMINARY ENGINEERING SUBJECT TO REVISION

Designed: J Fujita
Drawn: J Tamanaha
Checked: K Hayashida
Approved: E Sugiyama
Date: 09–25–09

HONOLULU HIGH-CAPACITY TRANSIT CORRIDOR PROJECT
CITY & COUNTY OF HONOLULU - DEPARTMENT OF TRANSPORTATION SERVICES - RAPID TRANSIT DIVISION

Prime Consultant: PB PARSONS BRINCKERHOFF
1003 Bishop Street, Suite 2250 – Honolulu, HI 96813

Subconsultant: KAI HAWAII STRUCTURAL & FORENSIC ENGINEERS

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UH WEST O'AHU STATION

STATION STAIR / ELEVATOR TRUSS PLAN AND ELEVATIONS

Contract No.: SV–140
CADD File: SB2–G15–ST016
Drawing No: ST016 Rev.
Scale: 1/8"=1'–0"
Page No. 41 of 77

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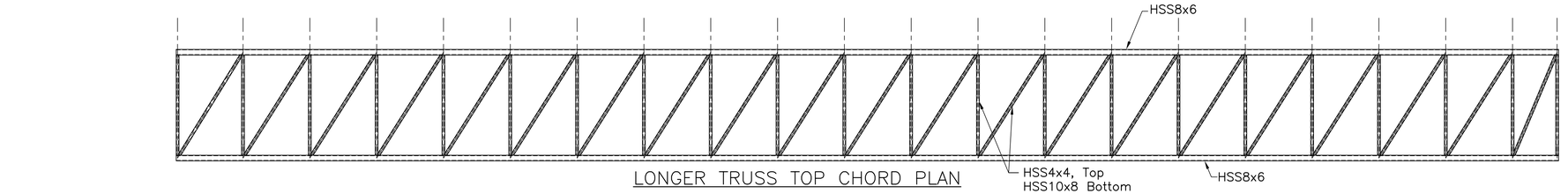
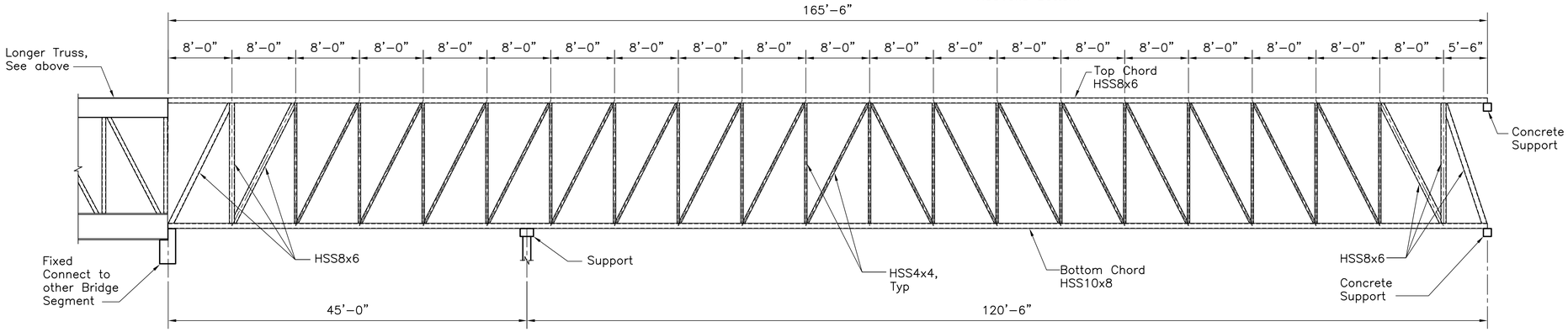


LONGER TRUSS TOP CHORD PLAN



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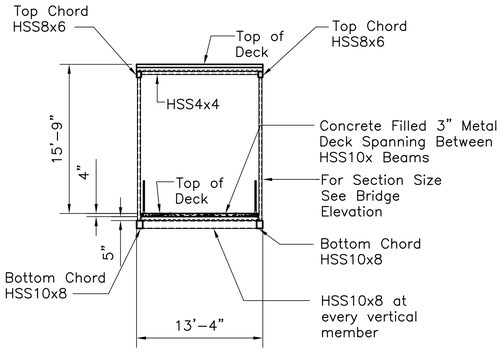
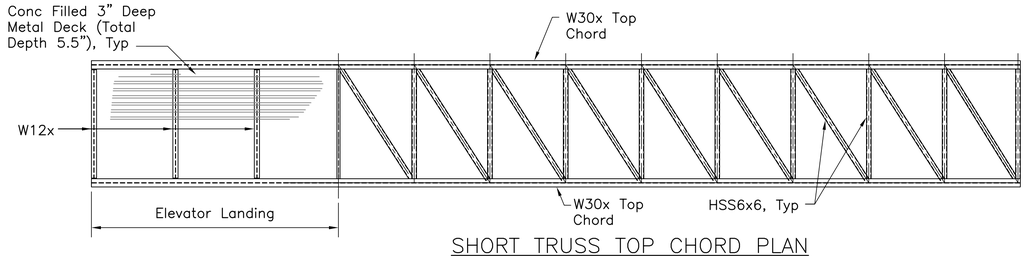
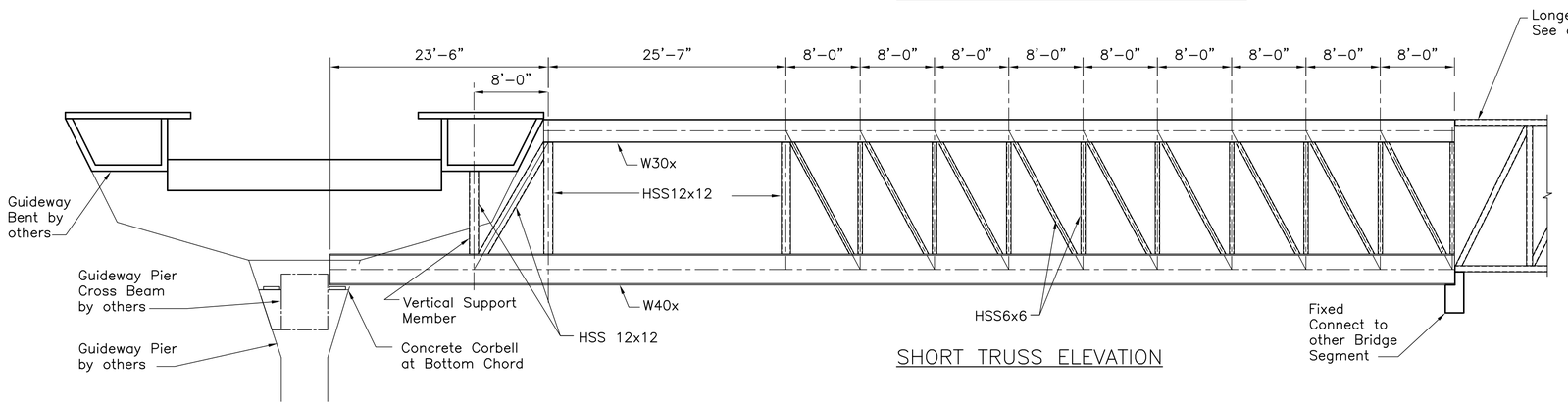


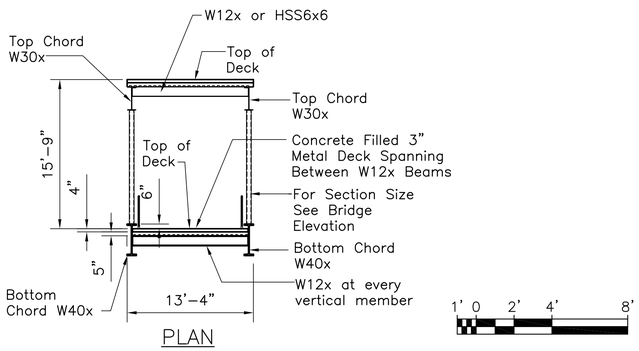
PLAN



SHORT TRUSS TOP CHORD PLAN



SHORT TRUSS ELEVATION



PLAN

Rev	By	Date	Description

PRELIMINARY ENGINEERING SUBJECT TO REVISION

Designed: J Fujita
Drawn: J Tamanaha
Checked: K Hayashida
Approved: E Sugiyama
Date: 09-25-09

HONOLULU HIGH-CAPACITY TRANSIT CORRIDOR PROJECT
CITY & COUNTY OF HONOLULU - DEPARTMENT OF TRANSPORTATION SERVICES - RAPID TRANSIT DIVISION

Prime Consultant: PB PARSONS BRINCKERHOFF
1003 Bishop Street, Suite 2250 – Honolulu, HI 96813

Subconsultant: KAI HAWAII STRUCTURAL & FORENSIC ENGINEERS

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UH WEST O'AHU STATION

PEDESTRIAN BRIDGES ELEVATION AND SECTION

Contract No.: SV-140
CADD File: SB2-G15-ST017
Drawing No.: ST017 Rev.
Scale: 1/8"=1'-0"
Page No. 42 of 77

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GENERAL ARCHITECTURAL NOTES

1. Station Designer to Coordinate limits of work and interface with the West OAHU / FARRINGTON Highway & Guideway Design–Build Contractor.
2. Refer to APPENDIX "A": INFORMATIVE Drawings, for work included in the:
   - WEST OAHU / FARRINGTON Highway & Guideway Design–Build Contract &
   - CORE SYSTEMS Design–Build–Operate–Maintenance Contract.
3. Refer to RTD Architectural Standard and Directive drawings for sizing, configuration and connections for all system wide components including: Escalators, Elevators, Fare Gates and TVM.
4. NOT IN CONTRACT Items (NIC) include: TVM, Fare gates, Escalators & Elevator Cars.
5. See RTD Directive drawings set for Canopy details and configuration.

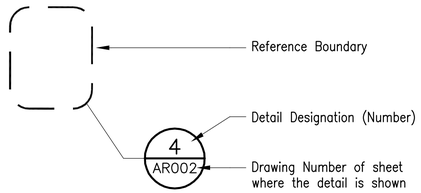
LEGEND:

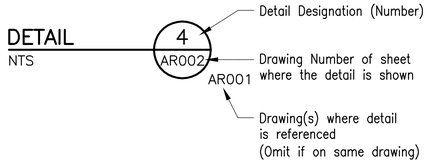
- Proposed Conditions by West O'ahu /Farrington Highway (WOFH) Contractor
- Existing Conditions prior to work by the WOFH Contractor
- Work Performed under this contract

ARCHITECTURAL SYMBOLS

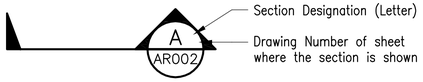
NORTH ARROW
(Location – upper right corner of drawing)

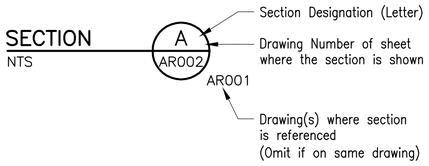
DETAILS



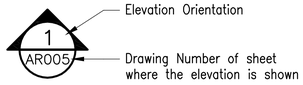


SECTIONS

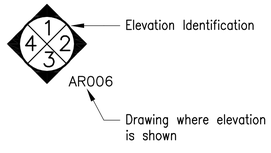




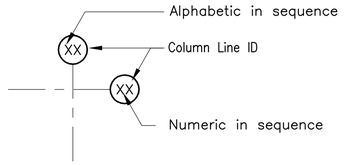
EXTERIOR ELEVATION(S)



INTERIOR ELEVATION(S)



COLUMN LINE GRID INDICATOR



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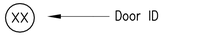

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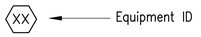
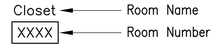


ROOM IDENTIFICATION



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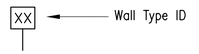
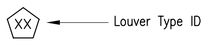
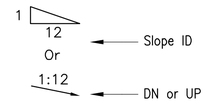


WINDOW IDENTIFIER

LOUVER IDENTIFIER



SLOPE IDENTIFIER



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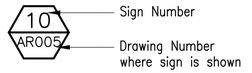
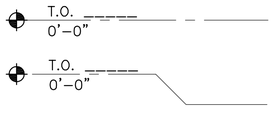


ELEVATION IDENTIFICATION



HATCH

- Brick
- Concrete Masonry Unit
- Concrete
- Composite Panel
- Earth
- Finished Stone
- Gravel
- Insulation (Batt)
- Insulation (Rigid)
- Metal
- Plywood
- Precast Concrete
- Sand, Grout, Mortar, Plaster
- Tile
- Glass (Elevation)

GENERAL SYMBOLS

&	And
@	At
#	Number
ø	Diameter
%	Percent
=	Equal to
>	Greater Than
<	Less Than
≥	Greater Than or Equal To
≤	Less Than or Equal To

Station Equation

Elevation Point

SPECIAL TERMS

Makai	Ocean
Mauka	Mountain

Rev	By	Date	Description

PRELIMINARY ENGINEERING SUBJECT TO REVISION

Designed: J Stone
Drawn: E Birnhaum
Checked: T Man
Approved: K Parmar
Date: 09–25–09

HONOLULU HIGH-CAPACITY TRANSIT CORRIDOR PROJECT
CITY & COUNTY OF HONOLULU - DEPARTMENT OF TRANSPORTATION SERVICES - RAPID TRANSIT DIVISION

Prime Consultant: PB PARSONS BRINCKERHOFF
1003 Bishop Street, Suite 2250 – Honolulu, HI 96813

Subconsultant: GROUP 70 INTERNATIONAL
Group 70 International, Inc.
925 Bethel Street, Fifth Floor
Honolulu, Hawaii 96813-4307

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UH WEST O'AHU STATION

GENERAL ARCHITECTURAL NOTES, SYMBOLS, AND ABREVIATIONS

SHEET 1 OF 3

Contract No.: SV–140
CADD File: SB2–H01–AG001
Drawing No: AG001 Rev.
Scale: NTS
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ARCHITECTURAL ABBREVIATIONS

AB	Anchor Bolt
Abnd	Abandoned
Abt	About
Abv	Above
Ac	Acre(s)
Acc	Access
Acous	Acoustical
AD	Area Drain
ADA	Americans with Disabilities Act
Addl	Additional
Adh	Adhesive
Adj	Adjacent, Adjust, Adjustable
A/E	Architect/Engineer
AFC	Automatic Fare Collection
AFF	Above Finished Floor
Aggr	Aggregate
Ahd	Ahead
Alum	Aluminum
Alt	Alternate, Alternative
Anch	Anchor
Anod	Anodized
AP	Access Panel
App	Approved
Approx	Approximate
Arch.	Architect, Architectural
ARV	Air Relief Valve
ASC	Above Suspended Ceiling
Asph	Asphalt
Assm	Assembly
ASTM	American Society for Testing & Materials
Auto	Automatic
Aux	Auxiliary
Ave	Avenue
Avg	Average
℄	Baseline
Bal	Balance
BC	Bottom of curb
Bd	Board
Beg	Begin, Beginning
Bet	Between
Bitum	Bituminous
Bldg	Building
Blk	Block, Black
Blkg	Blocking
Blvd	Boulevard
Blw	Below
Bk	Back
BM	Benchmark
Bm	Beam
Bol	Bollard
Bot	Bottom
BP	Back Plaster/Plastered
Br	Bridge
Brz	Bronze
BS	Bottom of Slope, Both Sides
Bsmt	Basement
Btw	Between
Bvl	Beveled
℄	Centerline
C	Cable, Celsius
Cab	Cabinet
Cal	Caliper
Cap	Capacity
CB	Catch Basin
CCTV	Closed-circuit television
Cem	Cement
Cer	Ceramic
CF	Cubic Feet
CG	Corner Guard
Cham	Chamfer
Chk	Check
CI	Cast Iron
CIP	Cast-in-Place
Circ	Circle, Circular
Circum	Circumference
CJ	Construction Joint, Control Joint
CL	Chain Link
Clg	Ceiling

Clkg	Caulking
Clo	Closet
Clr	Clear, Clearance
cm	Centimeter
CMU	Concrete Masonry Unit
Cnd	Conduit
Cntr	Counter
CO	Cleanout
Col	Column
Comm	Communication
Comp	Composite,Component,Comparable,Composition
Conc	Concrete
Cond	Condition, Conduit
Conf	Confirm, Confirmation, Conference
Conn	Connect, Connection, Connector
Const	Construction
Cont	Continuous, Continue
Contd	Continued
Corr	Correction, Corrugated, Corridor
Coord	Coordinate
Cpr	Copper
CR	Card Reader
CT	Ceramic Tile
Ctr	Center
Ctsk	Countersunk
Cu	Cubic
CY	Cubic Yard
Cyl	Cylinder
D	Depth
D.B.G.	Distance Between Guides
Dbl	Double
DD	Down Drain
Deg	Degree
Dept	Department
Desc	Description
Det	Detail
DF	Drinking Fountain
DI	Drain Inlet
Dia	Diameter
Diag	Diagonal, Diagram
Diaph	Diaphragm
Dim	Dimension
Dir	Direction
Disp	Dispenser
Div	Division
Dn	Down
DO	Door Opening
Dr	Door
DS	Downspout
DTA	Dovetail Anchor
DTS	Dovetail Anchor Slot
Dwg	Drawing
Dwy	Driveway
E	East, Electrical
ea	Each
EB	Expansion Joint, Eastbound
EE	Each End
EF	Each Face
EJ	Expansion Joint
El	Elevation
Elec	Electrical
Elev	Elevator
Emer	Emergency
EMP	Emergency Management Panel
Encl	Enclosure
Eq	Equal
Eqmt	Equipment
Esc	Escalator
etc	Et cetera
EW	Each Way
Exh	Exhaust
Exist	Existing
Exp	Expansion
Expo	Exposed
Ext	Exterior, External

F	Fahrenheit, Front
FA	Fire Alarm
FAB	Fire Alarm Box
FAC	Fire Alarm Conduit
FAI	Fresh Air Intake
FB	Flat Bar
FBO	Furnished by Others
FC	Flexible Connection
FCO	Floor Cleanout
FD	Floor Drain
Fdn	Foundation
FE	Fire Extinguisher
FEC	Fire Extinguisher Cabinet
FFE	Finish Floor Elevation
FFL	Finish Floor Line
FG	Finish Grade
FH	Fire Hydrant, Flat Head
FHC	Fire Hose Cabinet
FHV	Fire Hose Valve
Fig.	Figure
Fin	Finish
Fl	Floor
Flex	Flexible
Flg	Flashing
Fluor	Fluorescent
FOC	Face of Concrete
FOF	Face of Finish
FOM	Face of Masonry
FOS	Face of Studs
FP	Fire Protection
Fprf	Fireproof
FR	Fire-rated
FS	Full Size, Fire Service
ft	Foot, Feet
Ftg	Footing
Furr	Furring
Fut	Future
Fwy	Freeway
G	Gas
Ga	Gauge
gal	Gallon
Galv	Galvanized
Gar	Garage
GB	Gypsum Board
Gen	General
GFRC	Glass Fiber Reinforce Concrete
Gl	Glass
GM	Gas Meter
Gnd	Ground
Grl	Grille
Grn	Granite
GSM	Galvanized Sheet metal
Gyp	Gypsum
H	High, Horizontal
HB	Hose Bibb
HD	Heavy-duty
Hdcp	Handicap-ADA Compliant
HDOT	Hawaii Department of Transportation
HDPE	High-Density Polyethylene (membrane)
Hdr	Header
Hdw	Hardware
Hex	Hexagonal
HFD	Honolulu Fire Department
HH	Handhole
HM	Hollow Metal
Horiz	Horizontal
HP	High Point, High Pressure
HPD	Honolulu Police Department
HR	Handrail
Hr	Hour
Ht	Height
HVAC	Heating, Ventilation & Air Conditioning
HWP	High Working Point
Hwy	Highway
Hydr	Hydraulic

I	Iron
ID	Inside Diameter, Identification
IE	Invert Elevation
IF	Inside Face
in.	Inch
Incl	Included, Including, Inclusive
Inf	Information
Inst	Install, Instrument
Insul	Insulation
Int	Interior, Internal
Inv	Invert
Jan	Janitor
JB	Junction Box
JC	Janitor's Closet
Jct	Junction
JF	Joint Filler
Jt(s)	Joint(s)
kg	Kilogram
KP	Knockout Panel
KO	Knock Out
L	Length
LA	Landscape Architect
Lam	Laminate
Lat	Latitude, Lateral
Lav	Lavatory
LB	Pound (unit of measurement)
LC	Landscape Contractor
LF	Linear Foot
Lg	Long
LH	Left Hand
Lin	Linear
Lkr	Locker
Ln	Lane
Loc	Location
Long	Longitude, Longitudinal
LP	Low Point, Light Pole
Lt	Light, Left
Ltg	Lighting
Lvl	Level
LW	Lightweight
LWP	Low Working Point
L/T	Left Track
m	Meter (unit of measure)
Max	Maximum
MB	Mailbox
Mech	Mechanical
Med	Medium
Mem	Membrane
Met	Metal
Mezz	Mezzanine
Mfr	Manufacturer
MH	Manhole
Min	Minimum
Mir	Mirror
Misc	Miscellaneous
mm	Millimeter
MO	Masonry Opening
Mod	Modified
Mtd	Mounted
Mtg	Meeting, Mounting
Matl	Material
Mul	Mullion

N	North
N/A	Not Applicable
NB	Northbound
NE	Northeast
NIC	Not in Contract
No. (Nos.)	Number (Numbers)
Nom	Nominal
NR	Non-rated
NS	Near Side
NTS	Not to Scale
NW	Northwest
OA	Overall
Obs	Obscure
OC	On Center
OCS	Overhead Contact System
OD	Outside Diameter
OF	Outside Face
OH	Overhead
Op	Opaque
Opng	Opening
Opp	Opposite
OSA	Outside Supply Air
oz	Ounce
O to O	Out to Out
PNL	Panel
PA	Public Address, Police Alarm
Par	Parallel
Part	Partial
PB	Pullbox
PBX	Private Branch Exchange
PC	Precast Concrete
Ped	Pedestrian, Pedestal
Perf	Perforated
Perm	Permanent
PG	Profile Grade
Pg	Page
PGL	Profile Grade Line
Ph	Phase
PL	Property Line
Pl	Plate
Plas	Plaster
Platf	Platform
P Lam	Plastic Laminate
PLD	Plastic Duct
PLT	Plastic Tile
Plum	Plumbing
Plywd	Plywood
Pol	Police
Pr	Pair
Proj	Project, Projection
Prop	Property
PS	Point of Switch
PSF	Pounds Per Square Feet
PSI	Pounds Per Square Inch
Pt(s)	Point(s)
PTD/R	Paper Towel Dispenser & Receptacle
PVC	Polyvinyl Chloride
Pvmt	Pavement
Pwr	Power
QT	Quarry Tile
qt	Quart
Qty	Quantity
Quad	Quadrant

Rev	By	Date	Description

PRELIMINARY ENGINEERING SUBJECT TO REVISION

Designed: K Parmar
Drawn: E Birnbaum
Checked: T Man
Approved: K Parmar
Date: 09-25-09

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CITY & COUNTY OF HONOLULU - DEPARTMENT OF TRANSPORTATION SERVICES - RAPID TRANSIT DIVISION

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ARCHITECTURAL DIRECTIVE

GENERAL, ARCHITECTURAL NOTES, SYMBOLS, AND ABBREVIATIONS

SHEET 2 OF 3

Contract No.: SV-140
CADD File: SB2-H01-AG002
Drawing No: AG002 Rev.
Scale: NTS
Page No. 44 of 77

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ARCHITECTURAL ABBREVIATIONS (CONTINUED)

R	Radius
RB	Resilient Base
RC	Reinforced Concrete
RCP	Reinforced Concrete Pipe
RD	Roof Drain
Rdwy	Roadway
Rect	Rectangle
Ref	Reference
Refl	Reflect, Reflected, Reflective, Reflector
Reinf	Reinforce, Reinforcing, Reinforcement
Repl	Replace
Reqd	Required
Resil	Resilient
Ret	Return, Retain, Retaining
Rev	Revised, Revision
Rfg	Roofing
RH	Right Hand
Rm	Room
RO	Rough Opening
ROW	Right–of–Way
Rt	Right
RT	Resilient Tile
R/T	Right Track
RW	Retaining Wall
S	South
San	Sanitary
SB	Southbound
SC	Solid Core
SCD	Seat Cover Dispenser
Sch	Schedule
SD	Soap Dispenser
SE	Southeast
Sect	Section
SF	Square Foot, Square Feet
SFP	Site Finish Plan
Sgl	Single
Sht	Sheet
Sim	Similar
SIP	Support in Place
SL	Street Light
SLC	Street Light Conduit
SLPB	Street Light Pull Box
SND	Sanitary Napkin Dispenser
SNR	Sanitary Napkin Receptacle
Spa.	Spaces, Spacing
Spec	Specification
Spkr	Speaker
Spr	Sprinkler
Sq	Square
SS	Service Sink, Stainless Steel
St	Street
Sta	Station, Stationing
Std	Standard
Stl	Steel
Stor	Storage
Str	Structure
Strl	Structural
Supv	Supervisor, Supervise
Susp	Suspended
SW	Southwest
SY	Square Yard
Sym	Symmetrical
Sys	System
T	Top
T.O.	Top of
T&B	Top and Bottom
Tan.	Tangent
TBD	To Be Determined
TC	Top of Curb
TCCR	Train Control & Communications Room
TD	Trench Drain
TDD	Telecommunications Device for the Deaf
Tel	Telephone
Tele	Telescoping
Temp	Temporary, Temperature
TG	Top of Grate
T&G	Tongue and Groove
Thk	Thick, Thickness
TL	Traffic Light
TOC	Top of Concrete
TOR	Top of Rail
TOS	Top of Steel
Tot.	Total
TOW	Top of Wall
TP	Top of Pavement
TPD	Toilet Paper Dispenser
TPSS	Traction Power Substation
Tr	Tread
TV	Television, Ticket Validator
TVM	Ticket Vending Machine
Typ	Typical
T/C	Top of Curb
T/R	Top of Rail
T/P	Top of Platform
UB	Utility Box
UC	Undercut
UD	Underdrain
Unf	Unfinished
Unk	Unknown
UNO	Unless Noted Otherwise
UPE	Under Platform Exhaust
UR	Urinal
UST	Underground Storage Tank
Util	Utility
UWP	Upper Working Point
V	Vertical
Vac	Vacuum
Var	Variable, Varies
VCT	Vinyl Composition Tile
Vent.	Ventilate, Ventilation
Vert	Vertical
Vest	Vestibule
Vlv	Valve
VMS	Variable Message Sign
VoIP	Voice over Internet Protocol
Vt	Vent
W	West, Wide, Width
w/	With
w/o	Without
WB	Westbound
WC	Water Closet
WCR	Wheel Chair Ramp
Wd	Wood
Whse	Warehouse
WI	Wrought Iron
Wk	Work
WL	Water Line
WM	Water Meter, Water Main
WP	Work Point
Wpf	Waterproof, Waterproofing
WSP	Wet Stand Pipe
Wt	Weight
Wtr	Water
WTW	Wall to Wall
WV	Water Valve
WWF	Welded Wire Fabric
WWM	Welded Wire Mesh

Rev	By	Date	Description

PRELIMINARY ENGINEERING SUBJECT TO REVISION

Designed: K Parmar
Drawn: E Birnbaum
Checked: T Man
Approved: K Parmar
Date: 09–25–09

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CITY & COUNTY OF HONOLULU - DEPARTMENT OF TRANSPORTATION SERVICES - RAPID TRANSIT DIVISION

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UH WEST O'AHU STATION

GENERAL, ARCHITECTURAL NOTES, SYMBOLS, AND ABBREVIATIONS

SHEET 3 OF 3

Contract No.: SV–140
CADD File: SB2–H01–AG003
Drawing No: AG003 Rev.
Scale: NTS
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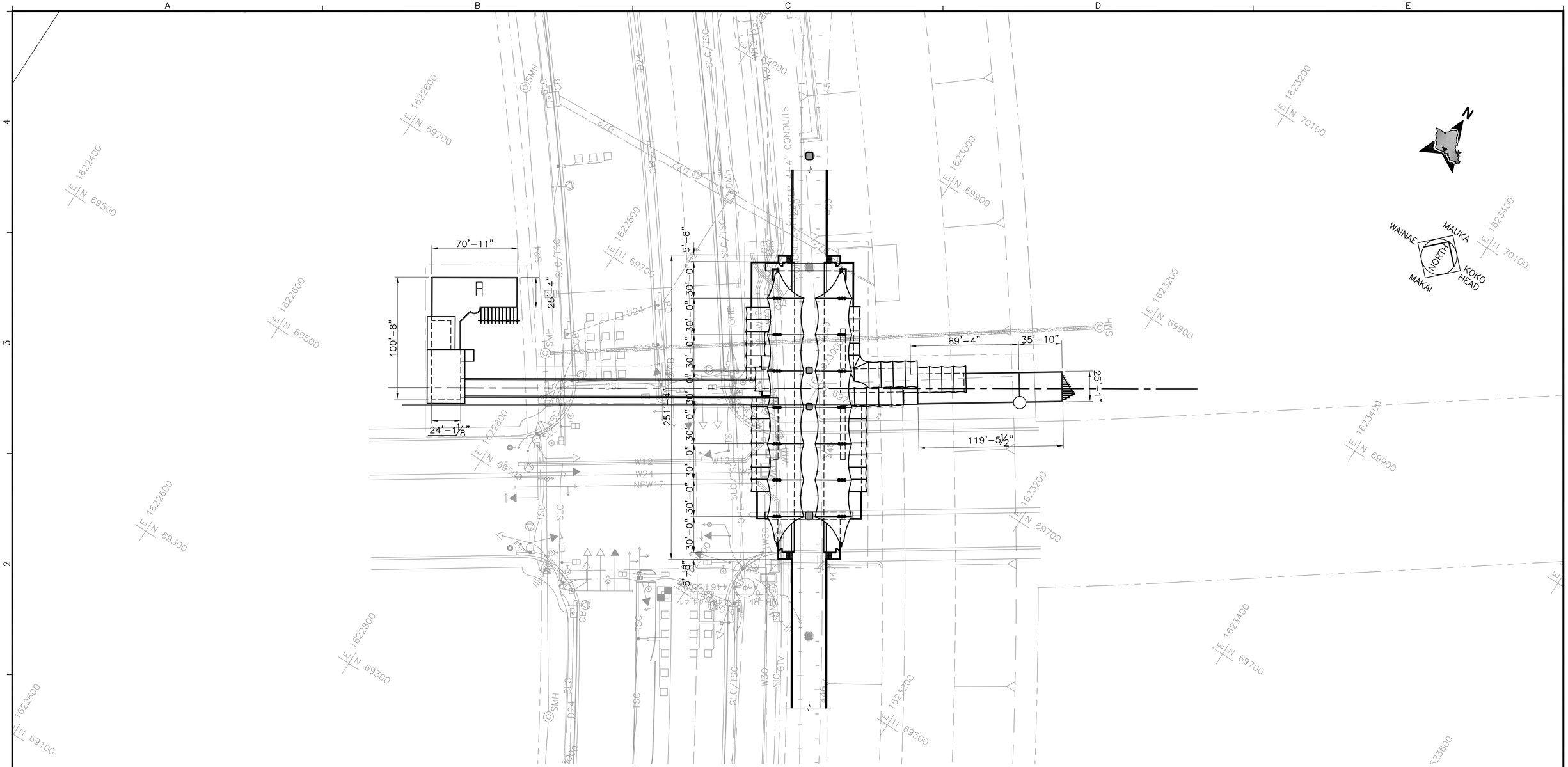

Rev	By	Date	Description

PRELIMINARY ENGINEERING SUBJECT TO REVISION

Designed: J Stone
Drawn: H Xue
Checked: EZ Honda
Approved: K Parmar
Date: 09–25–09

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UH WEST O'AHU STATION

ARCHITECTURAL SITE PLAN

Contract No.: SV–140
CADD File: SB2–H02–AR001
Drawing No: AR001 Rev.
Scale: 1" = 40'
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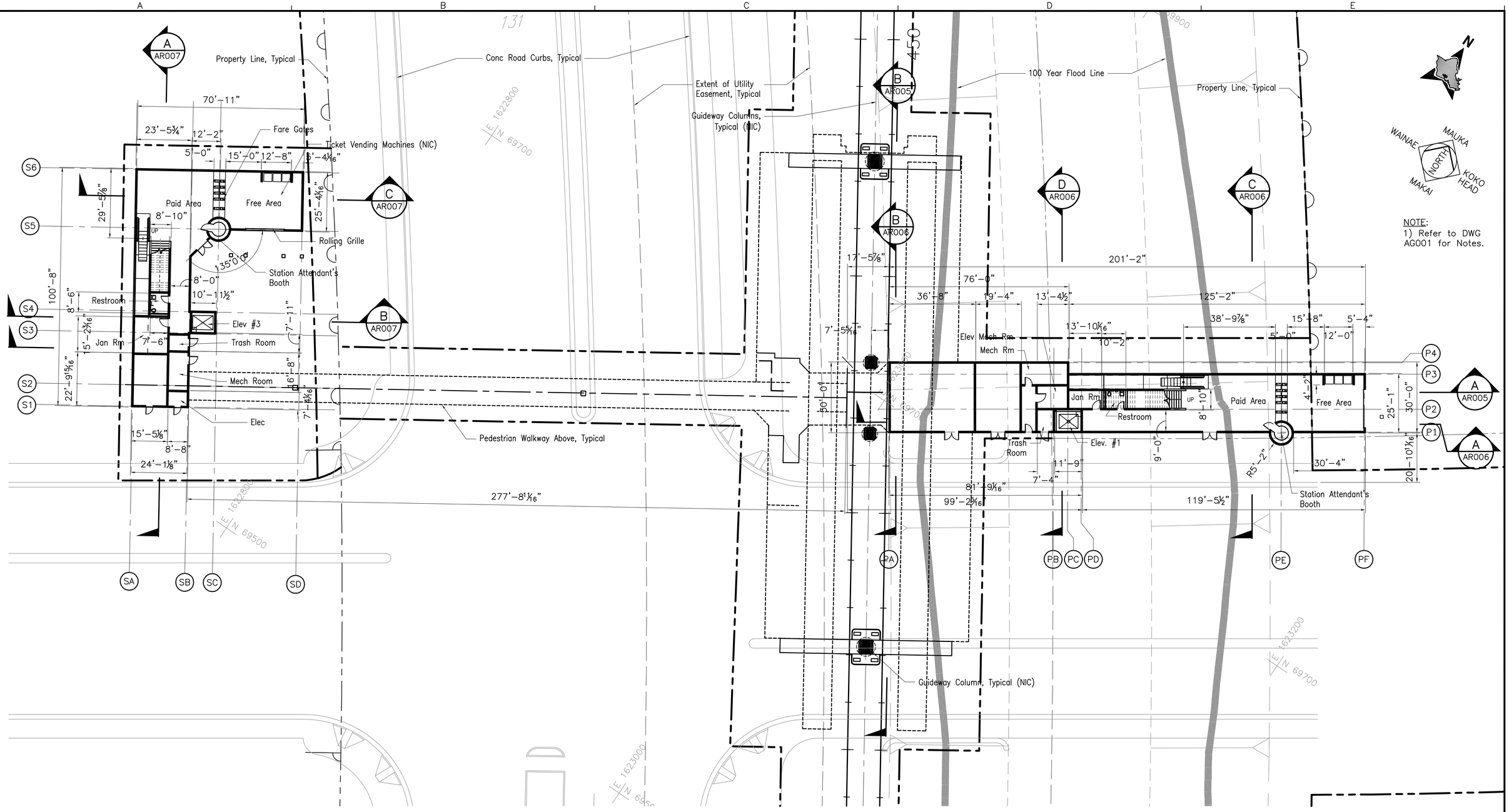

NOTE:
1) Refer to DWG AG001 for Notes.

ENTRANCE BUILDING B GROUND FLOOR PLAN
1"=20'

ENTRANCE BUILDING A GROUND FLOOR PLAN
1"=20'

20' 0 20'

Rev	By	Date	Description

PRELIMINARY ENGINEERING SUBJECT TO REVISION

Designed: J Stone
Drawn: H Xue
Checked: EZ Honda
Approved: K Parmar
Date: 09-25-09

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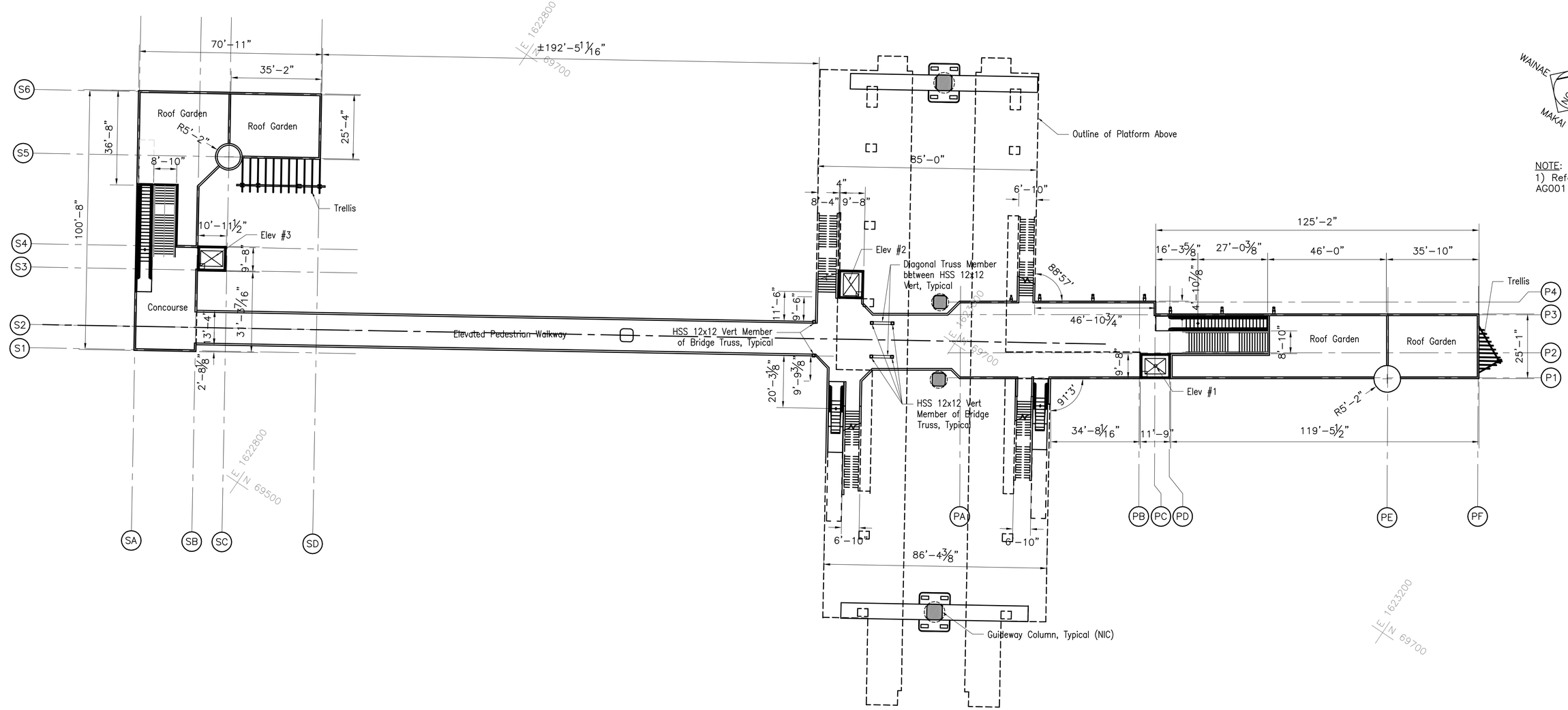
UH WEST O'AHU STATION

ARCHITECTURAL GROUND LEVEL FOOR PLAN

Contract No.: SV-140
CADD File: SB2-H03-AR002
Drawing No: AR002 Rev.
Scale: 1" = 20'



NOTE:
1) Refer to DWG AG001 for Notes.

ENTRANCE BUILDING B CONCOURSE LEVEL FLOOR PLAN
1"=20'

ENTRANCE BUILDING A CONCOURSE LEVEL FLOOR PLAN
1"=20'

20' 0 20'

Rev	By	Date	Description

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UH WEST O'AHU STATION

ARCHITECTURAL CONCOURSE LEVEL FLOOR PLAN

Contract No.: SV-140
CADD File: SB2-H03-AR003
Drawing No: AR003 Rev.
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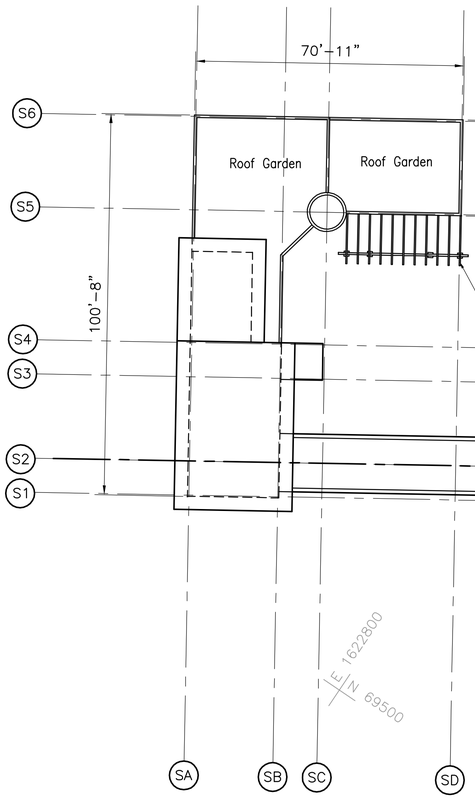
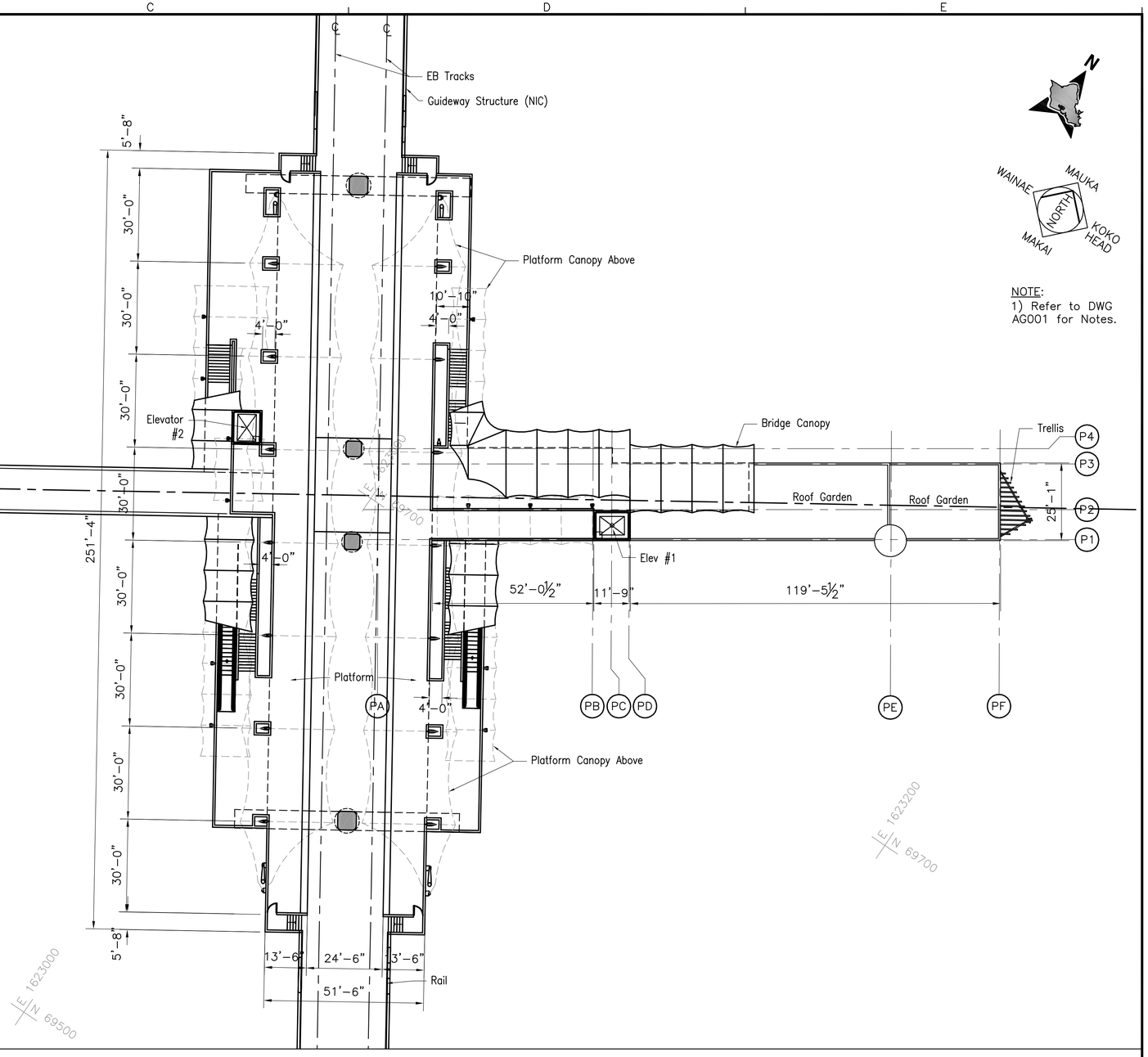


ENTRANCE BUILDING B ROOF PLAN
1"=20'



ENTRANCE BUILDING A PLATFORM LEVEL FLOOR PLAN
1"=20'

NOTE:
1) Refer to DWG AG001 for Notes.

20' 0 20'

Rev	By	Date	Description

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UH WEST O'AHU STATION

ARCHITECTURAL
PLATFORM LEVEL FOOR PLAN

Contract No.: SV-140
CADD File: SB2-H03-AR004
Drawing No: AR004 Rev.
Scale: 1" = 20'
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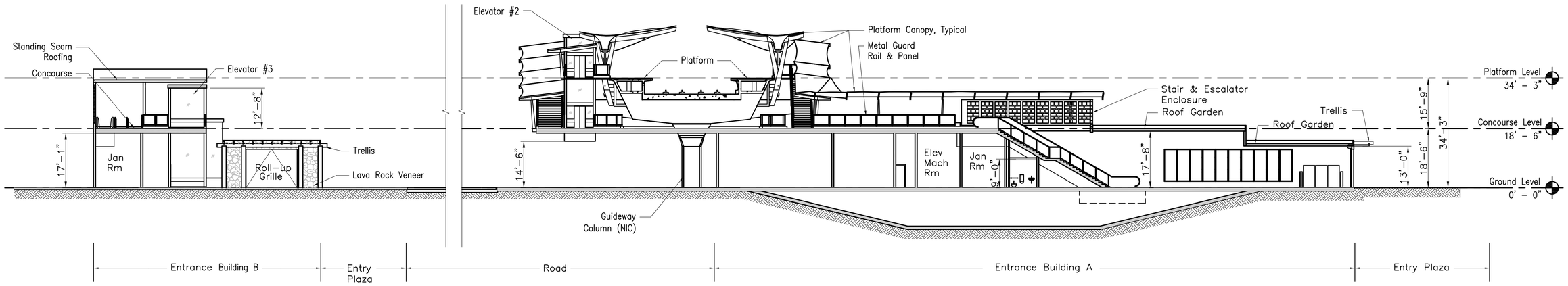
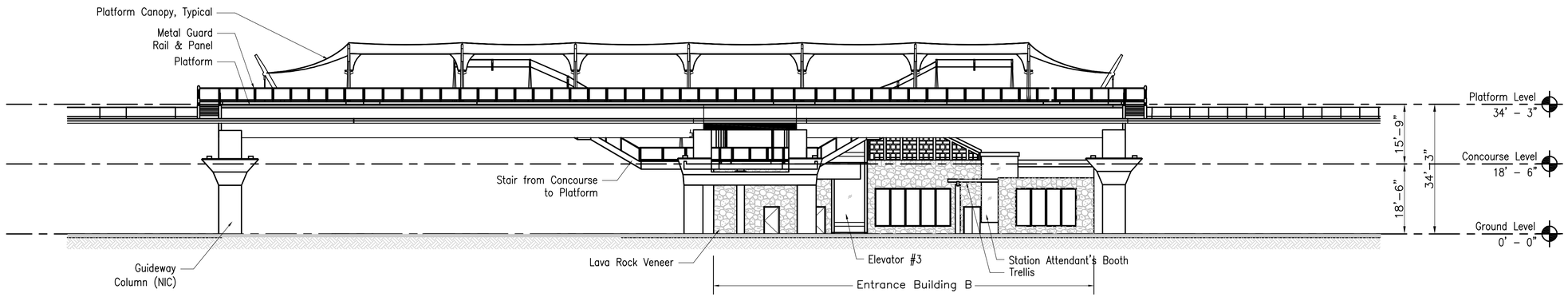


OVERALL STATION LONGITUDINAL SECTION 1

1/16"=1'-0"

A / AR005



LONGITUDINAL SECTION 2

1/16"=1'-0"

B / AR005

16' 0 16'

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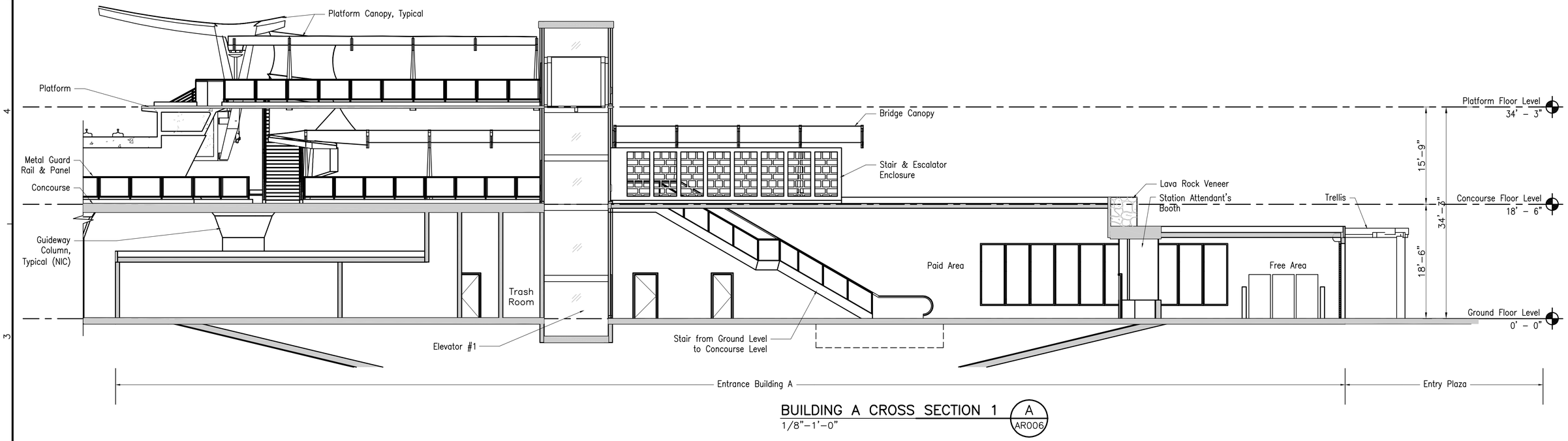
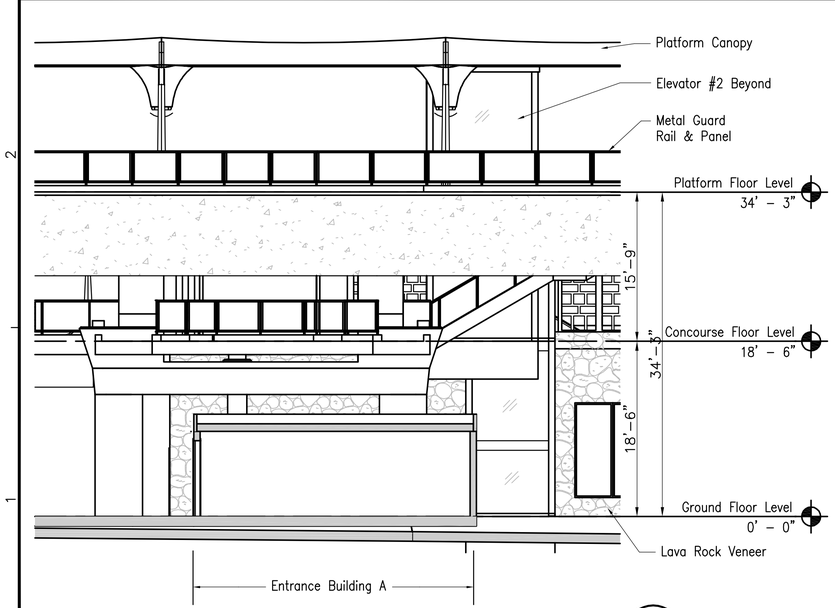
UH WEST O'AHU STATION

LONGITUDINAL SECTIONS

Contract No.: SV-140
CADD File: SB2-H05-AR005
Drawing No: AR005 Rev.
Scale: 1/16" = 1'-0"
Page No. 50 of 77



BUILDING A CROSS SECTION 1 (A) AR006
1/8"–1'–0"



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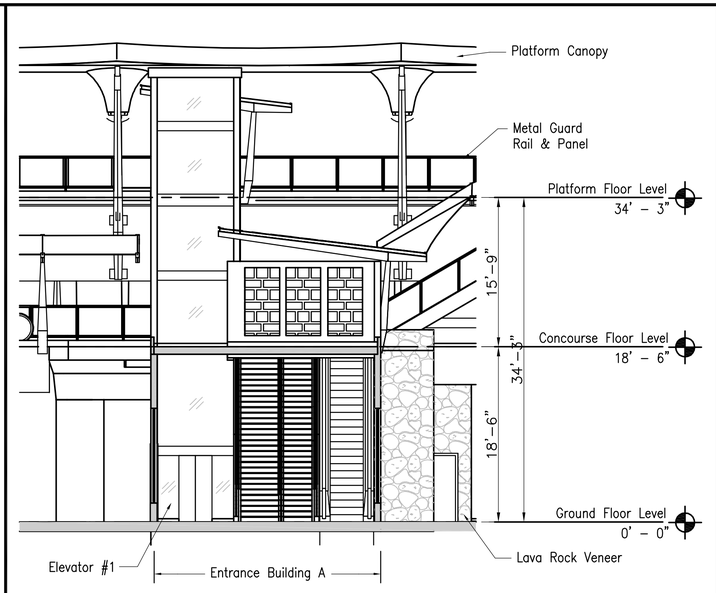
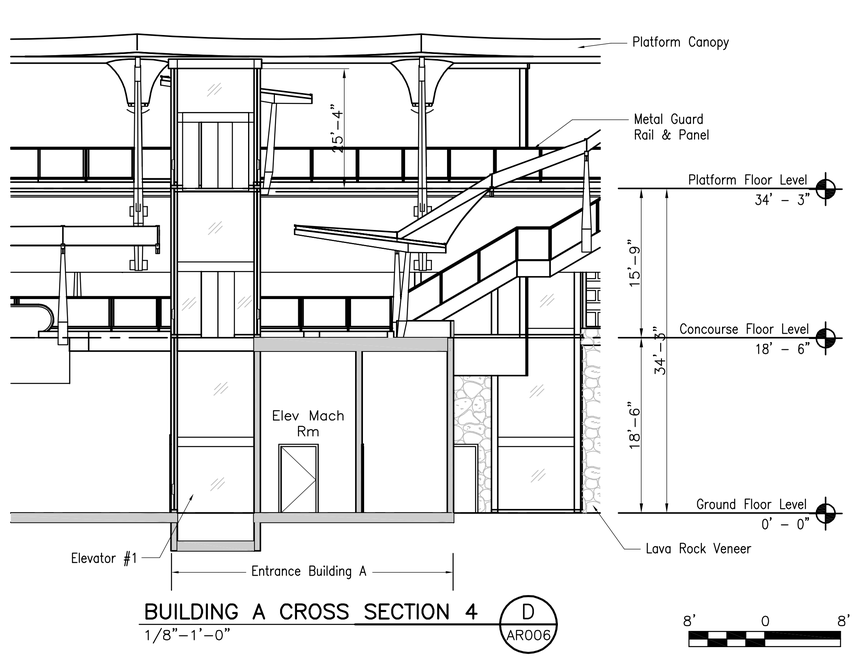
1/8"–1'–0"



BUILDING A CROSS SECTION 3 (C) AR006
1/8"–1'–0"



BUILDING A CROSS SECTION 4 (D) AR006
1/8"–1'–0"

8' 0 8'

Rev	By	Date	Description

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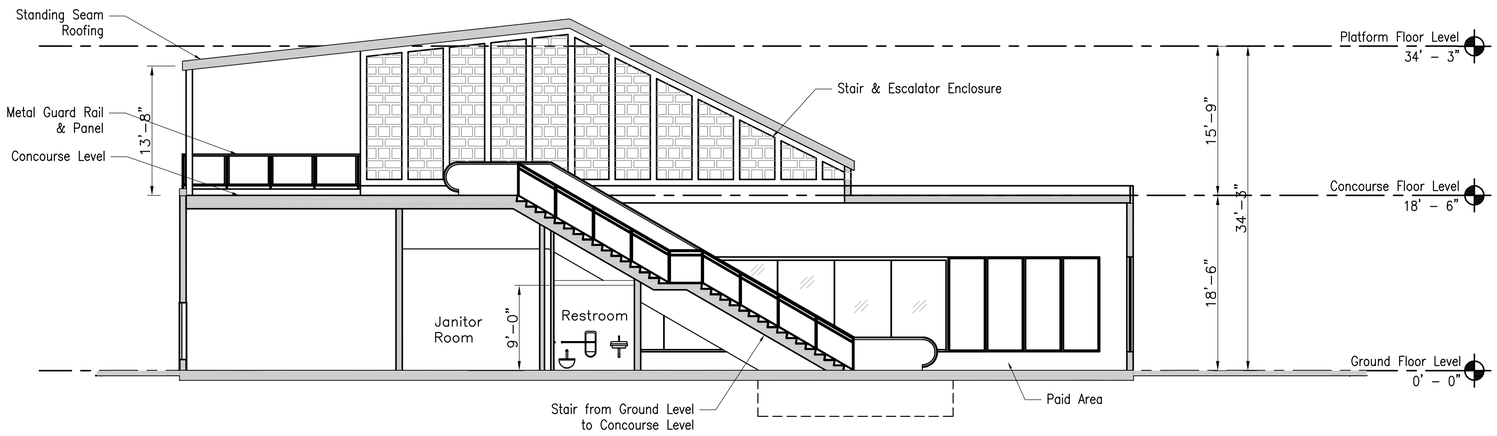
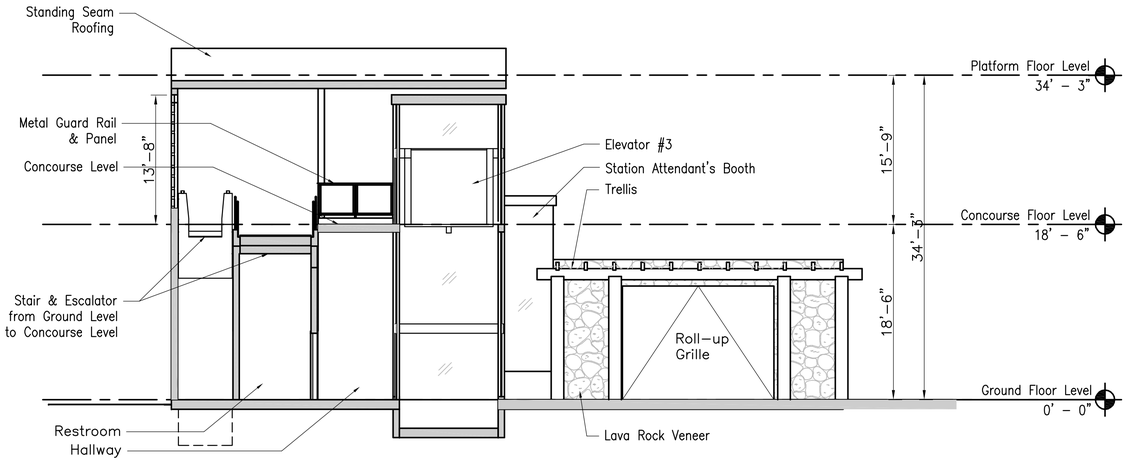
UH WEST O'AHU STATION

CROSS SECTIONS
SHEET 1 OF 2

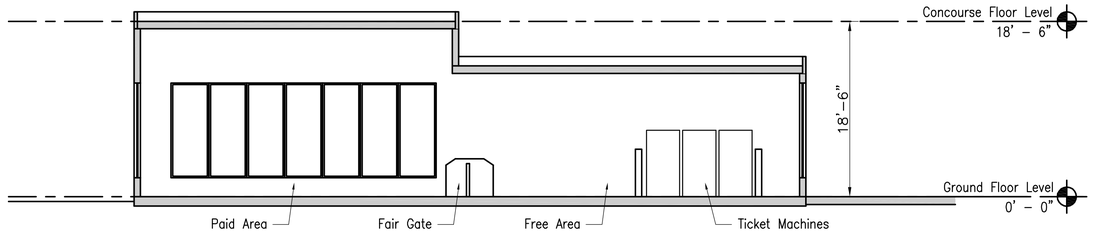
Contract No.: SV–140
CADD File: SB2–H05–AR006
Drawing No: AR006 Rev.
Scale: 1/8" = 1'–0"
Page No. 51 of 77



ENTRANCE BUILDING B CROSS SECTION 1 (A / AR007)
1/8"-1'-0"



ENTRANCE BUILDING B CROSS SECTION 2 (B / AR007)
1/8"-1'-0"



ENTRANCE BUILDING B CROSS SECTION 3 (C / AR007)
1/8"-1'-0"

8' 0 8'

Rev	By	Date	Description

PRELIMINARY ENGINEERING SUBJECT TO REVISION

Designed: J Stone
Drawn: H Xue
Checked: EZ Honda
Approved: K Parmar
Date: 09-25-09

HONOLULU HIGH-CAPACITY TRANSIT CORRIDOR PROJECT
CITY & COUNTY OF HONOLULU - DEPARTMENT OF TRANSPORTATION SERVICES - RAPID TRANSIT DIVISION

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Subconsultant: GROUP 70 INTERNATIONAL
Group 70 International, Inc.
925 Bethel Street, Fifth Floor
Honolulu, Hawaii 96813-4307

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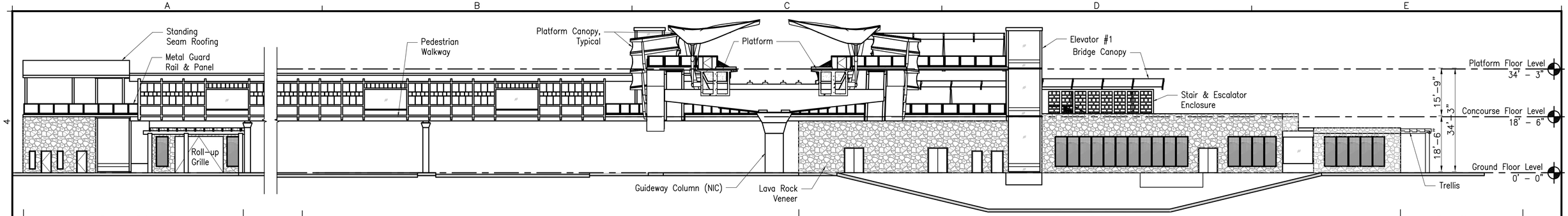
UH WEST O'AHU STATION

CROSS SECTIONS
SHEET 2 OF 2

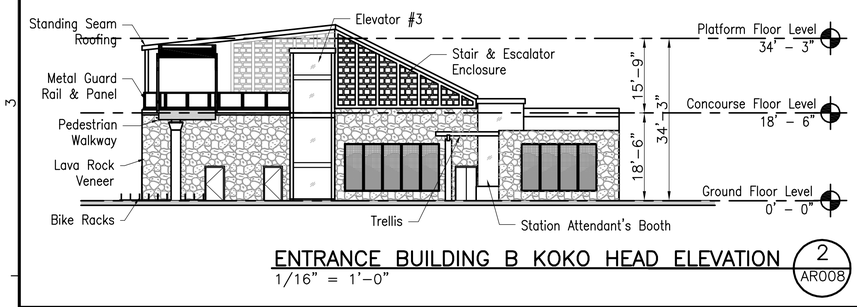
Contract No.: SV-140
CADD File: SB2-H05-AR007
Drawing No: AR007 Rev.
Scale: 1/8" = 1'-0"
Page No. 52 of 77



OVERALL MAKAI ELEVATION

1/16" = 1'-0"

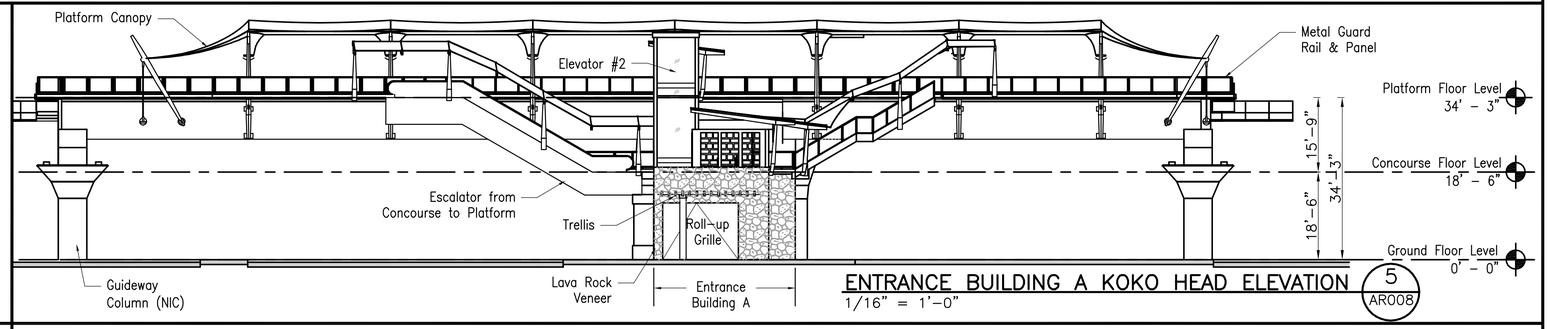
1 / AR008



ENTRANCE BUILDING B KOKO HEAD ELEVATION

1/16" = 1'-0"

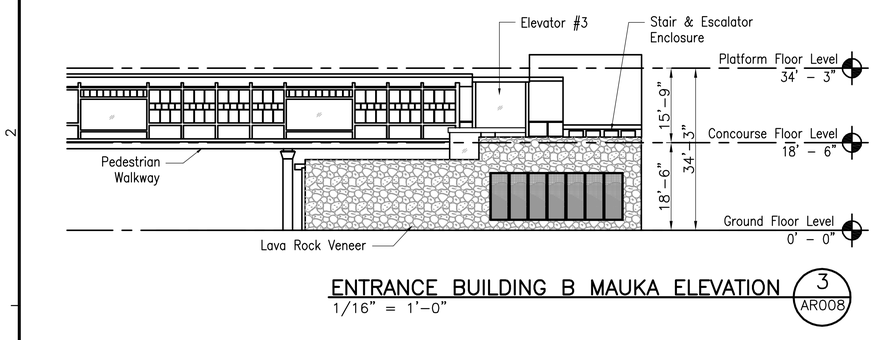
2 / AR008



ENTRANCE BUILDING A KOKO HEAD ELEVATION

1/16" = 1'-0"

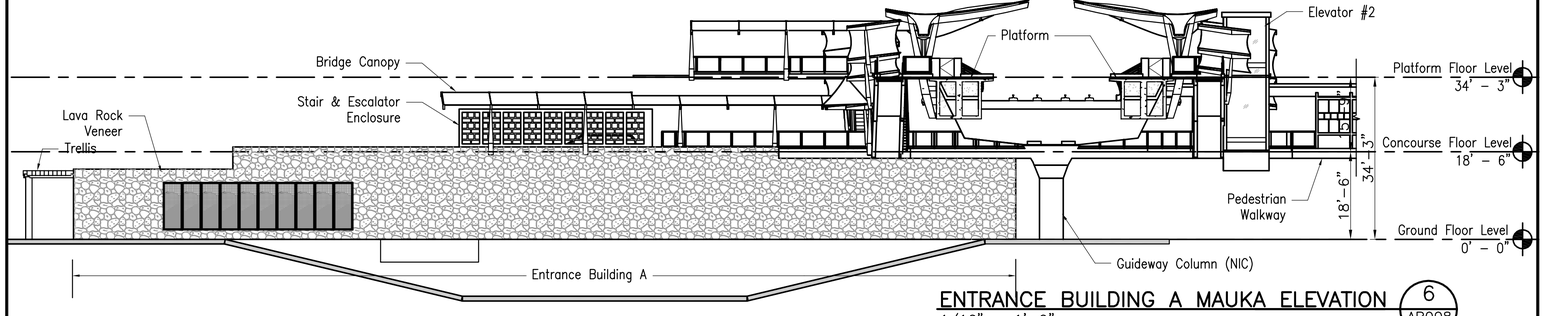
5 / AR008



ENTRANCE BUILDING B MAUKA ELEVATION

1/16" = 1'-0"

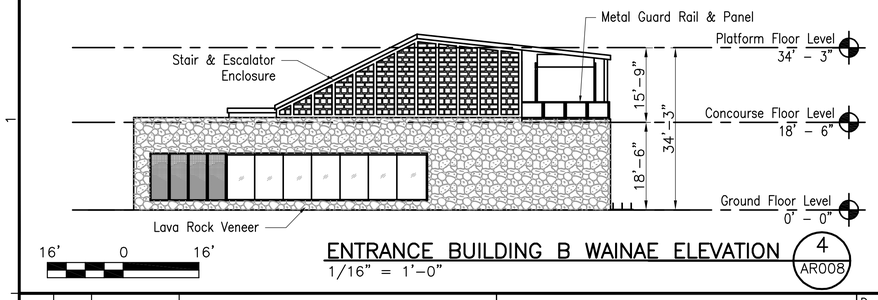
3 / AR008



ENTRANCE BUILDING A MAUKA ELEVATION

1/16" = 1'-0"

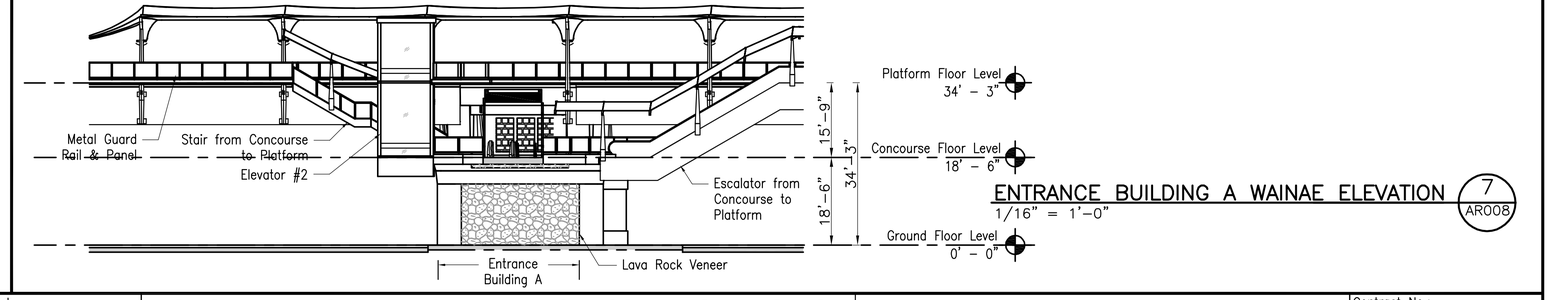
6 / AR008



ENTRANCE BUILDING B WAINAE ELEVATION

1/16" = 1'-0"

4 / AR008



ENTRANCE BUILDING A WAINAE ELEVATION

1/16" = 1'-0"

7 / AR008

Rev	By	Date	Description

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Designed: J Stone
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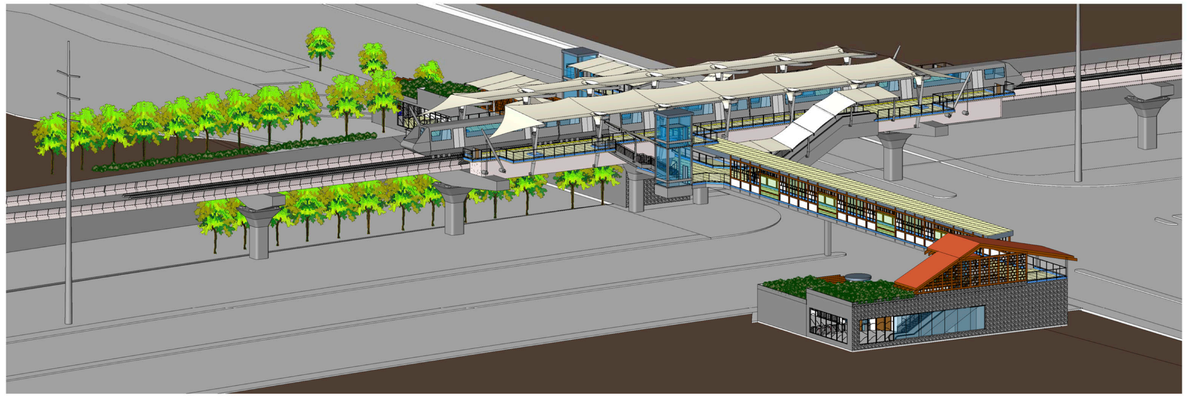
UH WEST O'AHU STATION

ELEVATIONS

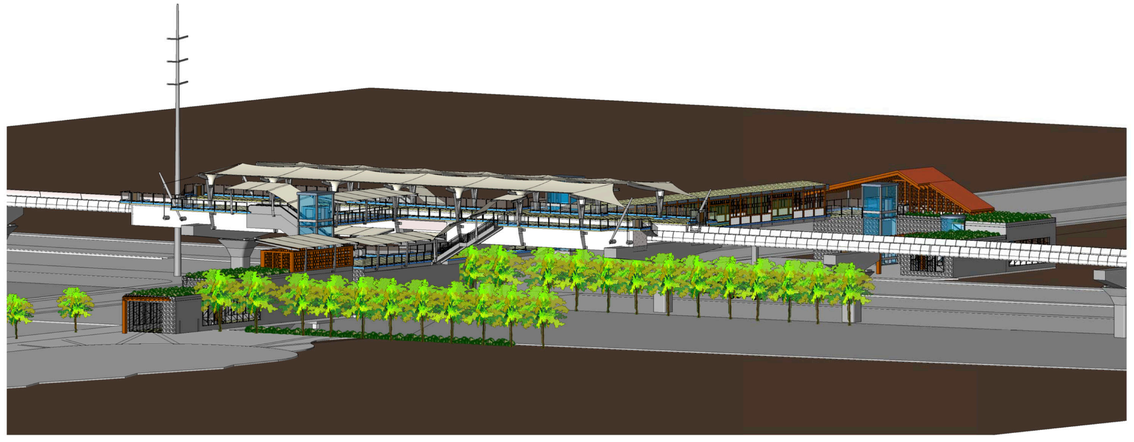
Contract No.: SV-140
CADD File: SB2-H06-AR008
Drawing No: AR008 | Rev.
Scale: 1/16" = 1'-0"
Page No.: 53 of 77

AERIAL VIEW AT EAST WEST ROAD
NTS
1 AR009

VIEW OF ENTRANCE BUILDING B
NTS
2 AR009



AERIAL VIEW AT NORTH SOUTH ROAD
NTS
3 AR009



VIEW OF ENTRANCE BUILDING A
NTS
4 AR009

Rev	By	Date	Description

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UH WEST O'AHU STATION

3D VIEWS

Contract No.: SV–140
CADD File: SB2–H07–AR009
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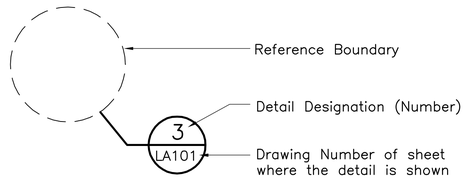
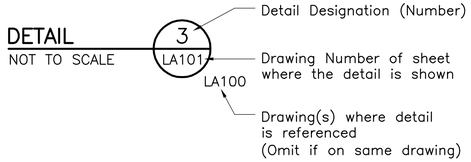
GENERAL NOTES

1. "EB Track" denotes the centerline of the Eastbound Track. "WB Track" denotes the centerline of the Westbound Track.
2. Origin of Coordinates: Hawaii State Plane Coordinate Grid System, Zone III with the North American Datum of 83 High Accuracy Reference Network (NAD83 HARN).
3. The proposed WB Track alignment stationing equals to the proposed EB Track alignment stationing in all parallel tangent sections. Station equations are given at the endpoint of each westbound curve.
4. Underground facilities, poles, structures, and utilities have been plotted from available surveys and records. Their locations must be considered approximate only. There may be others, the existence of which is at present unknown. Verification of all the locations, shown or not shown, will be the responsibility of the contractor.
5. The existing conditions shown hereon are based on LiDAR data collected in September and October of 2007, supplemental ground surveys were performed between September of 2007 and December of 2008, and record information from various design projects either constructed, under construction, or proposed. The selected design–build contractor is responsible for verifying existing conditions prior to supplying advanced design documents to the RTD.
6. Contact the Hawaii Department of Transportation (HDOT) and/or the City and County of Honolulu for additional plan sheet details not included in the Standard Details Summary and Standard Plans Summary plan sheets.
7. All remaining trees within project limits are to remain and be protected unless otherwise noted.
8. All utilities servicing existing facilities shall remain in service at all times. Exercise caution during tree root removal. Notify owner's representative immediately if service is interrupted and pay for repair at no cost to owner.
9. All existing utilities, site furnishings, paving, landscape and other elements to remain shall be protected from any damage unless otherwise noted.
10. Contractor shall notify all necessary utility companies 48 hours minimum prior to digging for verification of all underground utilities, and other obstructions and coordinate with owner's representative prior to initiating operations.
11. Landscape contractor shall coordinate all work with related contractors and with the general construction of the project in order not to impede the progress of the work of others or the contractor's own work.
12. Landscape contractor shall field adjust locations of plant material as necessary to avoid damage to existing underground utilities and/or existing above ground elements. All changes required shall be completed at the contractor's expense and shall be coordinated with the owner's representative and the landscape architect.
13. The contractor shall perform its own quantity estimates for the purposes of bidding and construction. The contractor shall provide plants and other materials in the quantities necessary to complete the installation as shown on the drawings.
14. Stake tree and palm locations and obtain approval of the landscape architect prior to planting trees and palms.

SYMBOLS

DETAILS





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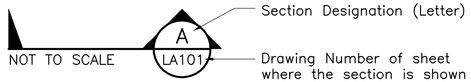

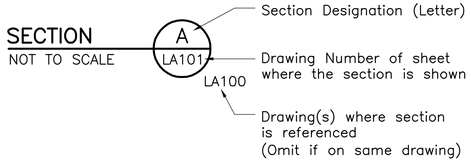

SPECIAL TERMS

Makai	Ocean
Mauka	Mountain

GENERAL SYMBOLS

&	And
@	At
#	Number
ø	Diameter
%	Percent
=	Equal
>	Greater Than
<	Less Than
≥	Greater Than or Equal To
≤	Less Than or Equal To

LANDSCAPE SYMBOLS

Existing Palm

Existing Tree

Existing Vegetation

Elevation Contours

Large Tree		
Kukui		Aleurites moluccana
Monkeypod		Samanea saman
Medium Tree		
Queen's White Shower		Cassia javanica
Small Tree		
Kou		Cordia subcordata
Palm		
Manila		Veitchia merrillii
Loulu		Pritchardia spp.
Medium Shrub		
Kulu'i		Nototrichium sandwicense
'A'Ali'i		Dodonaea viscosa
Naupaka		Scaevola sericea
Groundcover–1		
Akia		Wikstroemia uva–ursi
Pohinahina		Vitex rotundifolia
Groundcover–2		
Lantana		Lantana montevidensis 'New Gold'
Lauae		Phymatosorus scolopendria
Green Roof		
Akulikuli		Sesuvium portulacastrum
Alula		Brighamia insignis
Echeveria		Echeveria agavoides
Ice plant		Delosperma spp.
Kalanchoe		Kalanchoe thyrsifolia
Lawn		
El Toro		Zoysia 'El Toro'

ABBREVIATIONS

℄	Baseline
BWS	Board of Water Supply
℄	Centerline
Conc	Concrete
Cont	Container
Dia	Diameter
Dwg	Drawing
EB	Eastbound
FS	Field specimen
Gal	Gallon
GB#	Gap Breaker
HDPE	High density polyethylene
HP	High Point
Max	Maximum
Min	Minimum
MH	Manhole
N/A	Not Applicable
NB	Northbound
NIC	Not in Contract
N.I.C.	Not in Contract
NTS	Not to scale
OC	On Center
ROW	Right of Way
RPBP	Reduce Pressure Backflow Preventer
SB	Southbound
SR	State Route
Typ	Typical
Typ Sym	Typical Symbol
WB	Westbound
WM	Water meter

Rev	By	Date	Description

PRELIMINARY ENGINEERING SUBJECT TO REVISION

Designed: B Tanimura
Drawn: E Beckhusen
Checked: D Easterday
Approved: A Kutsunai
Date: 09–25–09

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CITY & COUNTY OF HONOLULU - DEPARTMENT OF TRANSPORTATION SERVICES - RAPID TRANSIT DIVISION

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LANDSCAPE ARCHITECTURE
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Belt Collins Hawaii Ltd.
2153 North King Street, Suite 200
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UH WEST O'AHU STATION

GENERAL LANDSCAPE NOTES, SYMBOLS, AND ABBREVIATIONS

Contract No.: SV–140
CADD File: SB2–J01–LG001
Drawing No.: LG001 Rev.:
Scale: NONE
Page No.: 55 of 77

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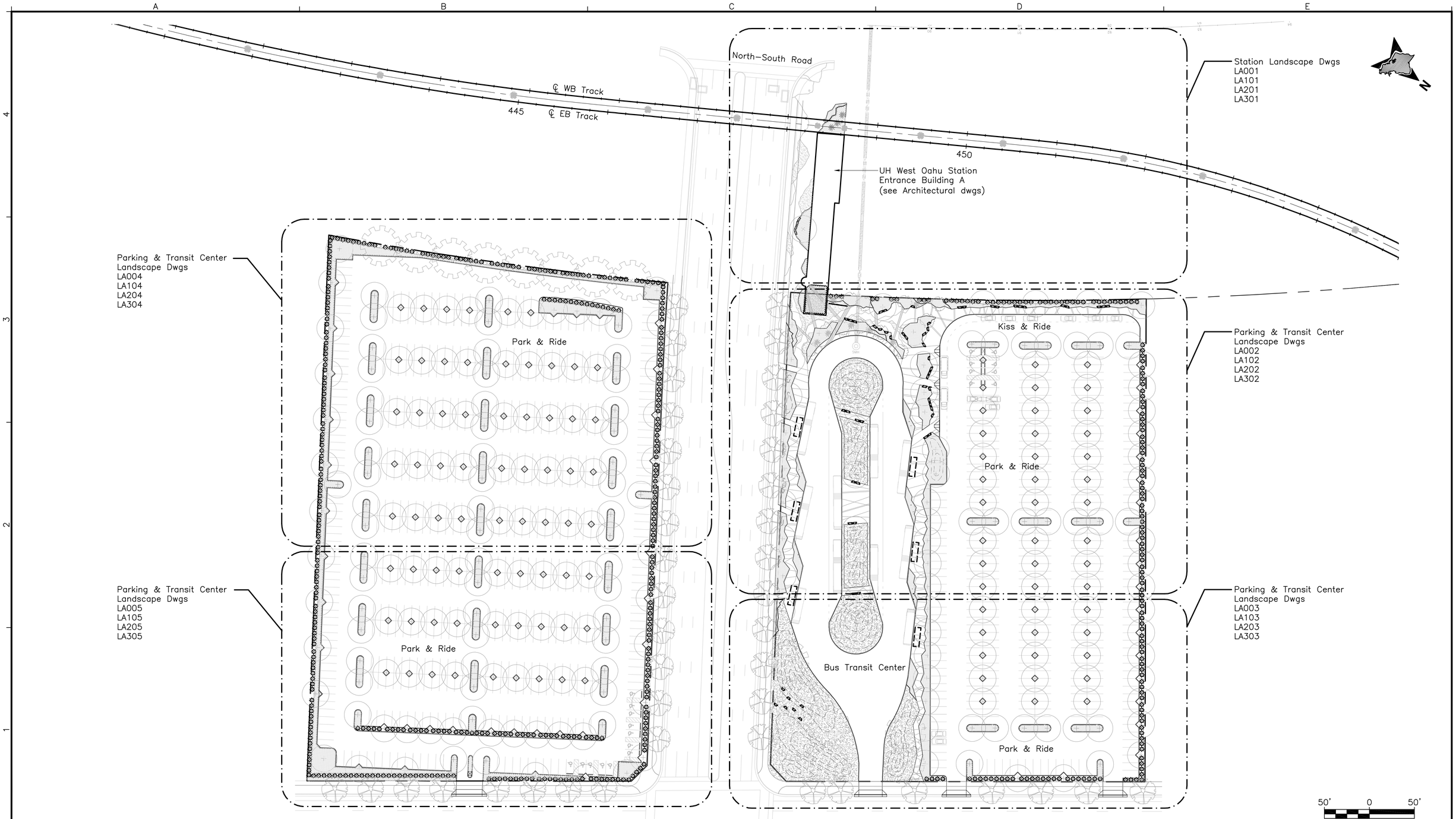

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UH WEST O'AHU STATION

LANDSCAPE KEY PLAN

Contract No.: SV–140
CADD File: SB2–J01–LG002
Drawing No: LG002 Rev.
Scale: 1"=50'
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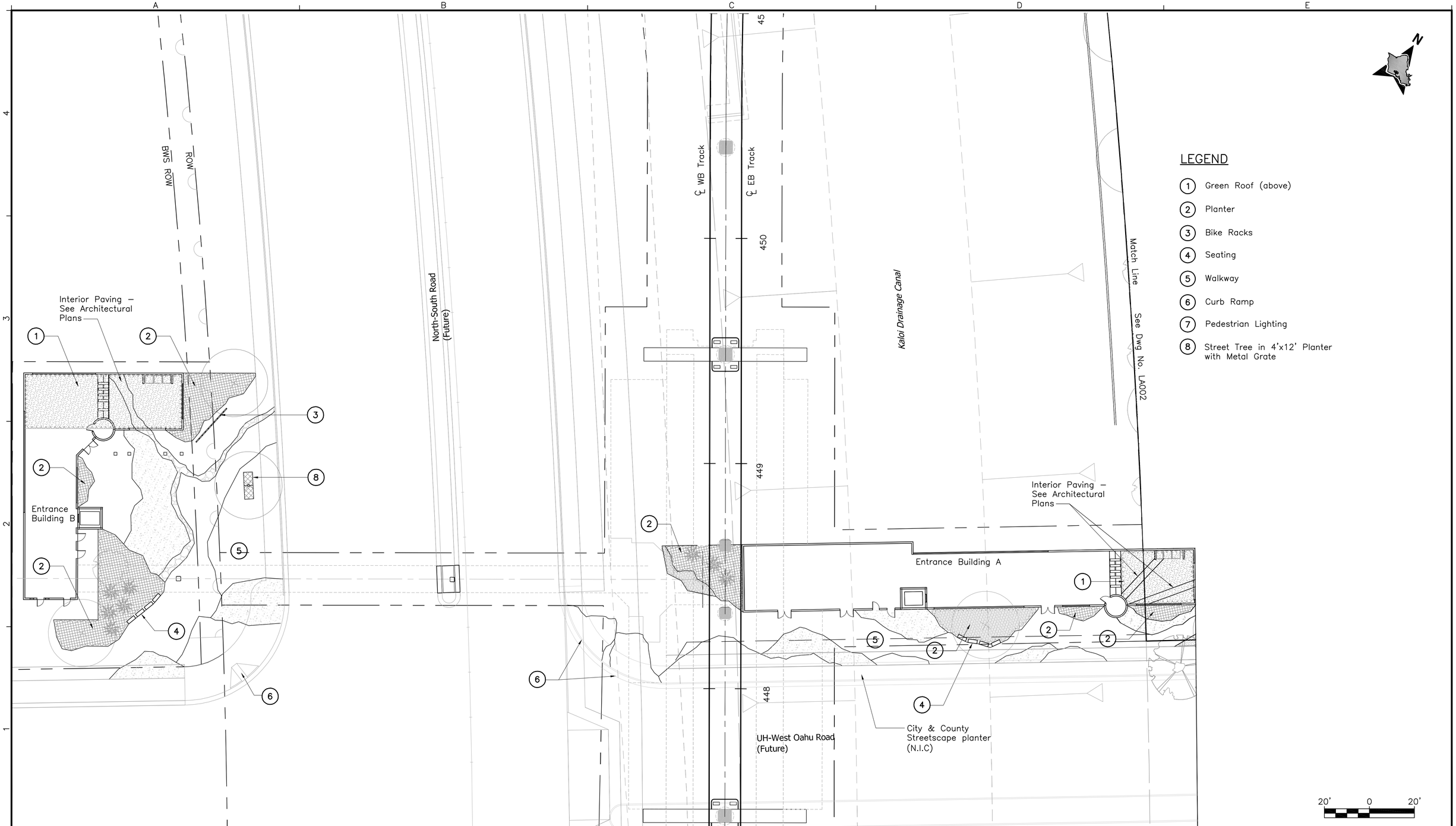

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UH WEST O'AHU STATION
STATION

LANDSCAPE SITE PLAN

Contract No.: SV–140
CADD File: SB2–J02–LA001
Drawing No.: LA001 Rev.
Scale: 1"=20'
Page No. 57 of 77

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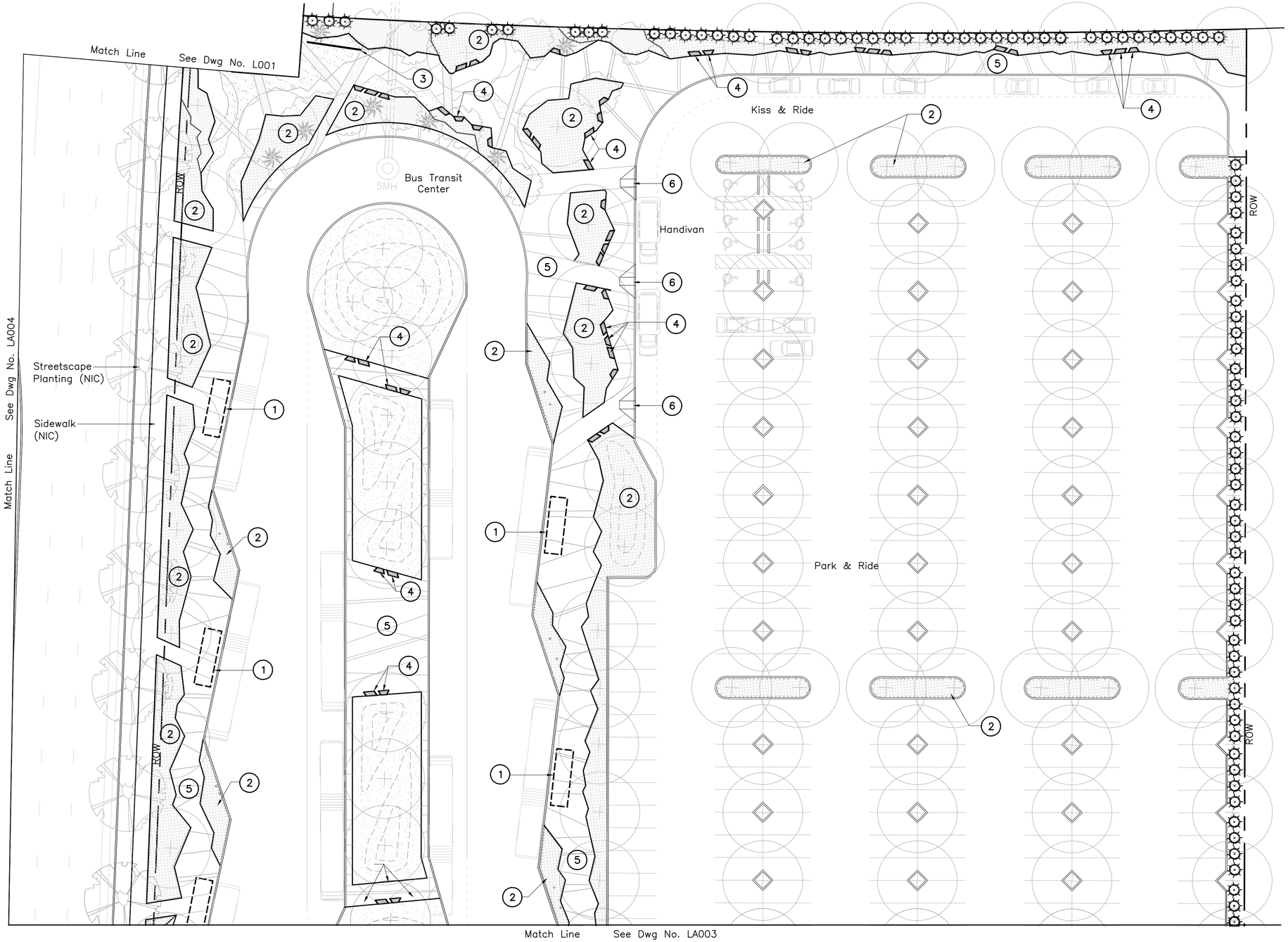

LEGEND

1. Bus Shelter
2. Planter
3. Bike Racks
4. Seating
5. Walkway
6. Curb Ramp

20' 0 20'

Rev	By	Date	Description

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UH WEST O'AHU STATION
PARKING & TRANSIT CENTER

LANDSCAPE SITE PLAN

SHEET 1 OF 4

Contract No.: SV-140
CADD File: SB2-J02-LA002
Drawing No.: LA002 Rev.
Scale: 1"=20'
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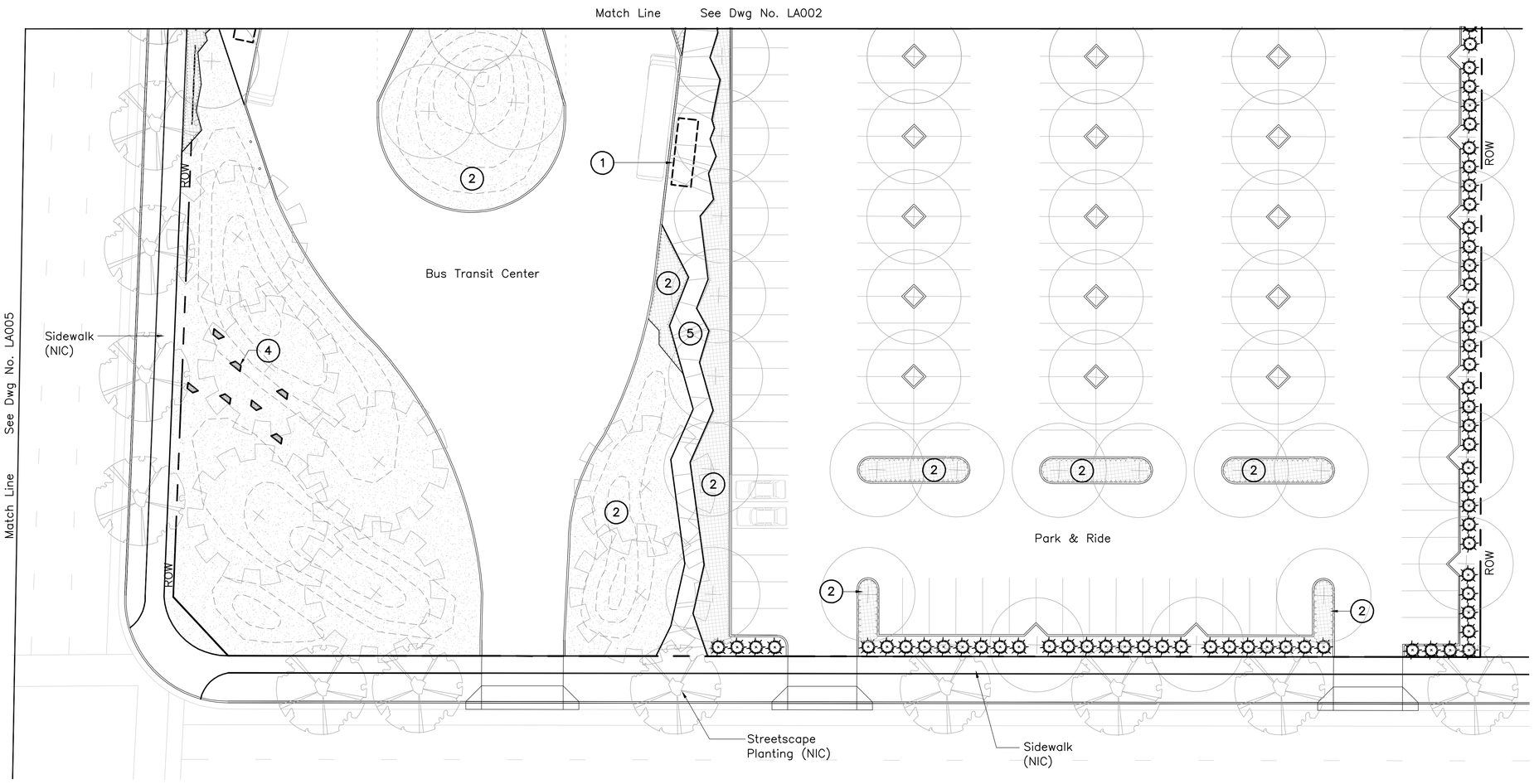

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UH WEST O'AHU STATION
PARKING & TRANSIT CENTER

LANDSCAPE SITE PLAN

SHEET 2 OF 4

Contract No.: SV-140
CADD File: SB2-J02-LA003
Drawing No: LA003 Rev.
Scale: 1"=20'
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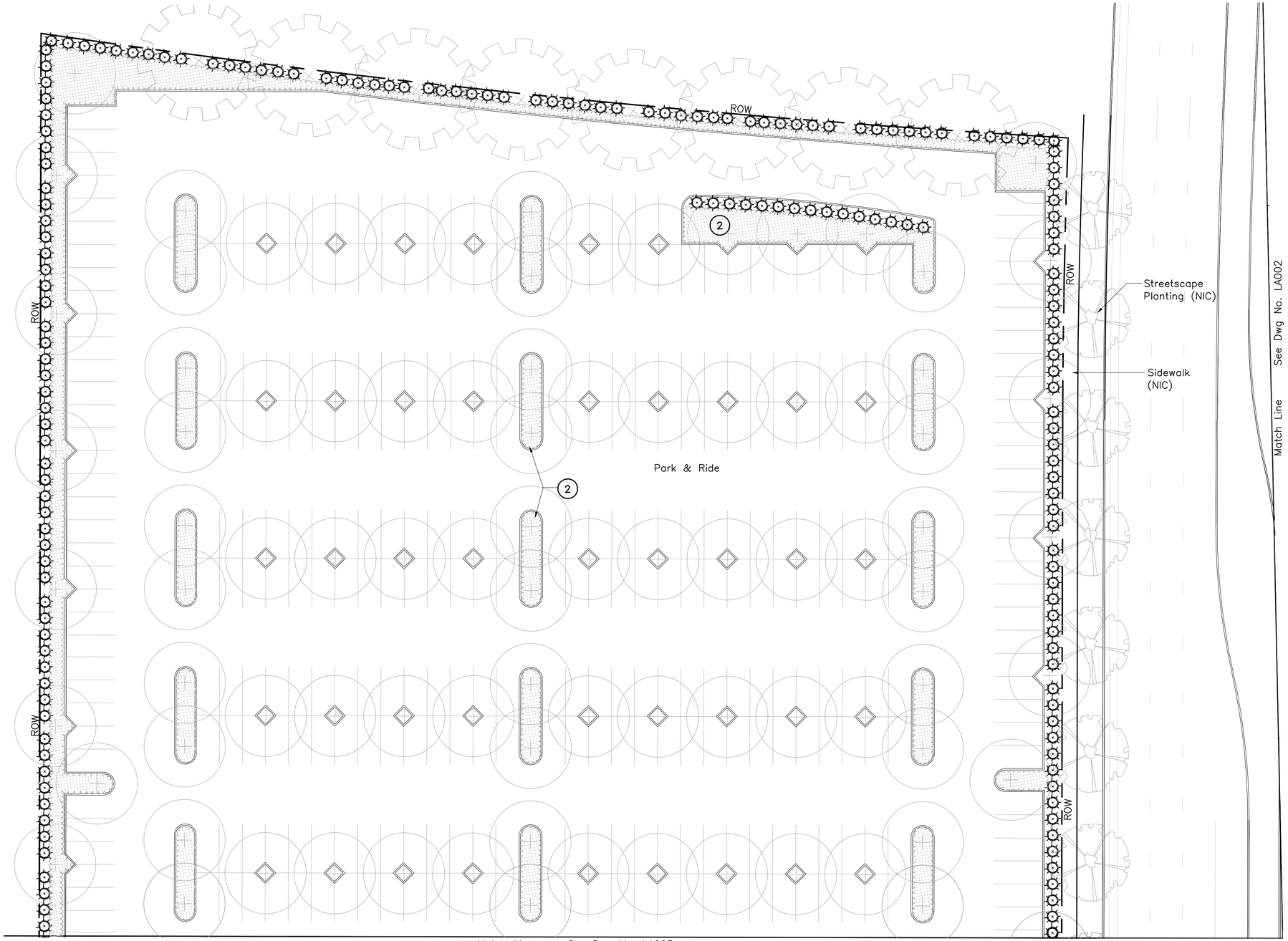

LEGEND

1. Bus Shelter
2. Planter
3. Bike Racks
4. Seating
5. Walkway
6. Curb Ramp

Rev	By	Date	Description

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UH WEST O'AHU STATION
PARKING & TRANSIT CENTER

LANDSCAPE SITE PLAN

SHEET 3 OF 4

Contract No.: SV–140
CADD File: SB2–J02–LA004
Drawing No.: LA004 Rev.
Scale: 1"=20'
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Match Line See Dwg No. LA004

ROW

2

Park & Ride

2

ROW

Streetscape Planting (NIC)

Sidewalk (NIC)

ROW

Sidewalk (NIC)

Streetscape Planting (NIC)

Match Line See Dwg No. LA003

N

LEGEND

1. Bus Shelter
2. Planter
3. Bike Racks
4. Seat Blocks
5. Walkway
6. Curb Ramp

20' 0 20'

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UH WEST O'AHU STATION
PARKING & TRANSIT CENTER

LANDSCAPE SITE PLAN

SHEET 4 OF 4

Contract No.: SV-140
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Page No.: 61 of 77

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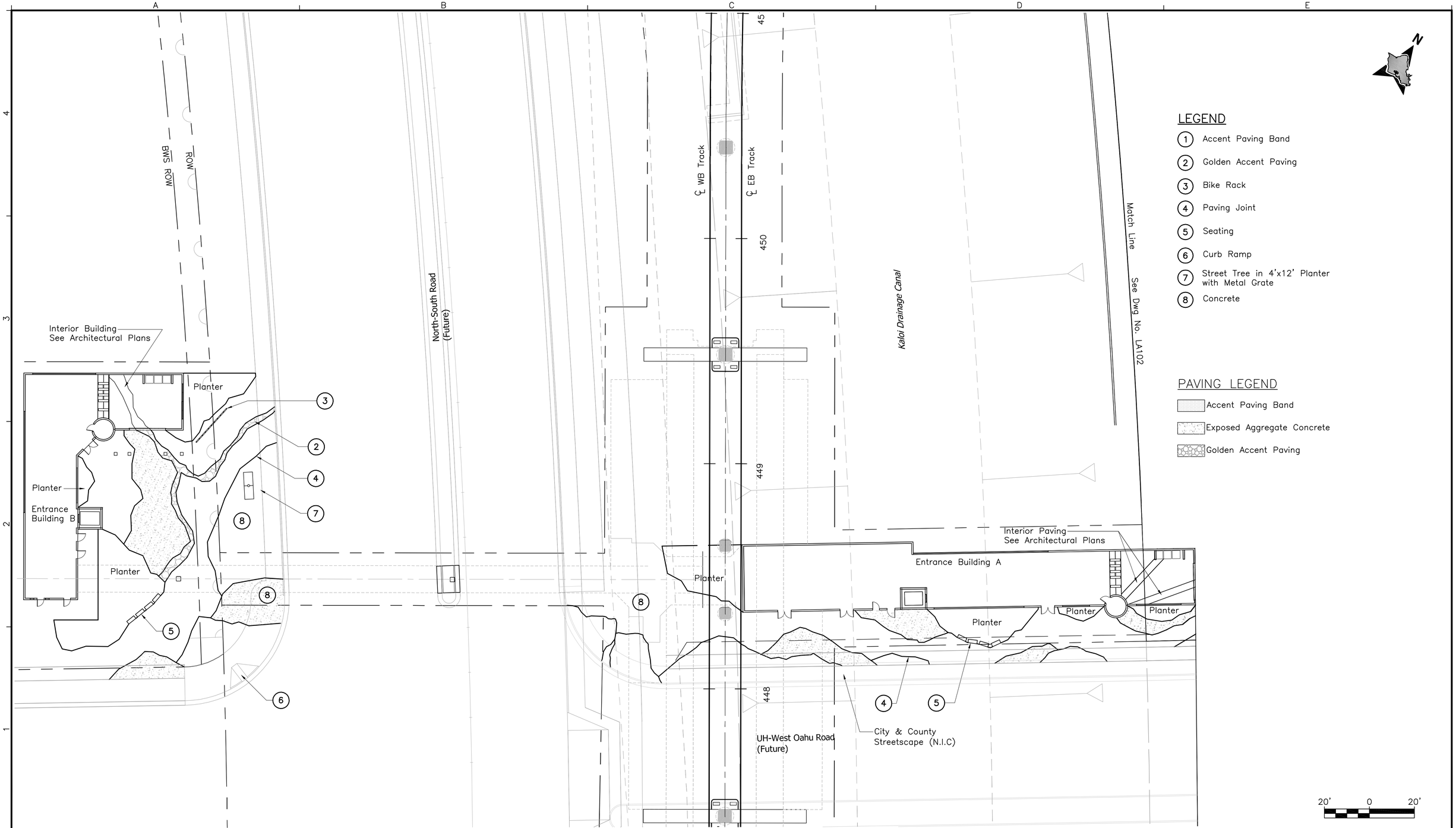

Rev	By	Date	Description

PRELIMINARY ENGINEERING SUBJECT TO REVISION

Designed: B Tanimura
Drawn: E Beckhusen
Checked: D Easterday
Approved: A Kutsunai
Date: 09–25–09

HONOLULU HIGH-CAPACITY TRANSIT CORRIDOR PROJECT

CITY & COUNTY OF HONOLULU - DEPARTMENT OF TRANSPORTATION SERVICES - RAPID TRANSIT DIVISION

Prime Consultant: PB PARSONS BRINCKERHOFF
1003 Bishop Street, Suite 2250 – Honolulu, HI 96813

Subconsultant: BELT COLLINS
PLANNING • CIVIL ENGINEERING
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL CONSULTING
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UH WEST O'AHU STATION
STATION

PAVING PLAN

Contract No.: SV–140
CADD File: SB2–J03–LA101
Drawing No: LA101 Rev.
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PAVING PLAN

SHEET 1 OF 4

Contract No.: SV–140
CADD File: SB2–J03–LA102
Drawing No.: LA102 Rev.:
Scale: 1"=20'
Page No.: 63 of 77

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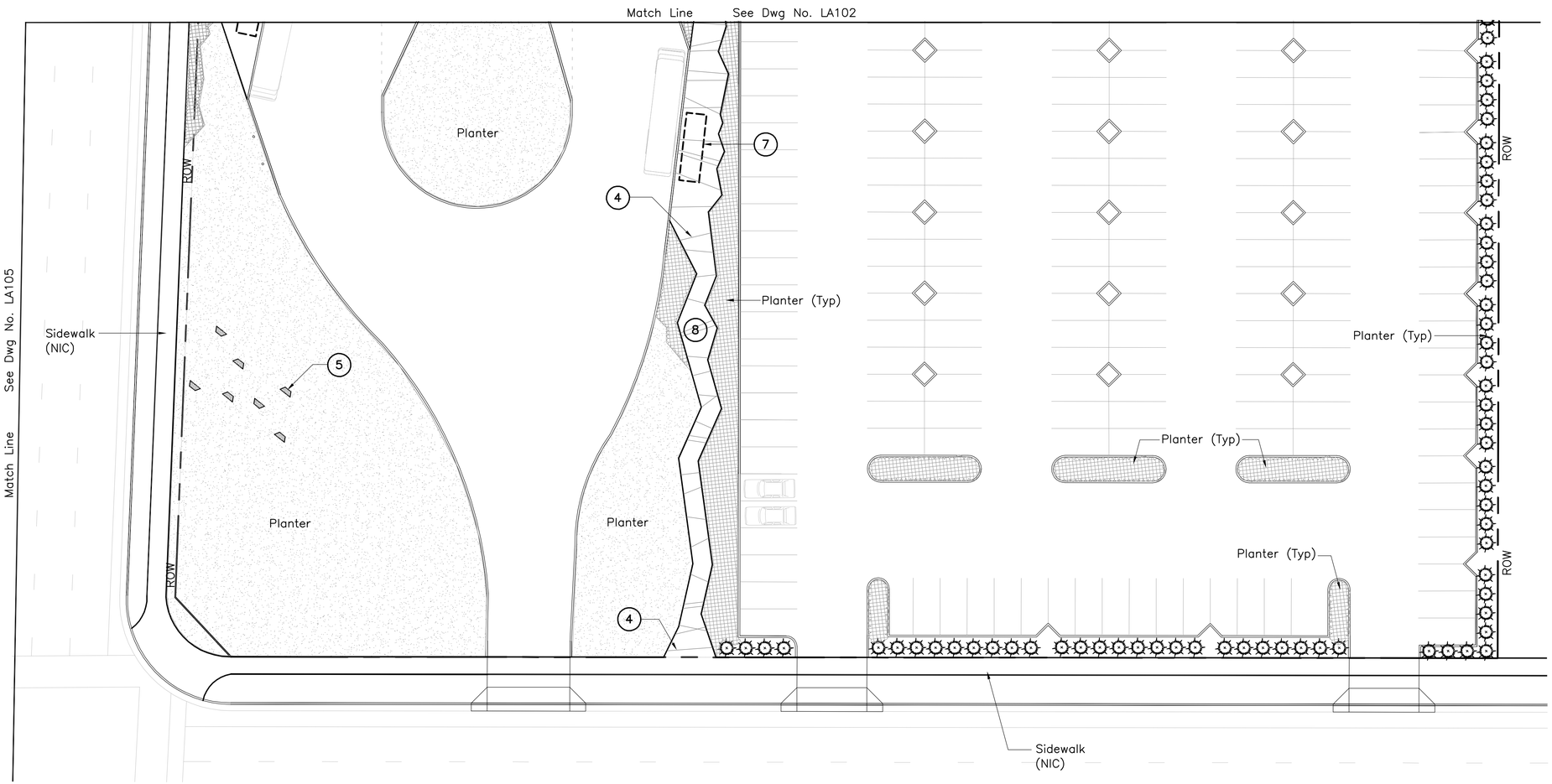

LEGEND

1. Accent Paving Band
2. Exposed Aggregate Concrete
3. Bike Rack
4. Paving Joint
5. Seating
6. Curb Ramp
7. Bus Shelter
8. Colored Concrete

20' 0 20'

PRELIMINARY ENGINEERING SUBJECT TO REVISION

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PAVING PLAN

SHEET 2 OF 4

Contract No.: SV–140
CADD File: SB2–J03–LA103
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Scale: 1"=20'
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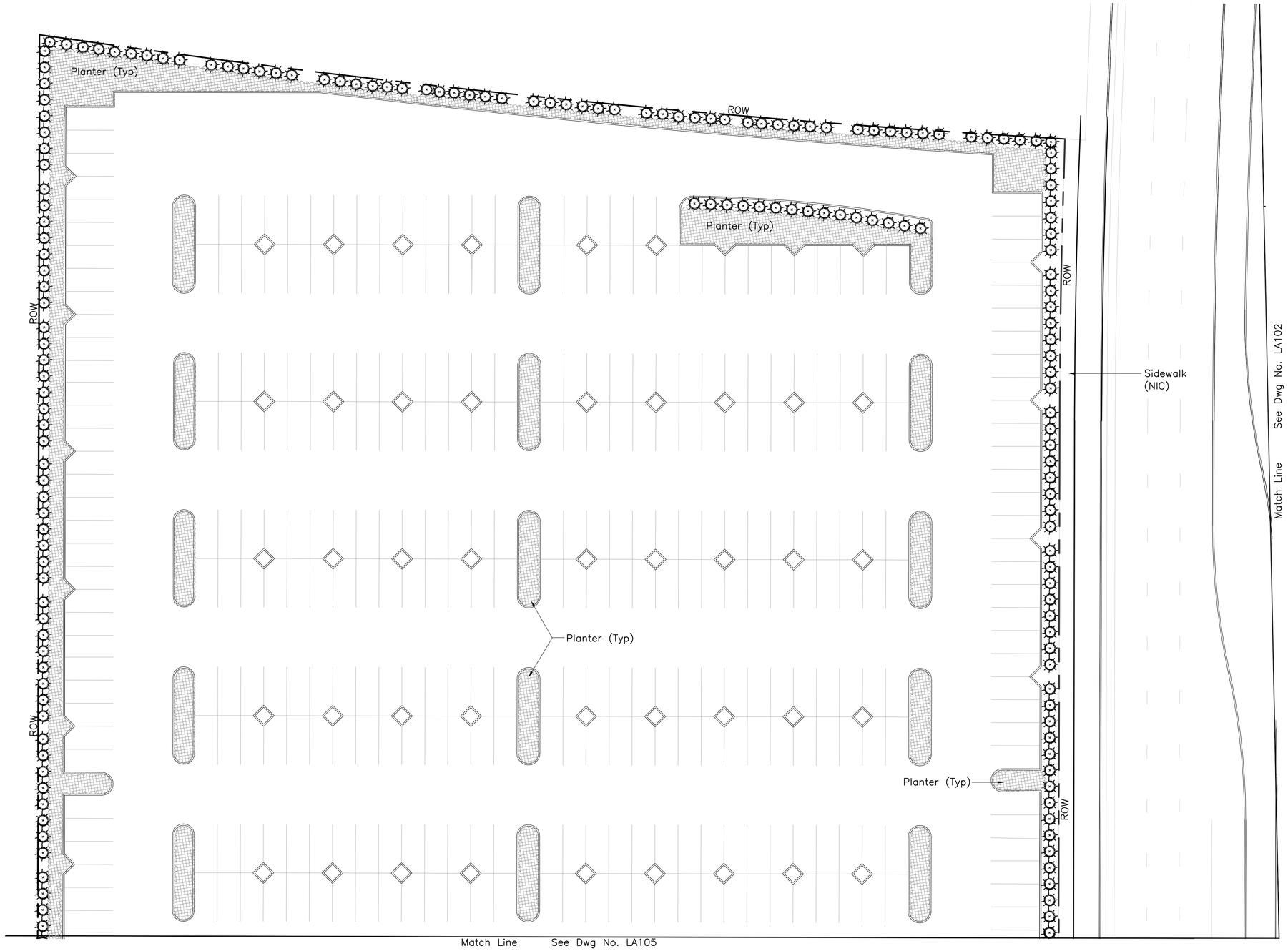

LEGEND

1. Accent Paving Band
2. Exposed Aggregate Concrete
3. Bike Rack
4. Paving Joint
5. Seating
6. Curb Ramp
7. Bus Shelter
8. Colored Concrete

20' 0 20'

Rev	By	Date	Description

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SHEET 3 OF 4

Contract No.: SV–140
CADD File: SB2–J03–LA104
Drawing No.: LA104 Rev.
Scale: 1"=20'
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Match Line See Dwg No. LA104

ROW

Planter (Typ)

Planter (Typ)

ROW

Sidewalk
(NIC)

ROW

Sidewalk
(NIC)

Match Line See Dwg No. LA103

LEGEND

1. Accent Paving Band
2. Exposed Aggregate Concrete
3. Bike Rack
4. Paving Joint
5. Seating
6. Curb Ramp
7. Bus Shelter
8. Colored Concrete

N

20' 0 20'

Rev	By	Date	Description

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Designed: B Tanimura
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UH WEST O'AHU STATION
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PAVING PLAN

SHEET 4 OF 4

Contract No.: SV-140
CADD File: SB2-J03-LA105
Drawing No.: LA105 Rev.
Scale: 1"=20'
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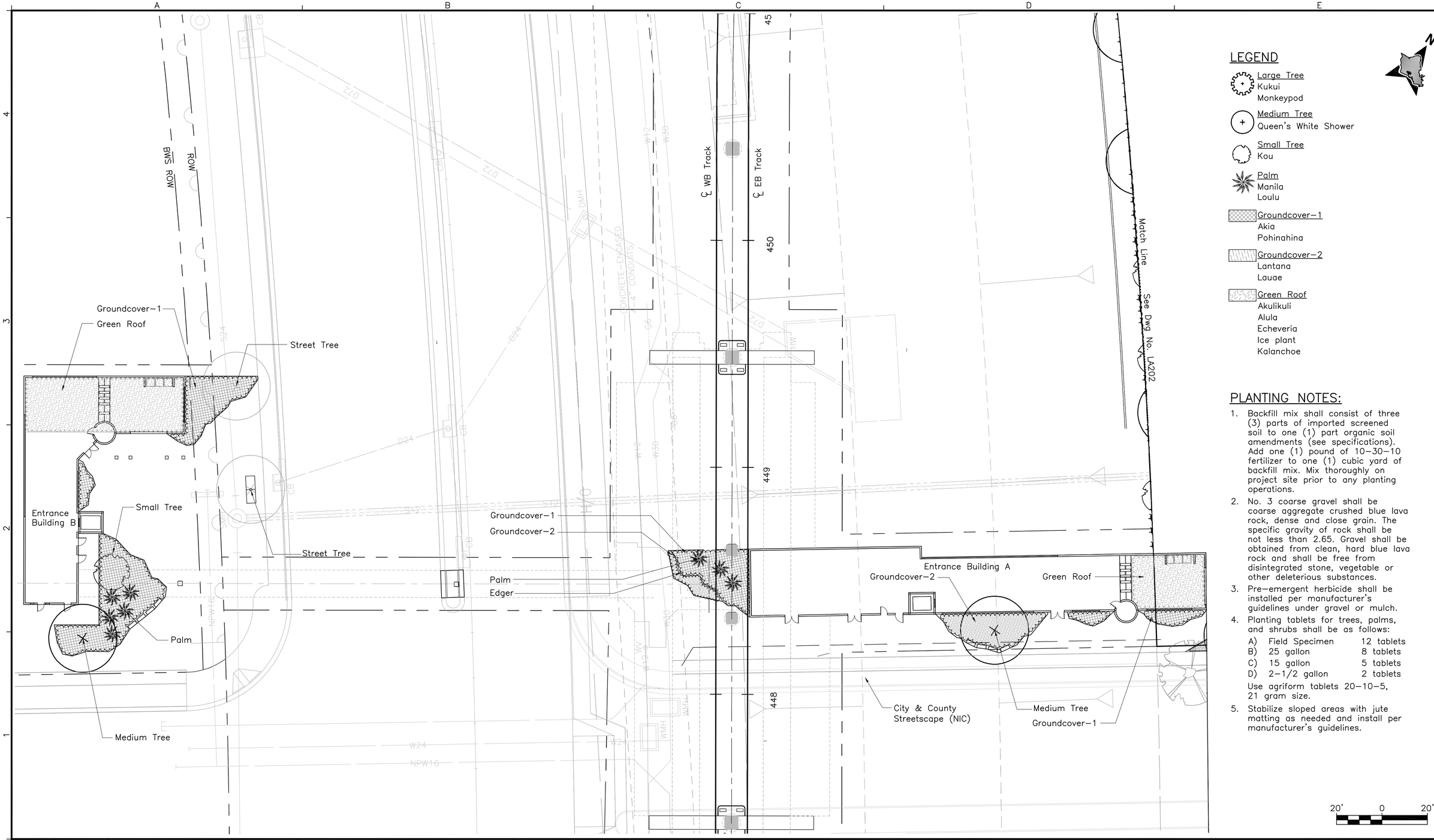

LEGEND

- Large Tree: Kukui, Monkeypod
- Medium Tree: Queen's White Shower
- Small Tree: Kou
- Palm: Manila, Loulu
- Groundcover–1: Akia, Pohinahina
- Groundcover–2: Lantana, Lauae
- Green Roof: Akulikuli, Alula, Echeveria, Ice plant, Kalanchoe

PLANTING NOTES:

1. Backfill mix shall consist of three (3) parts of imported screened soil to one (1) part organic soil amendments (see specifications). Add one (1) pound of 10–30–10 fertilizer to one (1) cubic yard of backfill mix. Mix thoroughly on project site prior to any planting operations.
2. No. 3 coarse gravel shall be coarse aggregate crushed blue lava rock, dense and close grain. The specific gravity of rock shall be not less than 2.65. Gravel shall be obtained from clean, hard blue lava rock and shall be free from disintegrated stone, vegetable or other deleterious substances.
3. Pre–emergent herbicide shall be installed per manufacturer's guidelines under gravel or mulch.
4. Planting tablets for trees, palms, and shrubs shall be as follows:

A)	Field Specimen	12 tablets
B)	25 gallon	8 tablets
C)	15 gallon	5 tablets
D)	2–1/2 gallon	2 tablets

   Use agriform tablets 20–10–5, 21 gram size.
5. Stabilize sloped areas with jute matting as needed and install per manufacturer's guidelines.

20' 0 20'

Rev	By	Date	Description

PRELIMINARY ENGINEERING SUBJECT TO REVISION

Designed: B Tanimura
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UH WEST O'AHU STATION
STATION

PLANTING PLAN

Contract No.: SV–140
CADD File: SB2–J04–LA201
Drawing No.: LA201 Rev.:
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Page No.: 67 of 77

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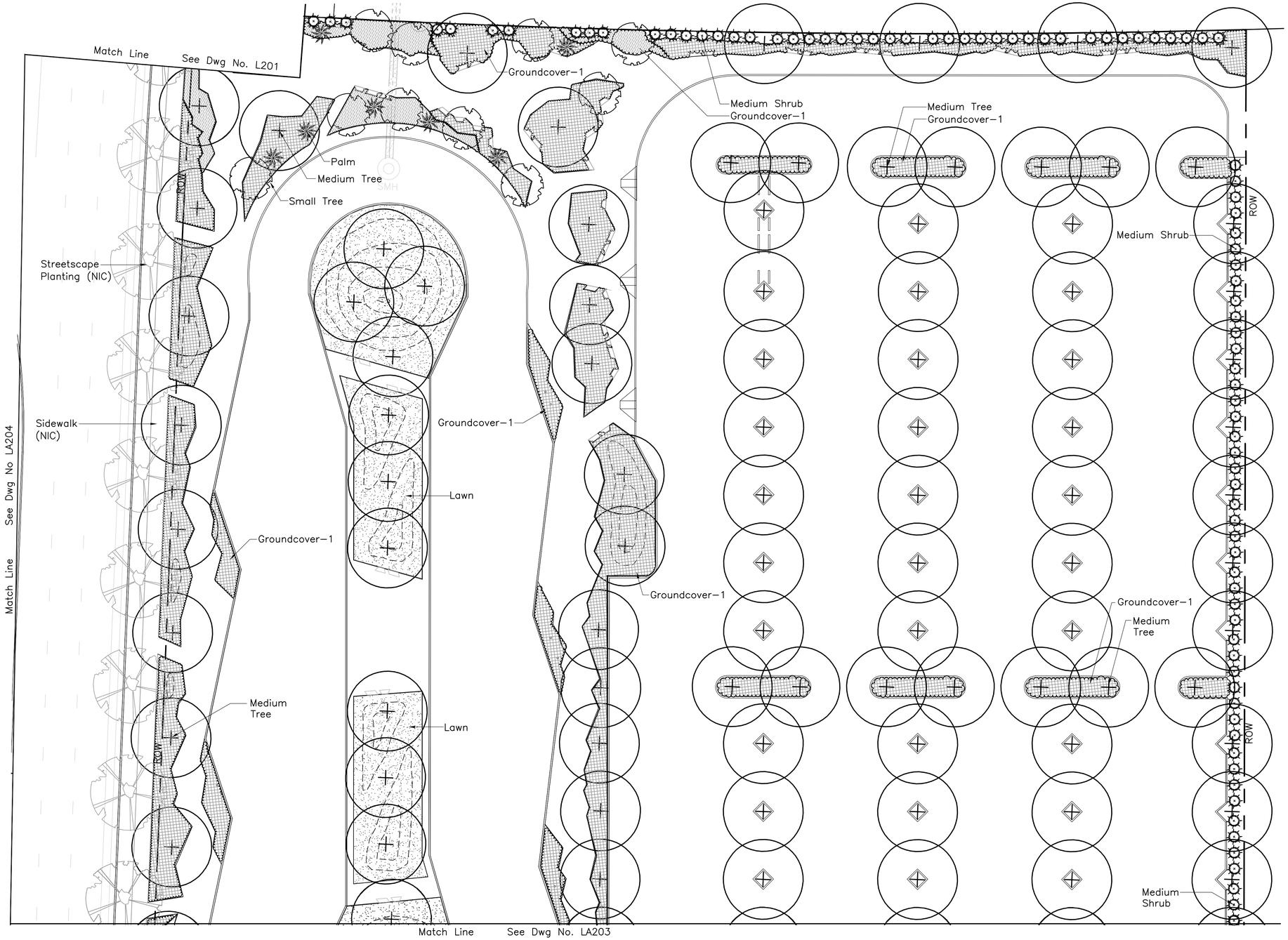

LEGEND

- Large Tree: Kukui
- Medium Tree: Queen's White Shower
- Small Tree: Kou
- Palm: Manila, Loulu
- Medium Shrub: Kulu'i, 'A'Ali'i, Naupaka
- Groundcover–1: Akia, Pohinahina
- Groundcover–2: Lantana, Lauae
- Green Roof: Akulikuli, Alula, Echeveria, Ice plant, Kalanchoe
- Lawn: El Toro

PLANTING NOTES:

1. Backfill mix shall consist of three (3) parts of imported screened soil to one (1) part organic soil amendments (see specifications). Add one (1) pound of 10–30–10 fertilizer to one (1) cubic yard of backfill mix. Mix thoroughly on project site prior to any planting operations.
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C)	15 gallon	5 tablets
D)	2–1/2 gallon	2 tablets

   Use agriform tablets 20–10–5, 21 gram size.
5. Stabilize sloped areas with jute matting as needed and install per manufacturer's guidelines.

20' 0 20'

Rev	By	Date	Description

PRELIMINARY ENGINEERING SUBJECT TO REVISION

Designed: B Tanimura
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Checked: D Easterday
Approved: A Kutsunai
Date: 09–25–09

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UH WEST O'AHU STATION
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PLANTING PLAN

SHEET 1 OF 4

Contract No.: SV–140
CADD File: SB2–J04–LA202
Drawing No: LA202 Rev.
Scale: 1"=20'
Page No. 68 of 77

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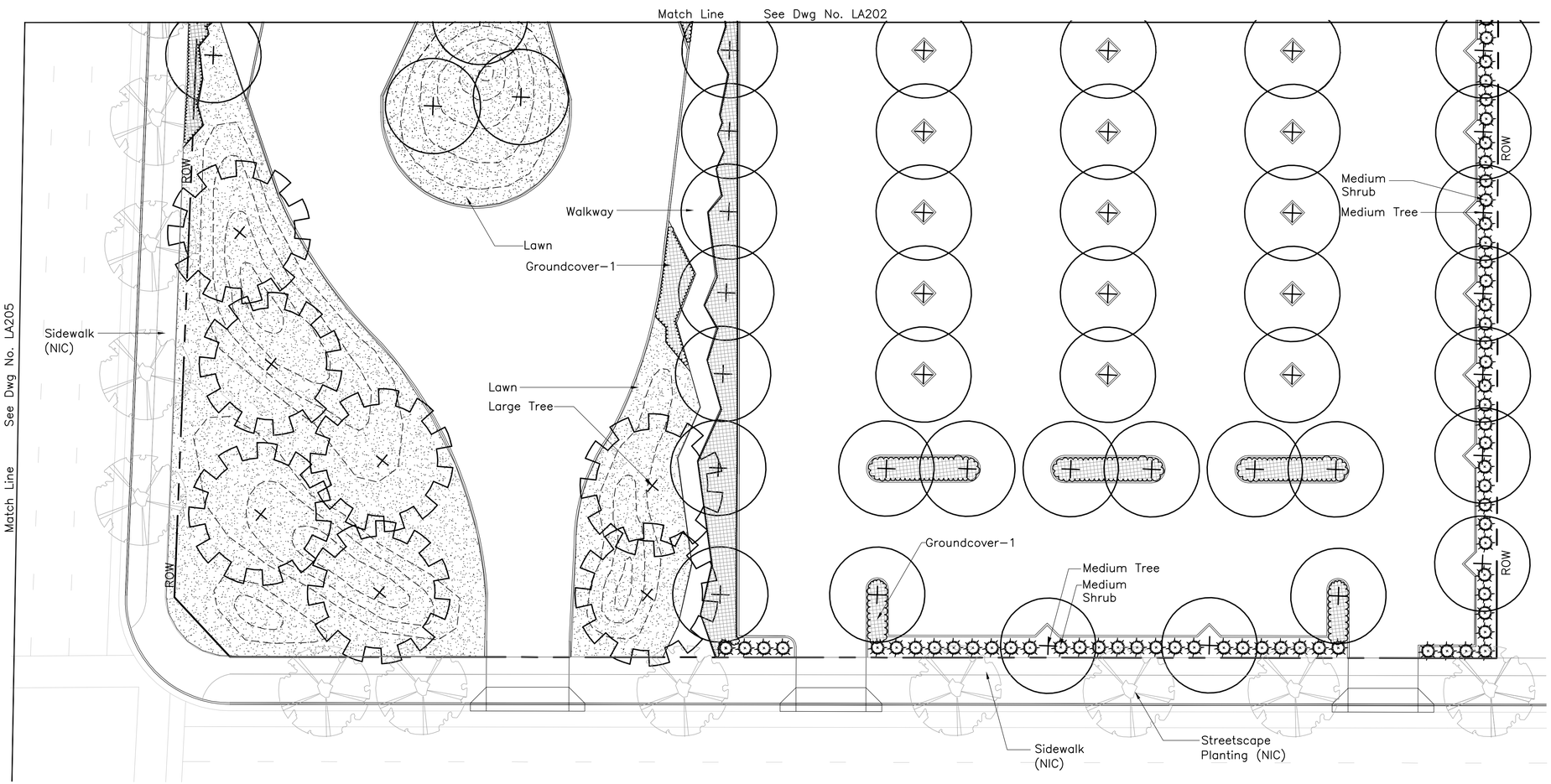

LEGEND

- Large Tree: Kukui
- Medium Tree: Queen's White Shower
- Small Tree: Kou
- Palm: Manila, Loulu
- Medium Shrub: Kulu'i, 'A'Ali'i, Naupaka
- Groundcover–1: Akia, Pohinahina
- Groundcover–2: Lantana, Lauae
- Green Roof: Akulikuli, Alula, Echeveria, Ice plant, Kalanchoe
- Lawn: El Toro

PLANTING NOTES:

1. Backfill mix shall consist of three (3) parts of imported screened soil to one (1) part organic soil amendments (see specifications). Add one (1) pound of 10–30–10 fertilizer to one (1) cubic yard of backfill mix. Mix thoroughly on project site prior to any planting operations.
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C)	15 gallon	5 tablets
D)	2–1/2 gallon	2 tablets

   Use agriform tablets 20–10–5, 21 gram size.
5. Stabilize sloped areas with jute matting as needed and install per manufacturer's guidelines.

20' 0 20'

Rev	By	Date	Description

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PLANTING PLAN

SHEET 2 OF 4

Contract No.: SV–140
CADD File: SB2–J04–LA203
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Scale: 1"=20'
Page No.: 69 of 77

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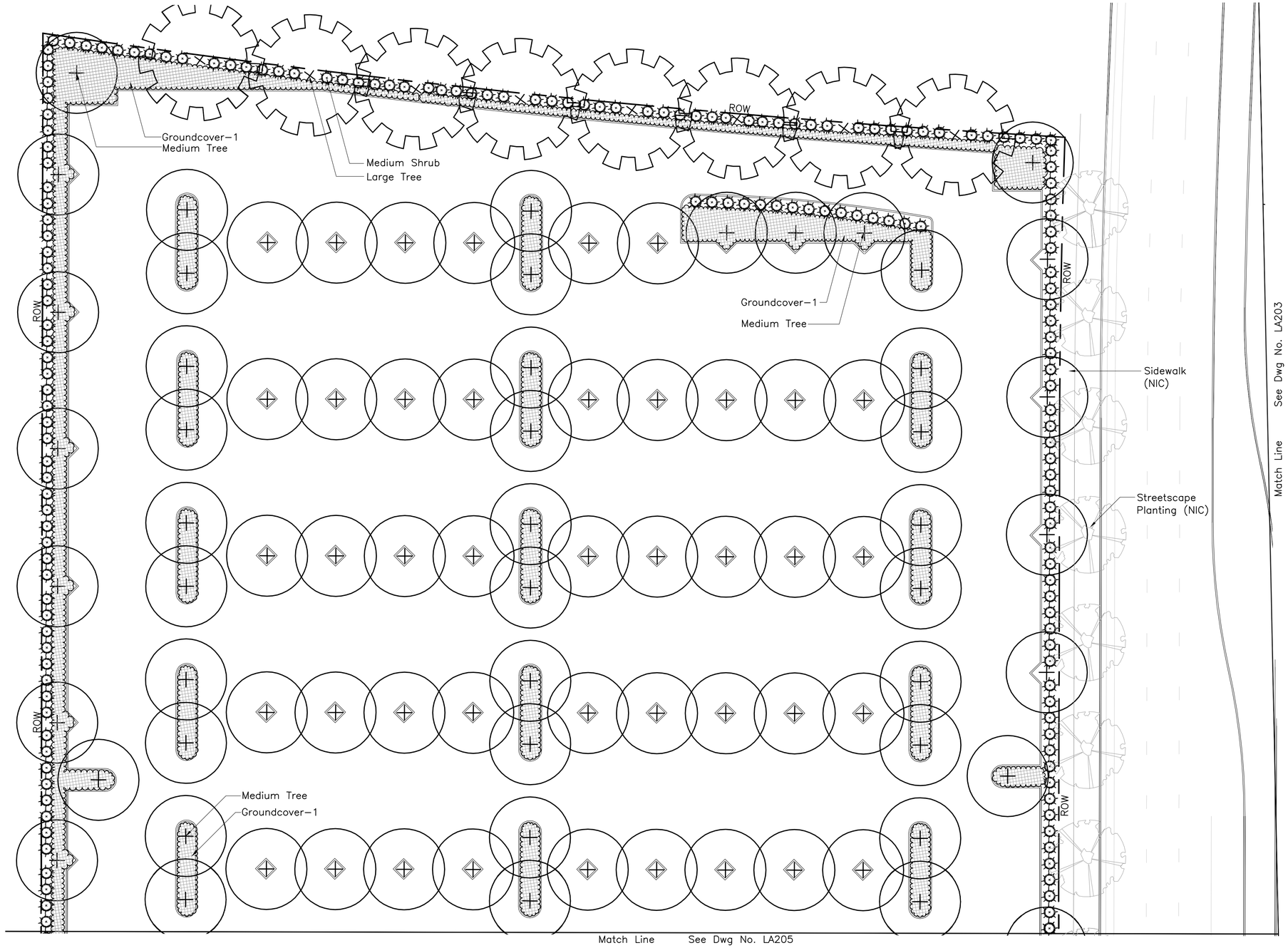

LEGEND

- Large Tree: Kukui
- Medium Tree: Queen's White Shower
- Small Tree: Kou
- Palm: Manila, Loulu
- Medium Shrub: Kulu'i, 'A'Ali'i, Naupaka
- Groundcover–1: Akia, Pohinahina
- Groundcover–2: Lantana, Lauae
- Green Roof: Akulikuli, Alula, Echeveria, Ice plant, Kalanchoe
- Lawn: El Toro

PLANTING NOTES:

1. Backfill mix shall consist of three (3) parts of imported screened soil to one (1) part organic soil amendments (see specifications). Add one (1) pound of 10–30–10 fertilizer to one (1) cubic yard of backfill mix. Mix thoroughly on project site prior to any planting operations.
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D)	2–1/2 gallon	2 tablets

   Use agriform tablets 20–10–5, 21 gram size.
5. Stabilize sloped areas with jute matting as needed and install per manufacturer's guidelines.

20' 0 20'

Rev	By	Date	Description

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Designed: B Tanimura
Drawn: E Beckhusen
Checked: D Easterday
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UH WEST O'AHU STATION
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PLANTING PLAN

SHEET 3 OF 4

Contract No.: SV–140
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Drawing No.: LA204 Rev.
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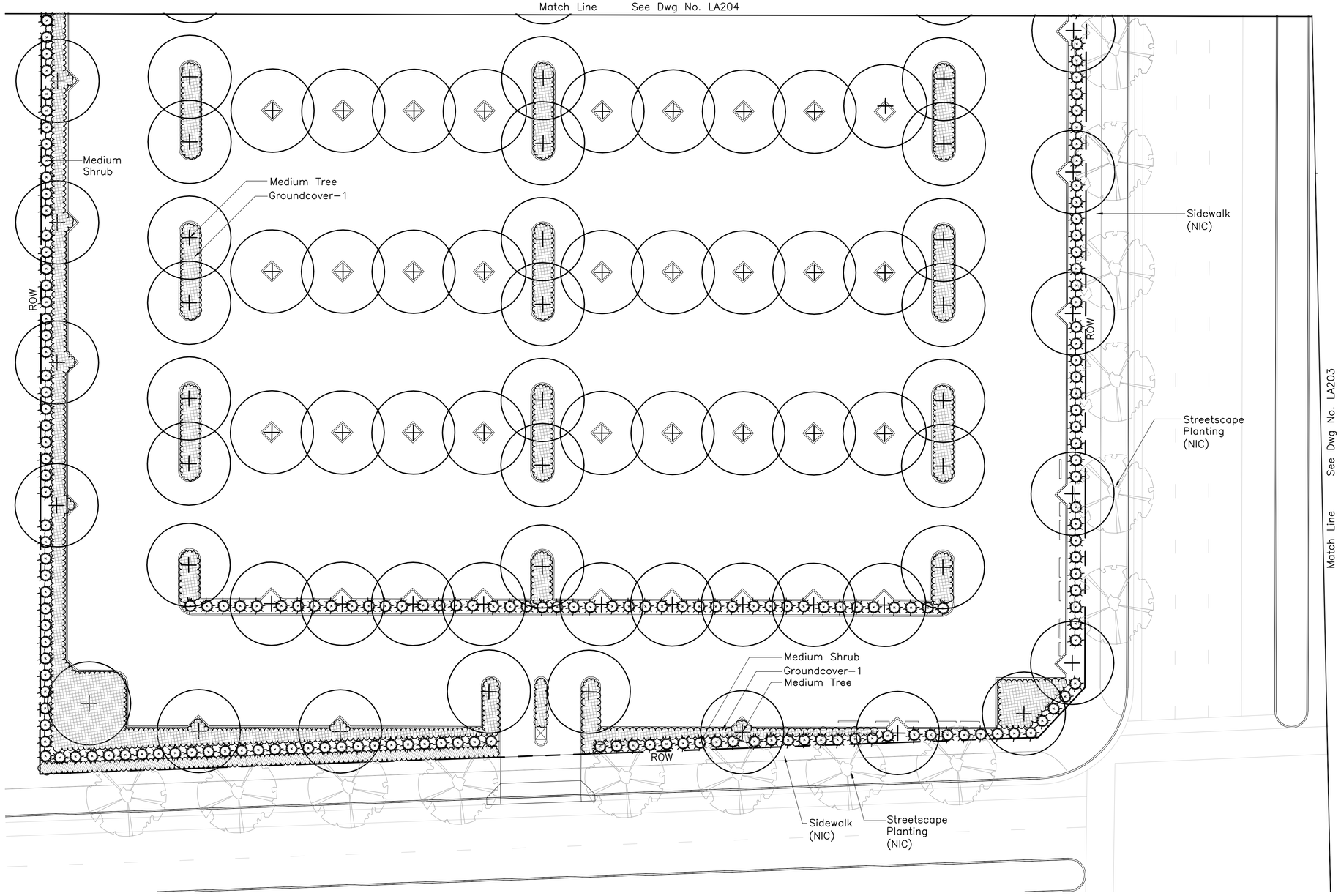

LEGEND

- Large Tree: Kukui
- Medium Tree: Queen's White Shower
- Small Tree: Kou
- Palm: Manila, Loulu
- Medium Shrub: Kulu'i, 'A'Ali'i, Naupaka
- Groundcover–1: Akia, Pohinahina
- Groundcover–2: Lantana, Lauae
- Green Roof: Akulikuli, Alula, Echeveria, Ice plant, Kalanchoe
- Lawn: El Toro

PLANTING NOTES:

1. Backfill mix shall consist of three (3) parts of imported screened soil to one (1) part organic soil amendments (see specifications). Add one (1) pound of 10–30–10 fertilizer to one (1) cubic yard of backfill mix. Mix thoroughly on project site prior to any planting operations.
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D)	2–1/2 gallon	2 tablets

   Use agriform tablets 20–10–5, 21 gram size.
5. Stabilize sloped areas with jute matting as needed and install per manufacturer's guidelines.

20' 0 20'

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UH WEST O'AHU STATION
PARKING & TRANSIT CENTER

PLANTING PLAN

SHEET 4 OF 4

Contract No.: SV–140
CADD File: SB2–J04–LA205
Drawing No.: LA205 Rev.:
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Page No.: 71 of 77

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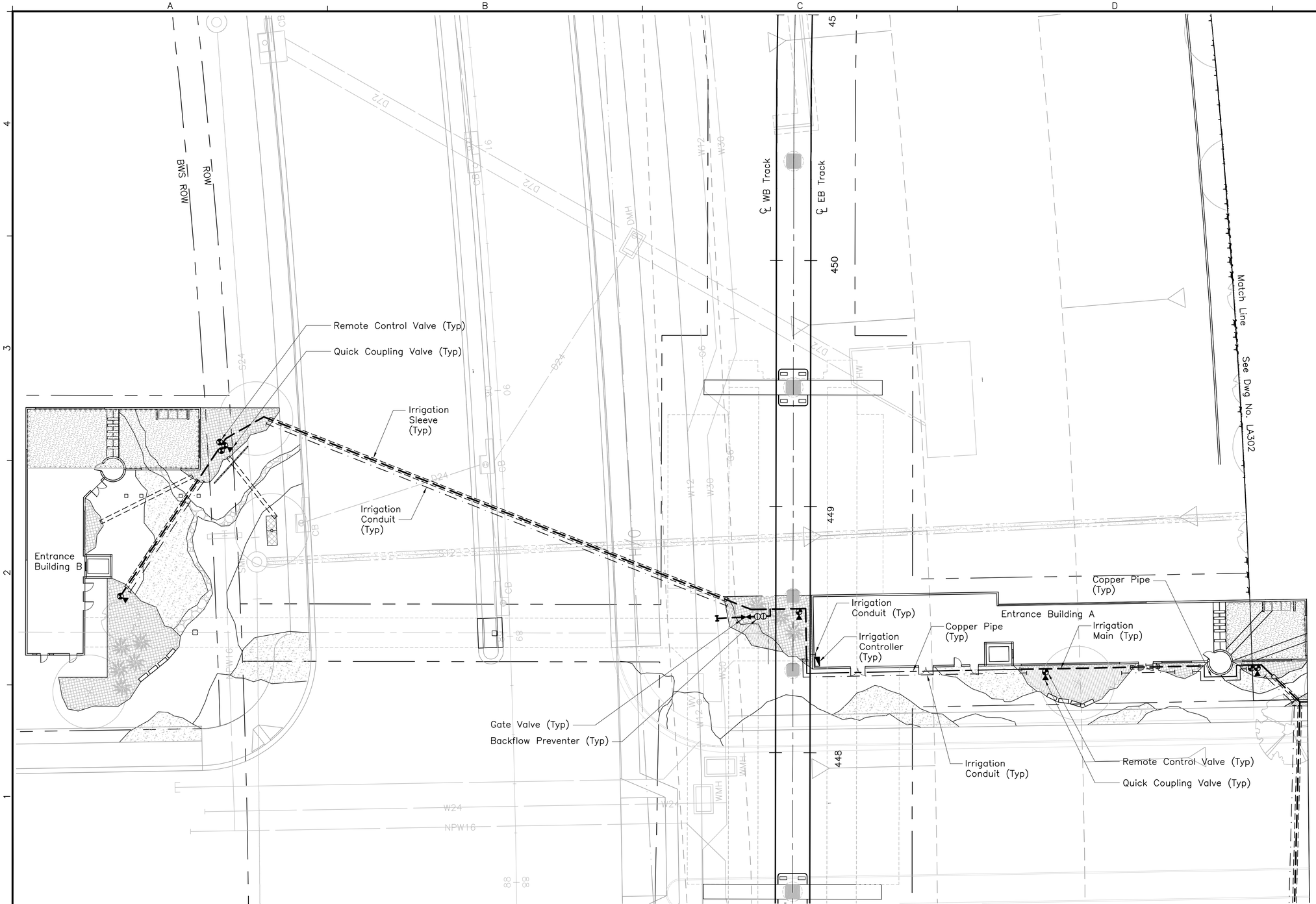

IRRIGATION LEGEND:

- Point of Connection
- Remote Control Valve
- Quick Coupling Valve
- Controller
- Main
- Sleeve
- Conduit
- Copper Pipe

IRRIGATION NOTES:

1. Preserve and protect all existing irrigation meters, backflow preventers and points of connection for reuse. Finish grades to be maintained around reused equipment.
2. Demolish and remove all existing irrigation mainline, laterals, valves, heads.
3. Install 2–wire system and controllers.
4. Connect HDPE mainline to service pipe and other non–HDPE pipe by mechanical connection. All other HDPE joints shall be heat fusion per manufacturer's recommendations.
5. All mainline and laterals shall be HDPE.
6. Sleeves and conduit pipe can be PVC.
7. Adjust heads as required to account for any vertical obstructions.
8. Provide sufficient laterals and heads for full coverage of planting area.
9. Permanently mark sleeve and conduit locations by installing detectable warning tape.
10. Provide electric handholes for irrigation control wires at a minimum 250 ft. spacing.

20' 0 20'

Rev	By	Date	Description

PRELIMINARY ENGINEERING SUBJECT TO REVISION

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Drawn: E Beckhusen
Checked: D Easterday
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UH WEST O'AHU STATION
STATION

IRRIGATION PLAN

Contract No.: SV–140
CADD File: SB2–J05–LA301
Drawing No.: LA301 Rev.
Scale: 1"=20'
Page No. 72 of 77

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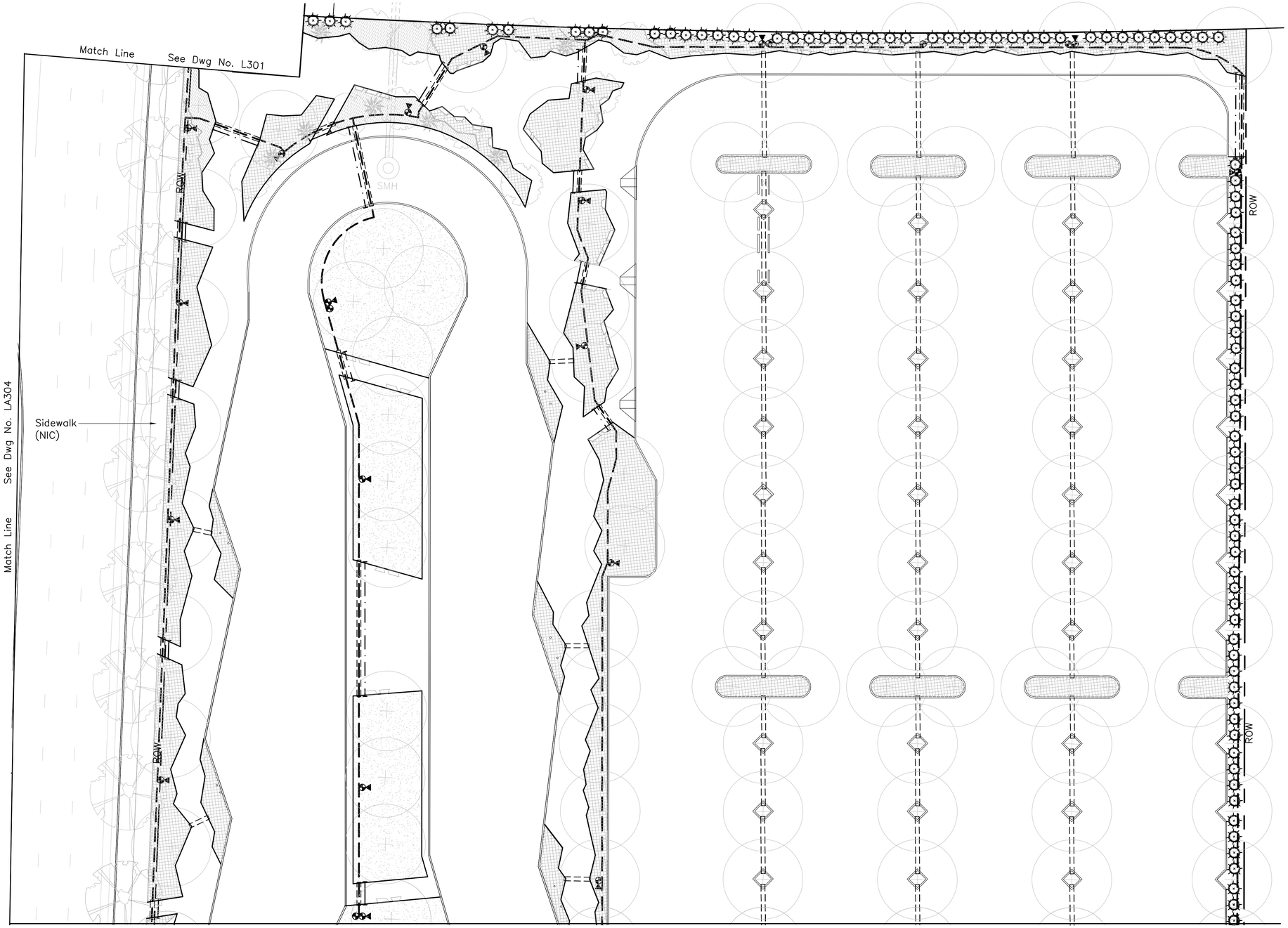

IRRIGATION LEGEND:

- Point of Connection
- Remote Control Valve
- Quick Coupling Valve
- Controller
- Main
- Sleeve
- Conduit
- Copper Pipe

IRRIGATION NOTES:

1. Preserve and protect all existing irrigation meters, backflow preventers and points of connection for reuse. Finish grades to be maintained around reused equipment.
2. Demolish and remove all existing irrigation mainline, laterals, valves, heads.
3. Install 2–wire system and controllers.
4. Connect HDPE mainline to service pipe and other non–HDPE pipe by mechanical connection. All other HDPE joints shall be heat fusion per manufacturer's recommendations.
5. All mainline and laterals shall be HDPE.
6. Sleeves and conduit pipe can be PVC.
7. Adjust heads as required to account for any vertical obstructions.
8. Provide sufficient laterals and heads for full coverage of planting area.
9. Permanently mark sleeve and conduit locations by installing detectable warning tape.
10. Provide electric handholes for irrigation control wires at a minimum 250 ft. spacing.

20' 0 20'

Rev	By	Date	Description

PRELIMINARY ENGINEERING SUBJECT TO REVISION

Designed: C Hironaka
Drawn: E Beckhusen
Checked: D Easterday
Approved: A Kutsunai
Date: 09–25–09

HONOLULU HIGH-CAPACITY TRANSIT CORRIDOR PROJECT
CITY & COUNTY OF HONOLULU - DEPARTMENT OF TRANSPORTATION SERVICES - RAPID TRANSIT DIVISION

Prime Consultant: PB PARSONS BRINCKERHOFF
1003 Bishop Street, Suite 2250 – Honolulu, HI 96813

Subconsultant: BELT COLLINS
PLANNING • CIVIL ENGINEERING
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL CONSULTING
Belt Collins Hawaii Ltd.
2153 North King Street, Suite 200
Honolulu, Hawaii 96819
T: 808.521.5361 • F: 808.538.7819
www.beltcollins.com

For reduced prints, original page size in inches: 0 1 2 3 4

UH WEST O'AHU STATION
PARKING & TRANSIT CENTER

IRRIGATION PLAN

SHEET 1 OF 4

Contract No.: SV–140
CADD File: SB2–J05–LA302
Drawing No.: LA302 Rev.
Scale: 1"=20'
Page No. 73 of 77

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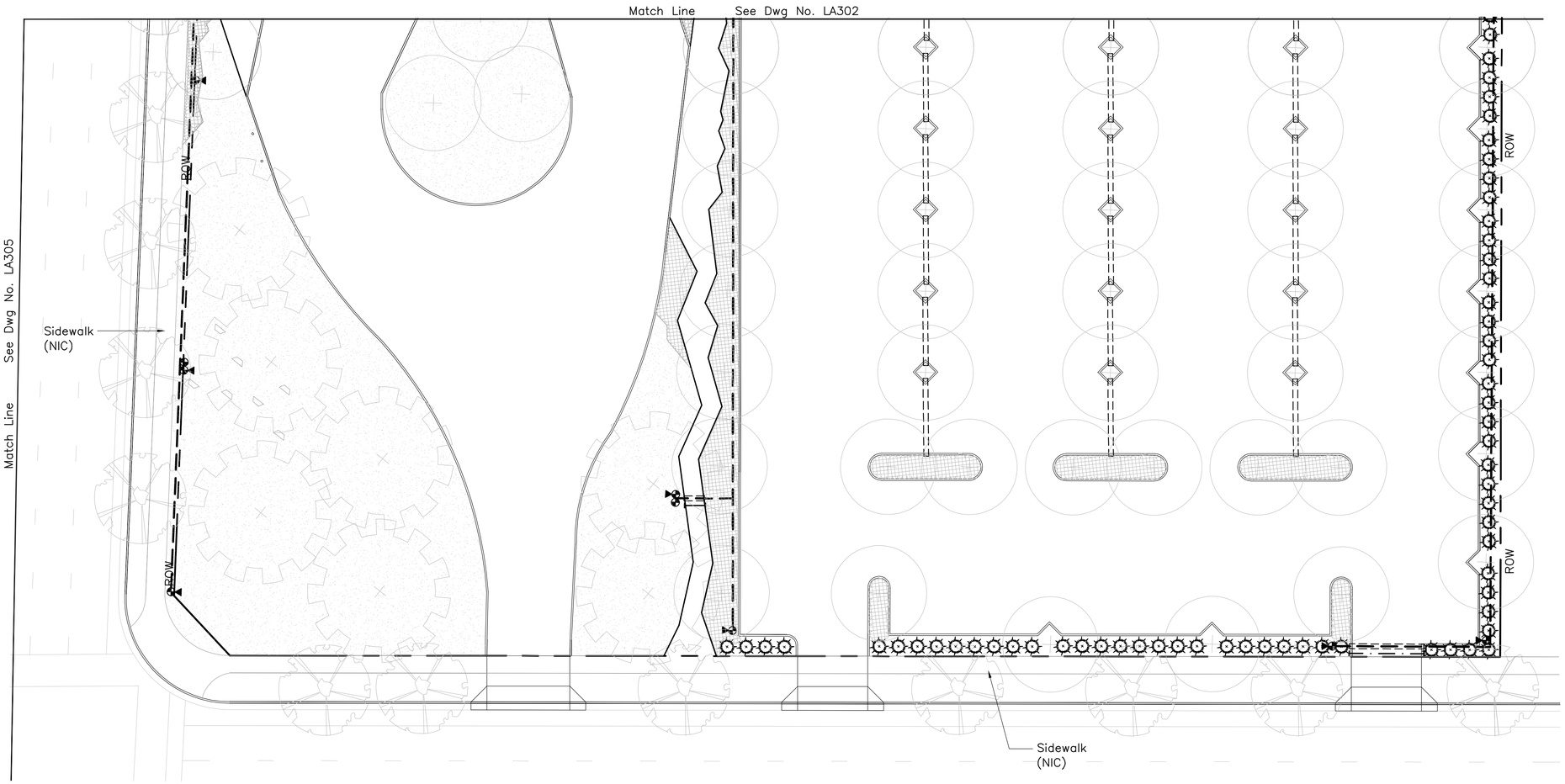

IRRIGATION LEGEND:

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- Remote Control Valve
- Quick Coupling Valve
- Controller
- Main
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Rev	By	Date	Description

PRELIMINARY ENGINEERING SUBJECT TO REVISION

Designed: C Hironaka
Drawn: E Beckhusen
Checked: D Easterday
Approved: A Kutsunai
Date: 09–25–09

HONOLULU HIGH-CAPACITY TRANSIT CORRIDOR PROJECT
CITY & COUNTY OF HONOLULU - DEPARTMENT OF TRANSPORTATION SERVICES - RAPID TRANSIT DIVISION

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UH WEST O'AHU STATION
PARKING & TRANSIT CENTER

IRRIGATION PLAN

SHEET 2 OF 4

Contract No.: SV–140
CADD File: SB2–J05–LA303
Drawing No.: LA303 | Rev.:
Scale: 1"=20'
Page No.: 74 of 77

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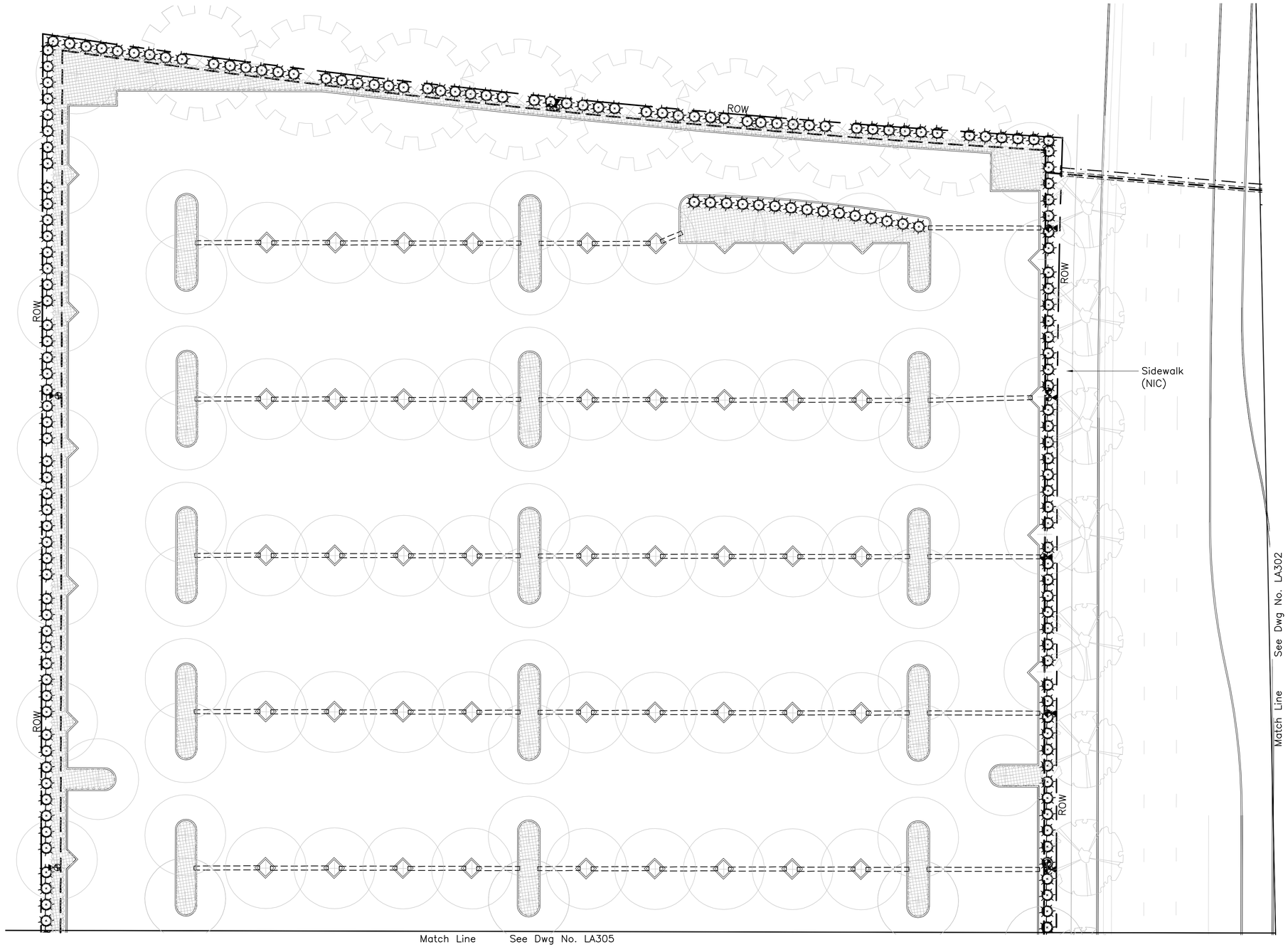

IRRIGATION LEGEND:

- Point of Connection
- Remote Control Valve
- Quick Coupling Valve
- Controller
- Main
- Sleeve
- Conduit
- Copper Pipe

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20' 0 20'

Rev	By	Date	Description

PRELIMINARY ENGINEERING SUBJECT TO REVISION

Designed: C Hironaka
Drawn: E Beckhusen
Checked: D Easterday
Approved: A Kutsunai
Date: 09–25–09

HONOLULU HIGH-CAPACITY TRANSIT CORRIDOR PROJECT

CITY & COUNTY OF HONOLULU - DEPARTMENT OF TRANSPORTATION SERVICES - RAPID TRANSIT DIVISION

Prime Consultant: PB PARSONS BRINCKERHOFF
1003 Bishop Street, Suite 2250 – Honolulu, HI 96813

Subconsultant: BELT COLLINS
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UH WEST O'AHU STATION
PARKING & TRANSIT CENTER

IRRIGATION PLAN

SHEET 3 OF 4

Contract No.: SV–140
CADD File: SB2–J05–LA304
Drawing No.: LA304 Rev.
Scale: 1"=20'
Page No. 75 of 77

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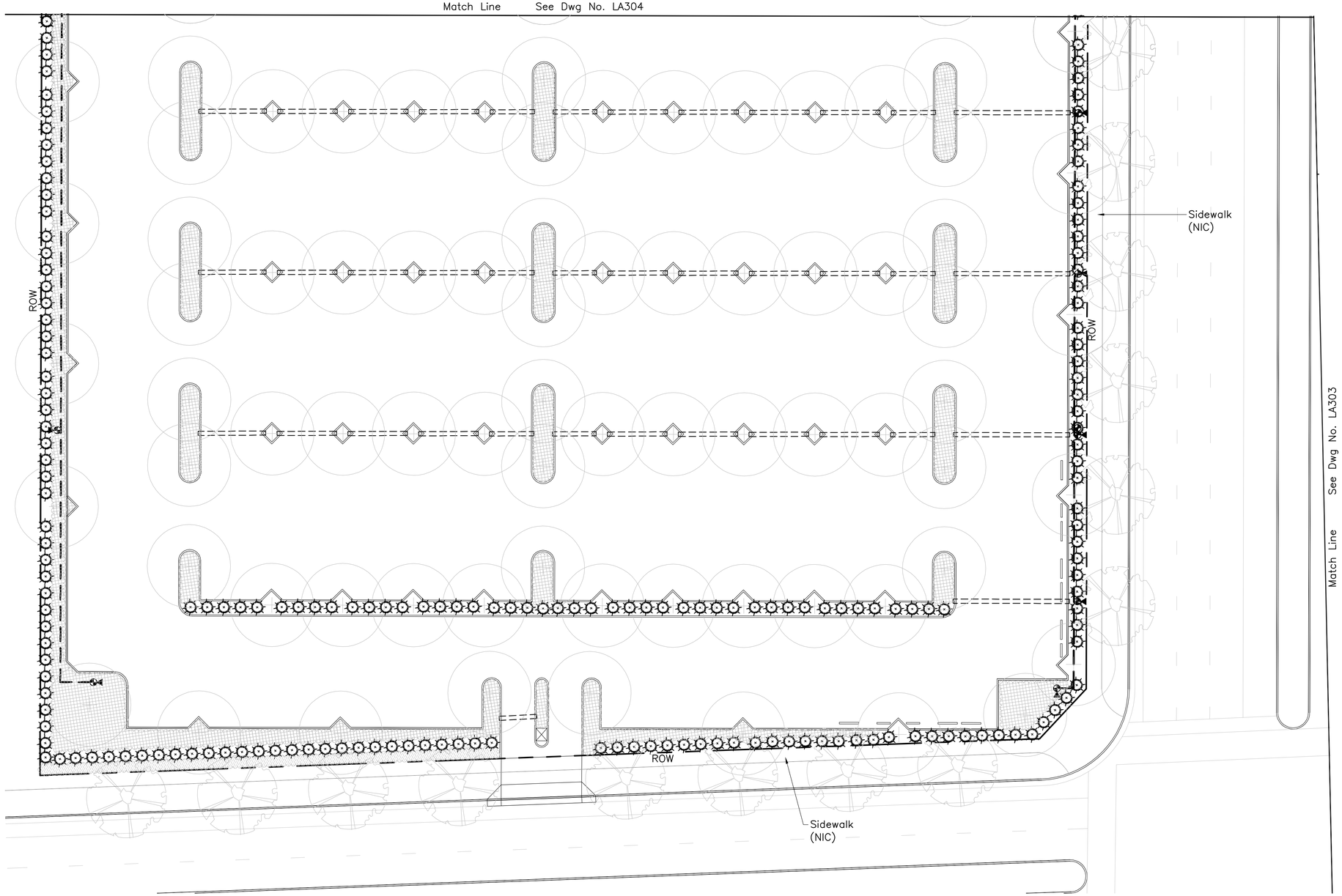

N

IRRIGATION LEGEND:

- Point of Connection
- Remote Control Valve
- Quick Coupling Valve
- Controller
- Main
- Sleeve
- Conduit
- Copper Pipe

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20' 0 20'

Rev	By	Date	Description

PRELIMINARY ENGINEERING SUBJECT TO REVISION

Designed: C Hironaka
Drawn: E Beckhusen
Checked: D Easterday
Approved: A Kutsunai
Date: 09–25–09

HONOLULU HIGH-CAPACITY TRANSIT CORRIDOR PROJECT

CITY & COUNTY OF HONOLULU - DEPARTMENT OF TRANSPORTATION SERVICES - RAPID TRANSIT DIVISION

Prime Consultant: PB 100 YEARS PARSONS BRINCKERHOFF
1003 Bishop Street, Suite 2250 – Honolulu, HI 96813

Subconsultant: BELT COLLINS
PLANNING • CIVIL ENGINEERING
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UH WEST O'AHU STATION PARKING & TRANSIT CENTER

IRRIGATION PLAN

SHEET 4 OF 4

Contract No.: SV–140
CADD File: SB2–J05–LA305
Drawing No.: LA305 Rev.
Scale: 1"=20'
Page No. 76 of 77

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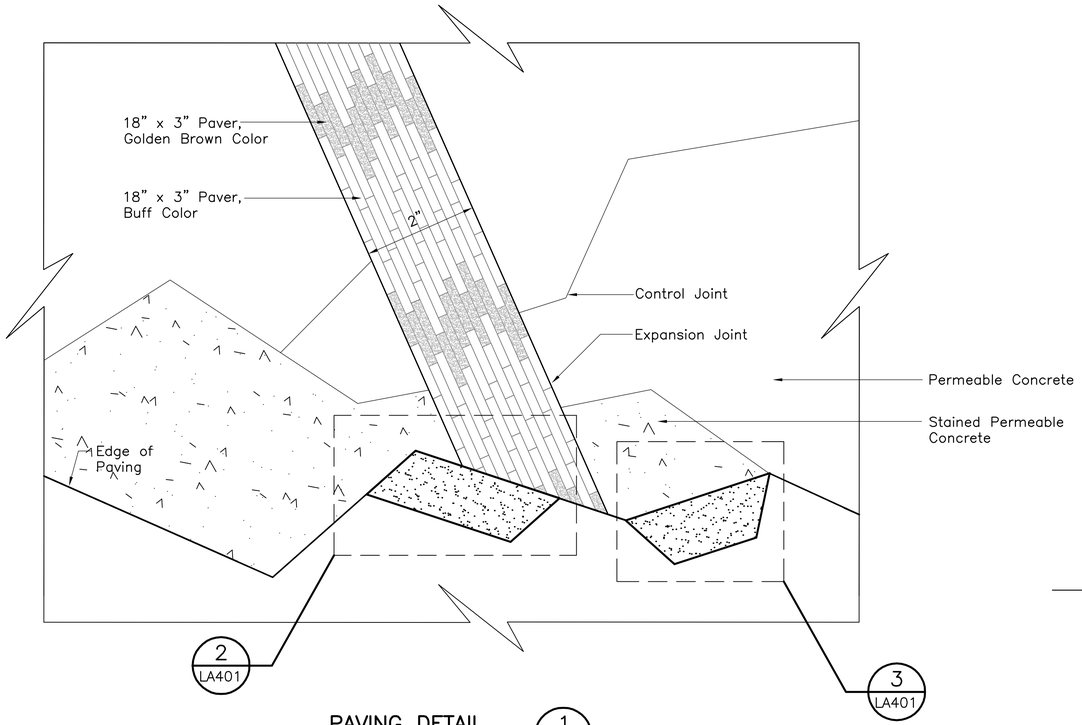
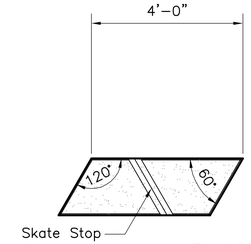
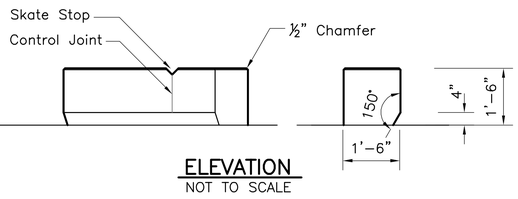


PAVING DETAIL 1 / LA401
NOT TO SCALE

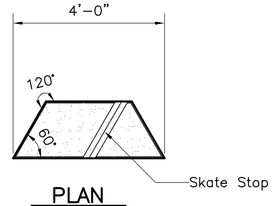


PLAN
NOT TO SCALE



ELEVATION
NOT TO SCALE

SEAT BLOCK "A" DETAIL 2 / LA401
NOT TO SCALE



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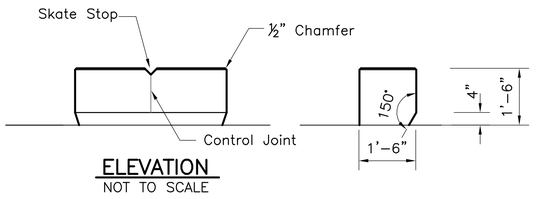

ELEVATION
NOT TO SCALE

SEAT BLOCK "B" DETAIL 3 / LA401
NOT TO SCALE

LA101

PRELIMINARY ENGINEERING SUBJECT TO REVISION

Rev	By	Date	Description

Designed: C Hironaka
Drawn: E Beckhusen
Checked: D Easterday
Approved: A Kutsunai
Date: 09–25–09

HONOLULU HIGH-CAPACITY TRANSIT CORRIDOR PROJECT
CITY & COUNTY OF HONOLULU - DEPARTMENT OF TRANSPORTATION SERVICES - RAPID TRANSIT DIVISION

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UH WEST O'AHU STATION

MISCELLANEOUS DETAILS

Contract No.: SV–140
CADD File: SB2–J06–LA401
Drawing No: LA401 Rev.
Scale: AS NOTED
Page No. 77 of 77

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UH WEST OAHU STATION

APPENDIX A - INFORMATIVE DRAWINGS

NOTES:

1. ROW acquisition may be in the form of an aerial easement; an easement allowing joint use; subdivision of property with transfer of title; transfer of title for the entire parcel; or some other form to be documented by Land Court registration.
2. Construction easements are the responsibility of the Design-Build Contractor and should be defined during the final design phase and are not reflected on plans.
3. See Dwg No. CG001 for general civil notes, legend and abbreviations.
4. See Dwg No. RW001 for Right-of-Way notes and legend.

Tax Map Key Number	Parcel Acquisitions	House Number	Street Name	Land Use
9-1-016:129	Partial	–	–	Agricultural
B 9-1-017:004	Partial	–	–	Agricultural
9-1-017:086	Partial	–	–	Agricultural

40' 0 40'

Rev	By	Date	Description
B	LK	05-22-09	Revised And Added Need Areas
A	AB	04-03-09	Issued For Bid

BID DOCUMENT
NOT FOR CONSTRUCTION

Designed: L Karamatsu
Drawn: A Viterbo
Checked: K Wong
Approved: A Borst
Date: 04-03-09

HONOLULU HIGH-CAPACITY TRANSIT CORRIDOR PROJECT
CITY & COUNTY OF HONOLULU - DEPARTMENT OF TRANSPORTATION SERVICES - RAPID TRANSIT DIVISION

Prime Consultant: PARSONS BRINCKERHOFF
1003 Bishop Street, Suite 2250 – Honolulu, HI 96813

Subconsultant:

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WEST O`AHU / FARRINGTON DESIGN-BUILD

EXISTING RIGHT-OF-WAY &
PROPOSED ACQUISITION TABULATIONS

EB 440+00 TO EB 450+00

Contract No.: DB-1200
CADD File: WF-B04-RW006
Drawing No: RW006
Rev.: B
Scale: 1"=40'
Page No. 30 of 312

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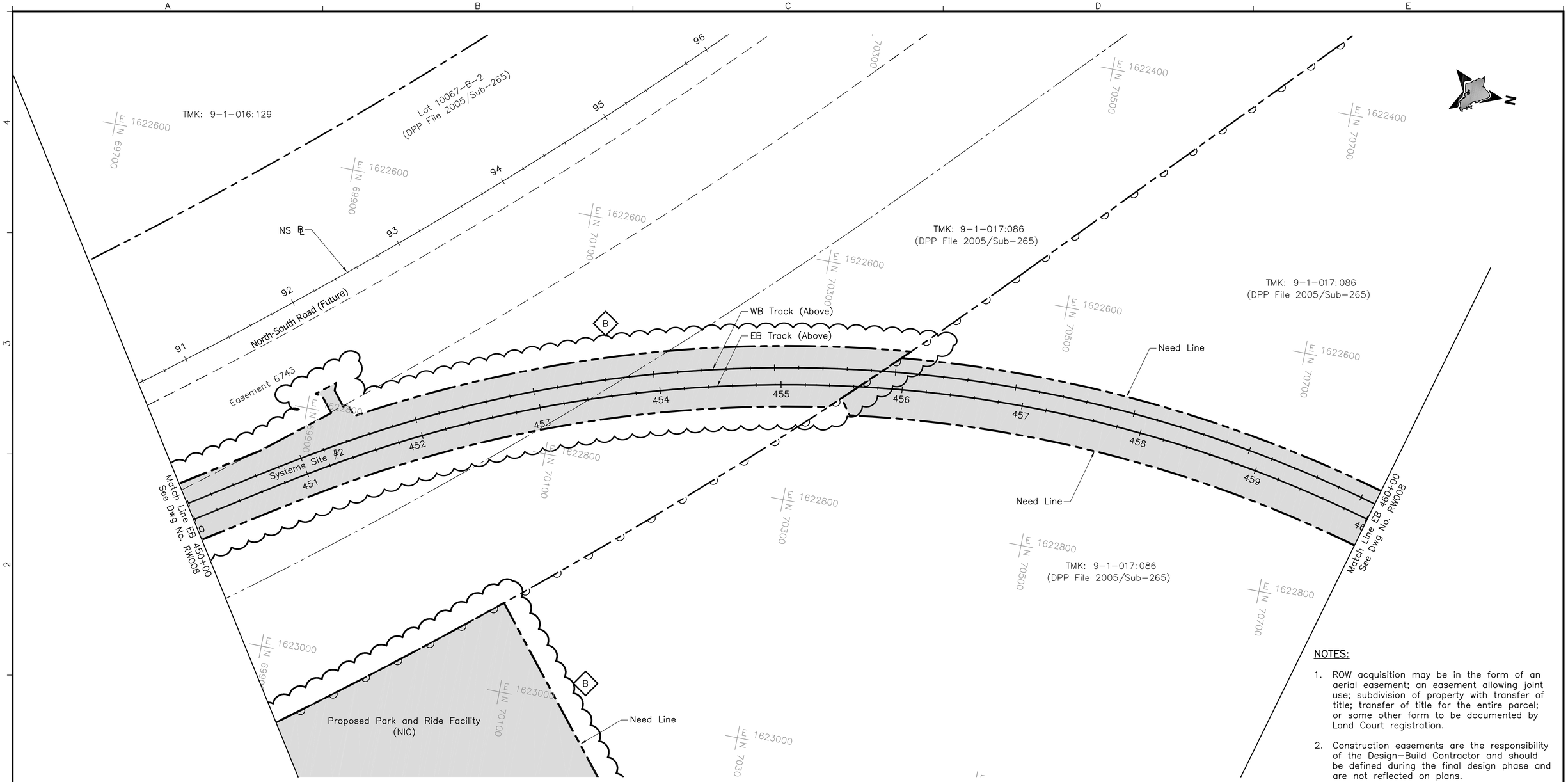

Tax Map Key Number	Parcel Acquisitions	House Number	Street Name	Land Use
9-1-016:129	Partial	–	–	Agricultural
B 9-1-017:004	Partial	–	–	Agricultural
9-1-017:086	Partial	–	–	Agricultural

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3. See Dwg No. CG001 for general civil notes, legend and abbreviations.
4. See Dwg No. RW001 for Right–of–Way notes and legend.

40' 0 40'

Rev	By	Date	Description
B	LK	05–22–09	Revised And Added Need Areas
A	AB	04–03–09	Issued For Bid

BID DOCUMENT
NOT FOR CONSTRUCTION

Designed: L Karamatsu
Drawn: A Viterbo
Checked: K Wong
Approved: A Borst
Date: 04–03–09

HONOLULU HIGH-CAPACITY TRANSIT CORRIDOR PROJECT
CITY & COUNTY OF HONOLULU - DEPARTMENT OF TRANSPORTATION SERVICES - RAPID TRANSIT DIVISION

Prime Consultant: PB PARSONS BRINCKERHOFF
1003 Bishop Street, Suite 2250 – Honolulu, HI 96813

Subconsultant:

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WEST O`AHU / FARRINGTON DESIGN-BUILD

EXISTING RIGHT-OF-WAY & PROPOSED ACQUISITION TABULATIONS

EB 450+00 TO EB 460+00

Contract No.: DB–1200
CADD File: WF–B04–RW007
Drawing No.: RW007 Rev.: B
Scale: 1"=40'
Page No.: 31 of 312

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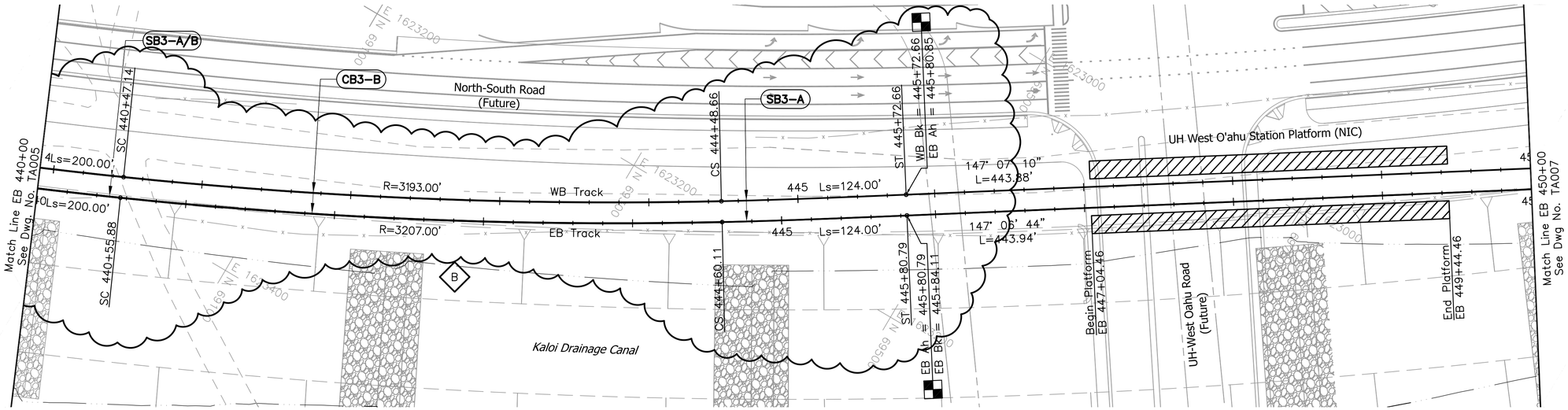
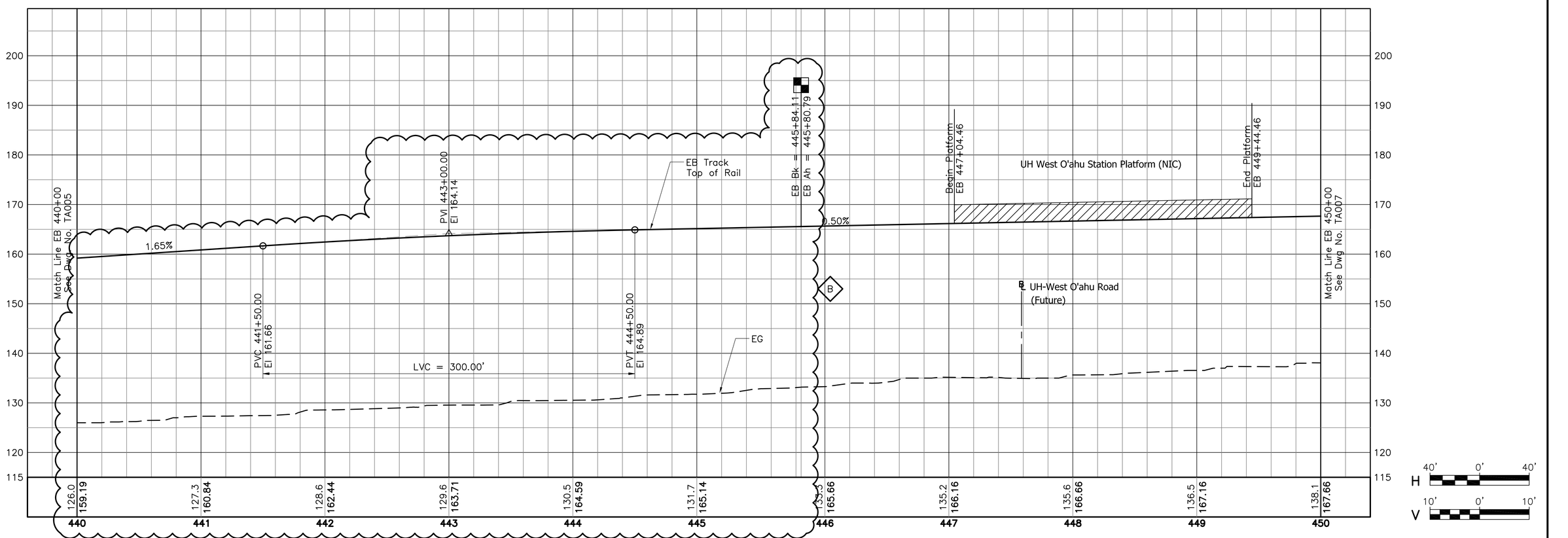


NOTES:

1. For general notes, symbols, and abbreviations, see Dwg No. CG001.
2. For track alignment abbreviations, see Dwg No. CG002.
3. For Station information, refer to Structural Plans.



Rev	By	Date	Description
B	EL	05-22-09	Revised Horiz/Vert Align & Exist Ground
A	AB	04-03-09	Issued For Bid

BID DOCUMENT
NOT FOR CONSTRUCTION

Designed: M Hall
Drawn: R Nacion
Checked: E Liberman
Approved: A Borst
Date: 04-03-09

HONOLULU HIGH-CAPACITY TRANSIT CORRIDOR PROJECT
CITY & COUNTY OF HONOLULU - DEPARTMENT OF TRANSPORTATION SERVICES - RAPID TRANSIT DIVISION

Prime Consultant: PARSONS BRINCKERHOFF
1003 Bishop Street, Suite 2250 – Honolulu, HI 96813

Subconsultant:

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WEST O'AHU/FARRINGTON DESIGN-BUILD

TRACK ALIGNMENT
PLAN & PROFILE

EB 440+00 TO EB 450+00

Contract No.: DB-1200
CADD File: WF-B05-TA006
Drawing No: TA006
Rev. B
Scale: 1"=40' H, 1"=10' V
Page No. 69 of 312

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ALIGNMENT: SEG B – EB Track

Curve No	Curve Element	Type	Station	Northing	Easting	Data	
No. 10 Xover		PS	409+06.31	65938.395	1623553.100		
		PITO	409+37.73	65968.869	1623560.738		
No. 10 Xover		PITO	410+77.38	66104.331	1623594.692		
		PS	411+08.80	66134.805	1623602.331		
CB3	**SB3–B**	TS:	412+09.29	66232.283	1623626.764	Ls_1 =	93.00'
						Ts_1 =	1518.35'
						Θs_1 =	00° 38' 10.74"
		SC:	413+02.29	66322.575	1623649.041		
	CB3–A V=55 mph Ea=1.50" Eu=1.35"					R_1 =	4187.00'
						Lc_1 =	2553.59'
						Δ_1=	34° 56' 38.03"
		CS:	438+55.88	68830.537	1623472.052	Dc_1 =	01° 22' 06.31"
	SB3–A/B	PI:	–	68025.886	1624076.339	Lcs =	200.00'
						I =	47° 03' 52.74"
						Θcs =	03° 09' 18.02"
	CB3–B V=55 mph Ea=2.00" Eu=1.74"	SC:	440+55.88	69014.592	1623393.863		
						R_2 =	3207.00'
						Lc_2 =	404.22'
						Δ_2=	07° 13' 18.30"
	SB3–A	CS:	444+60.11	69370.349	1623202.511	Dc_2 =	01° 47' 11.71"
						Ls_2 =	124.00'
						Ts_2 =	384.51'
		ST:	445+80.79	69474.784	1623135.661	Θs_2 =	01° 06' 27.66"
						L =	443.94'
						Di =	147° 00' 24.80"
UH West O'ahu Station			447+04.46	–	–		
			449+44.46	–	–		
CB4	**SB4–B**	TS:	450+24.73	69847.128	1622893.921	Ls =	115.00'
						Ts =	1092.37'
						Θs =	03° 00' 51.08"
		SC:	451+39.73	69944.654	1622833.008	I =	86° 50' 38.58"
	V=35 mph Ea=1.75" Eu=2.69"					R =	1093.00'
		PI:	–	70763.336	1622299.086	Lc =	1541.68'
						Δ =	80° 48' 56.43"
	SB4–A	CS:	466+81.40	71338.263	1623089.510	Dc =	05° 14' 31.44"
		ST:	467+96.40	71407.710	1623181.156		
						L =	3560.18'
						Di =	233° 51' 03.38"
No. 10 Xover		PS	496+22.64	73074.871	1625463.297		
		PITO	496+54.06	73093.404	1625488.666		

ALIGNMENT: SEG B – WB Track

Curve No	Curve Element	Type	Station	Northing	Easting	Data	
No. 10 Xover		PS	409+06.31	65941.799	1623539.520		
		PITO	409+37.73	65972.273	1623547.158		
No. 10 Xover		PITO	410+77.38	66107.735	1623581.112		
		PS	411+08.80	66138.209	1623588.751		
CB3	**SB3–B**	TS:	412+09.28	66235.670	1623613.180	Ls_1 =	93.00'
						Ts_1 =	1513.91'
						Θs_1 =	00° 38' 18.42"
		SC:	413+02.28	66325.963	1623635.456		
	CB3–A V=55 mph Ea=1.50" Eu=1.36"					R_1 =	4173.00'
						Lc_1 =	2544.87'
						Δ_1=	34° 56' 28.76"
		CS:	438+47.14	68825.358	1623459.034	Dc_1 =	01° 22' 22.84"
	SB3–A/B	PI:	–	68023.376	1624061.277	Lcs =	200.00'
						I =	47° 03' 52.74"
						Θcs =	03° 10' 02.75"
	CB3–B V=55 mph Ea=2.00" Eu=1.75"	SC:	440+47.14	69009.406	1623380.828		
						R_2 =	3193.00'
						Lc_2 =	401.52'
						Δ_2=	07° 12' 17.67"
	SB3–A	CS:	444+48.66	69362.773	1623190.734	Dc_2 =	01° 47' 39.91"
						Ls_2 =	124.00'
						Ts_2 =	383.11'
		ST:	445+72.66	69467.210	1623123.887	Θs_2 =	01° 06' 45.14"
						L =	443.88'
						Di =	147° 00' 24.80"
UH West O'ahu Station			447+04.46	–	–		
			449+44.46	–	–		
CB4	**SB4–B**	TS:	450+24.73	69839.510	1622882.176	Ls =	115.00'
						Ts =	1105.61'
						Θs =	02° 58' 33.84"
		SC:	451+39.73	69937.023	1622821.240	I =	86° 50' 38.58"
	V=35 mph Ea=1.75" Eu=2.63"					R =	1107.00'
		PI:	–	70766.825	1622280.129	Lc =	1562.90'
						Δ =	80° 53' 30.89"
	SB4–A	CS:	467+02.63	71349.585	1623081.231	Dc =	05° 10' 32.77"
		ST:	467+96.40	71419.011	1623172.892		
						L =	3560.18'
						Di =	233° 51' 03.38"
No. 10 Xover		PS	496+22.64	73086.176	1625455.039		
		PITO	496+54.06	73104.708	1625480.407		

Rev	By	Date	Description
B	EL	05–22–09	Revised Horizontal Alignment
A	AB	04–03–09	Issued For Bid

BID DOCUMENT
NOT FOR CONSTRUCTION

Designed: M Hall
Drawn: R Nacion
Checked: E Liberman
Approved: A Borst
Date: 04–03–09

HONOLULU HIGH-CAPACITY TRANSIT CORRIDOR PROJECT
CITY & COUNTY OF HONOLULU - DEPARTMENT OF TRANSPORTATION SERVICES - RAPID TRANSIT DIVISION

Prime Consultant: PB PARSONS BRINCKERHOFF
1003 Bishop Street, Suite 2250 – Honolulu, HI 96813

Subconsultant:

For reduced prints, original page size in inches: 0 1 2 3 4

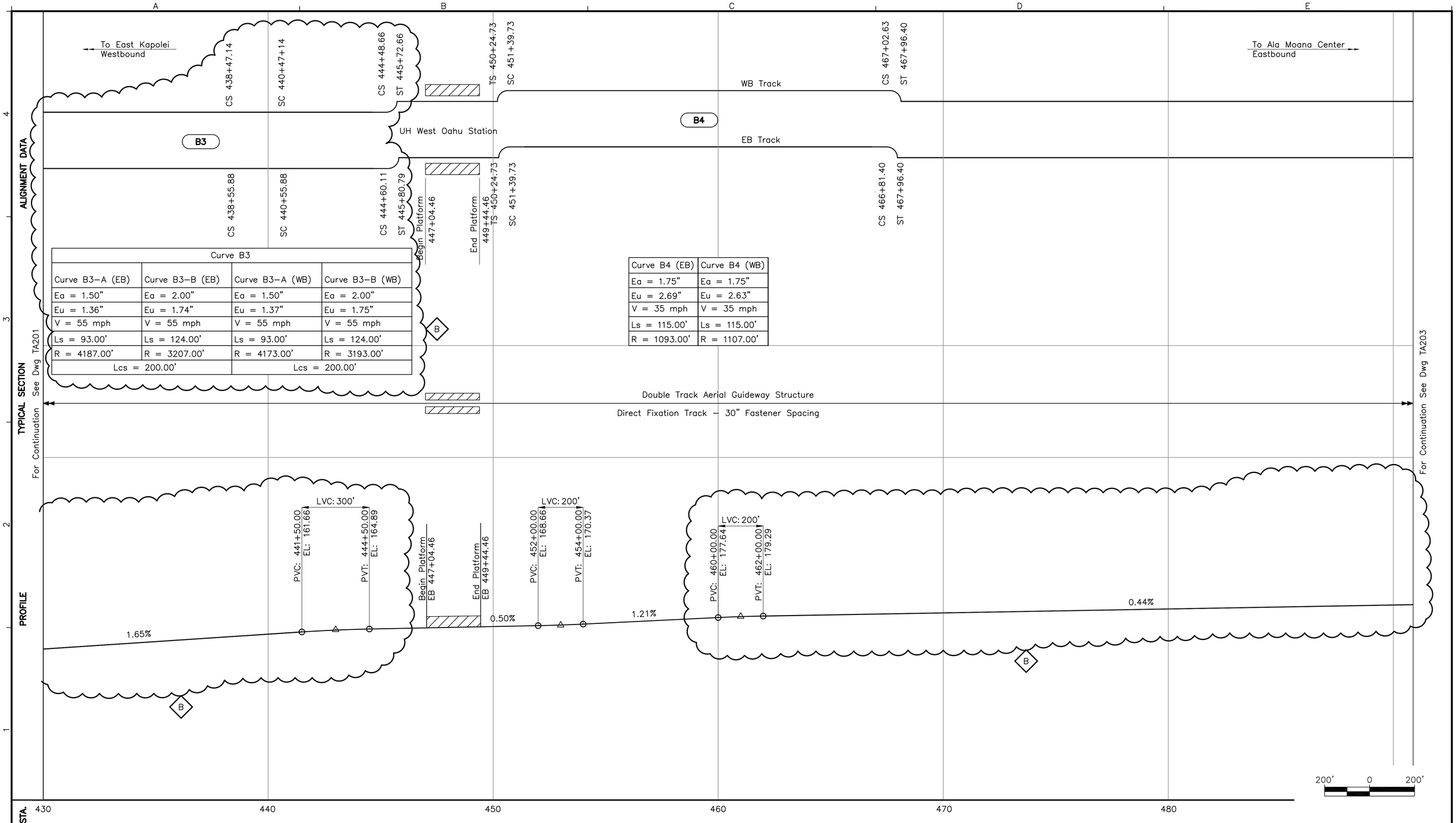
WEST O'AHU/FARRINGTON DESIGN-BUILD

TRACK ALIGNMENT DATA

SHEET 2 OF 8

Contract No.: DB–1200
CADD File: WF–B06–TA102
Drawing No.: TA102 Rev. B
Scale: N/A
Page No. 104 of 312

2009–05–11 10:46 AM K:\CADD\03 Civil\Control Points\WF–B06_TRCK–data.dwg



Curve B3			
Curve B3–A (EB)	Curve B3–B (EB)	Curve B3–A (WB)	Curve B3–B (WB)
Ea = 1.50"	Ea = 2.00"	Ea = 1.50"	Ea = 2.00"
Eu = 1.36"	Eu = 1.74"	Eu = 1.37"	Eu = 1.75"
V = 55 mph	V = 55 mph	V = 55 mph	V = 55 mph
Ls = 93.00'	Ls = 124.00'	Ls = 93.00'	Ls = 124.00'
R = 4187.00'	R = 3207.00'	R = 4173.00'	R = 3193.00'
Lcs = 200.00'		Lcs = 200.00'	

Curve B4 (EB)	Curve B4 (WB)
Ea = 1.75"	Ea = 1.75"
Eu = 2.69"	Eu = 2.63"
V = 35 mph	V = 35 mph
Ls = 115.00'	Ls = 115.00'
R = 1093.00'	R = 1107.00'

Rev	By	Date	Description
B	EL	05–22–09	Revised Horiz & Vert Alignment
A	MH	04–03–09	Issued For Bid

BID DOCUMENT
NOT FOR CONSTRUCTION

Designed: E Liberman
Drawn: J Derosier
Checked: B Wardell
Approved: M Hall
Date: 04–03–09

HONOLULU HIGH-CAPACITY TRANSIT CORRIDOR PROJECT

CITY & COUNTY OF HONOLULU - DEPARTMENT OF TRANSPORTATION SERVICES - RAPID TRANSIT DIVISION

Prime Consultant: PARSONS BRINCKERHOFF
1003 Bishop Street, Suite 2250 – Honolulu, HI 96813

Subconsultant:

For reduced prints, original page size in inches: 0 1 2 3 4

WEST O'AHU/FARRINGTON DESIGN-BUILD

TRACK CHARTS

SHEET 2 OF 7

Contract No.: DB–1200
CADD File: WF–B07–TA202
Drawing No: TA202
Rev. B
Scale: 1"=200'
Page No. 112 of 312

2009–05–13 1:13 PM K:\CADD\03 Civil\Segment C\Sheet Files\WF–B07_track charts.dwg

Future North-South Road

Future North-South Road Curb Line

Top of Exist Canal

Paved Area (AC)

Edge of Pavement (Proposed Utility Service Road)

2–5"ø Conduits (Comm)

6–5"ø Conduits (Negative)

4–2"ø Conduits (Negative Drainage)

6–5"ø Conduits (Positive)

To Station Comm Room

CONCRETE-ENCASED 4–4" CONDUITS

MHN

11.18'

40.00'

37.00'

106.00'

WB Track

EB Track

Guideway Column (Typ)

Foundation for TPSS #2

Proposed Retaining Wall & Chain Link Fence

Rip–Rap (Typ)

6–5"ø Conduits (Negative) Up to Column, Note 2

6–5"ø Conduits (Positive) Up to Column, Note 2

UH West O'ahu Station (NIC)

B

NOTE:

1. See Electrical and Communications Utility Relocation Plans for HECO underground ductbank equirements.
2. Refer to Directive Drawing TN010 for conduit stub–up details at Column.
3. Coordinate with Core Systems Contractor for exact location of conduit Stub–ups.
4. Refer to Directive Drawing RP101 for typical TPSS site plan.

20' 0 20'

Rev	By	Date	Description
B	DG	05–22–09	Relocated TPSS & Routing of DuctBank
A	DG	04–03–09	Issued For Bid

BID DOCUMENT
NOT FOR CONSTRUCTION

Designed: D Gobelle
Drawn: C Jamison
Checked: L Mayola
Approved: M Hall
Date: 04–03–09

HONOLULU HIGH-CAPACITY TRANSIT CORRIDOR PROJECT

CITY & COUNTY OF HONOLULU - DEPARTMENT OF TRANSPORTATION SERVICES - RAPID TRANSIT DIVISION

Prime Consultant: PB PARSONS BRINCKERHOFF
1003 Bishop Street, Suite 2250 – Honolulu, HI 96813

Subconsultant:

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WEST O`AHU/FARRINGTON DESIGN-BUILD

SYSTEMS SITE PLAN
SITE # 2

Contract No.: DB–1200
CADD File: WF–B10–RP104
Drawing No: RP104 Rev. B
Scale: 1"=20'
Page No. 151 of 312

2009–05–18 2:38 PM K:\CADD\16 Communications\WF–B10–RP104.dwg

ROADWAY HORIZONTAL CONTROL DATA – FARRINGTON HIGHWAY BASELINE – FH, FHI, FHO

NUMBER	TYPE	STATION	NORTHING	EASTING	BEARING	DISTANCE	Δ	R	T	Lc	CURVE NO.
FH	POB	48+00.00	75424.84	1627455.43	268° 45' 38"	2183.41	-	-	-	-	-
	PC	69+83.41	75472.07	1629638.32	-	-	27°34'00"	2864.83	702.79	1378.35	FH-1
	PT	83+61.76	75825.91	1630956.76	241° 11' 38"	758.47	-	-	-	-	-
	POE	91+20.23	76191.38	1631621.38	-	-	-	-	-	-	-
"FH" 91+20.23, 0.55' RT BK= "FH" 46+66.18 AHD											

NUMBER	TYPE	STATION	NORTHING	EASTING	BEARING	DISTANCE	Δ	R	T	Lc	CURVE NO.
FH	POB	46+66.18	76190.90	1631621.64	241° 11' 34"	3070.93	-	-	-	-	-
	PC	77+37.11	77670.67	1634312.53	-	-	17°30'00"	6875.50	1058.24	2100.00	FH-2
	PT	98+37.11	78388.09	1636277.51	258° 41' 34"	3390.23	-	-	-	-	-
	PC	132+27.34	79052.81	1639601.94	-	-	30°56'00"	2864.79	792.68	1546.67	FH-3
	PT	147+74.01	79741.10	1640966.08	227° 45' 34"	1841.04	-	-	-	-	-
	POE	166+15.05	80978.73	1642329.06	-	-	-	-	-	-	-
"FH" 166+15.05 BK= "FHI" 0+00.00, 0.00' RT AHD											

NUMBER	TYPE	STATION	NORTHING	EASTING	BEARING	DISTANCE	Δ	R	T	Lc	CURVE NO.
FHI	POB	0+00.00	80978.73	1642329.06	227° 45' 34"	2417.95	-	-	-	-	-
	POE	24+17.95	82604.19	1644119.14	-	-	-	-	-	-	-
"FH" 166+15.05 BK= "FHO" 0+00.00, 49.99' LT AHD											

NUMBER	TYPE	STATION	NORTHING	EASTING	BEARING	DISTANCE	Δ	R	T	Lc	CURVE NO.
FHO	POB	0+00.00	81009.82	1642300.83	227° 45' 33"	2456.15	-	-	-	-	-
	POE	24+56.15	82660.96	1644119.18	-	-	-	-	-	-	-

ROADWAY HORIZONTAL CONTROL DATA – NORTH–SOUTH ROADWAY BASELINE – NS

NUMBER	TYPE	STATION	NORTHING	EASTING	BEARING	DISTANCE	Δ	R	T	Lc	CURVE NO.
NS	POB	0+00.00	61447.57	1622950.08	169° 35' 38"	95.47	-	-	-	-	-
	PC	0+95.47	61541.47	1622932.84	-	-	15°48'20"	1320.00	183.23	364.13	-
	PT	4+59.60	61886.07	1622818.81	153° 47' 18"	1157.84	-	-	-	-	-
	PC	16+17.44	62924.85	1622307.40	-	-	65°20'20"	1449.00	929.15	1652.41	-
	PT	32+69.85	64479.24	1622483.34	219° 07' 38"	981.54	-	-	-	-	-
	PC	42+51.39	65240.67	1623102.74	-	-	25°06'00"	1551.00	345.27	679.46	-
	PT	49+30.85	65843.48	1623404.30	194° 01' 38"	483.94	-	-	-	-	-
	PC	54+14.79	66312.99	1623521.60	-	-	60°40'00"	4051.00	2370.38	4289.33	-
	PT	97+04.12	70240.15	1622372.76	133° 21' 38"	3667.39	-	-	-	-	-
	PC	133+71.52	72758.13	1619706.38	-	-	27°38'34"	1640.00	403.47	791.23	-
	PT/POE	141+62.75	73144.45	1619024.66	-	-	-	-	-	-	-

Rev	By	Date	Description
A	AB	04–03–09	Issued For Bid

BID DOCUMENT
NOT FOR CONSTRUCTION

Designed: L Karamatsu
Drawn: R Angkaw
Checked: M Jewell
Approved: A Borst
Date: 04–03–09

HONOLULU HIGH-CAPACITY TRANSIT CORRIDOR PROJECT
CITY & COUNTY OF HONOLULU - DEPARTMENT OF TRANSPORTATION SERVICES - RAPID TRANSIT DIVISION

Prime Consultant: PB PARSONS BRINCKERHOFF
1003 Bishop Street, Suite 2250 – Honolulu, HI 96813

Subconsultant:

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WEST O'AHU/FARRINGTON DESIGN BUILD

ROADWAY HORIZONTAL CONTROL DATA

SHEET 1 OF 2

Contract No.: DB–1200
CADD File: WF–B12–RP201
Drawing No.: RP201 Rev.: A
Scale: NTS
Page No.: 160 of 312

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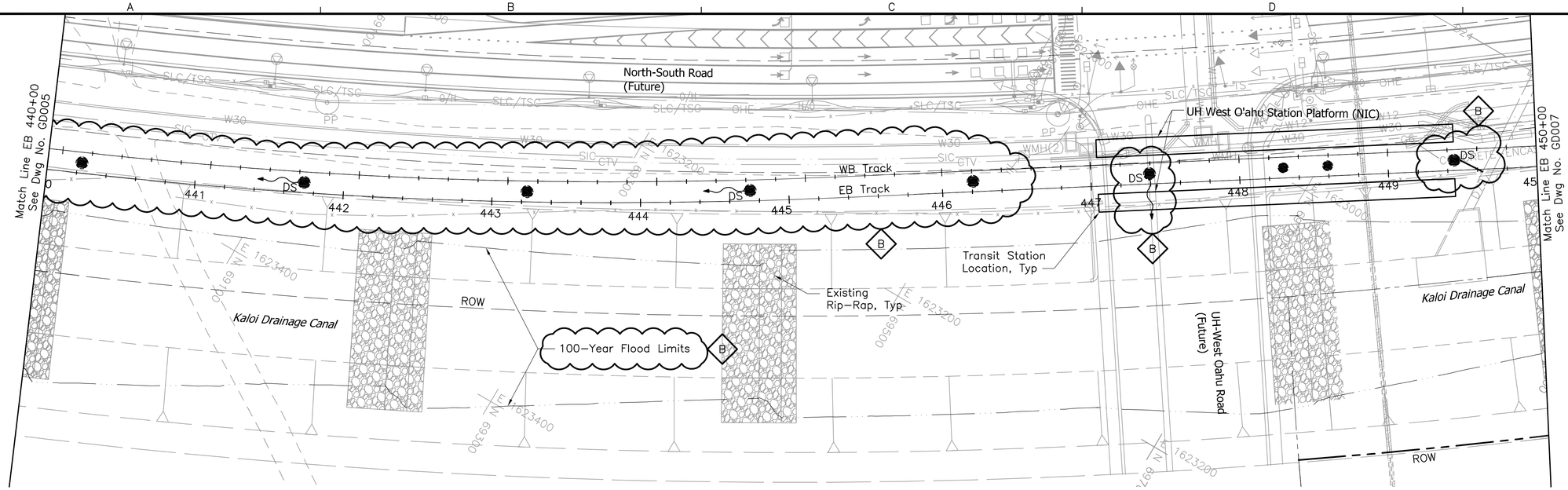
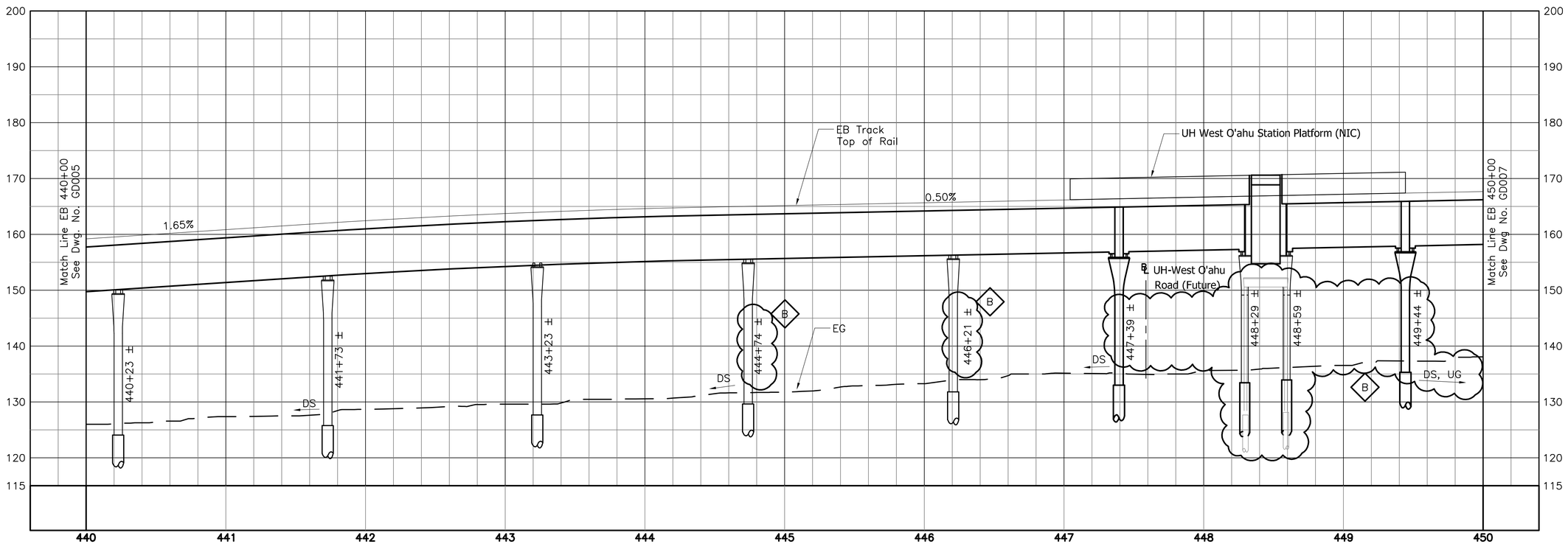


NOTES:

1. Refer to GD001 for legend and symbols.
2. For DS locations and discharge conditions, see schedule on Drawing No. GD039 & GD040.



40' 0 40'

10' 0 10'

Rev	By	Date	Description
B	MY	05–22–09	Miscellaneous Updates
A	MY	04–03–09	Issued For Bid

BID DOCUMENT
NOT FOR CONSTRUCTION

Designed: E Leung
Drawn: M Lauriaga
Checked: N Orense
Approved: M Yonamine
Date: 04–03–09

HONOLULU HIGH-CAPACITY TRANSIT CORRIDOR PROJECT

CITY & COUNTY OF HONOLULU - DEPARTMENT OF TRANSPORTATION SERVICES - RAPID TRANSIT DIVISION

Prime Consultant: PB PARSONS BRINCKERHOFF
1003 Bishop Street, Suite 2250 – Honolulu, HI 96813

Subconsultant: LYON ASSOCIATES
CIVIL ENGINEERING / CONSTRUCTION MANAGEMENT
841 Bishop Street, Suite 2006
Honolulu, HI 96813 USA
Voice: (808) 536-6621
Fax: (808) 523-1738
E-mail: adminhl@lyonassociates.com
www.lyonassociates.com

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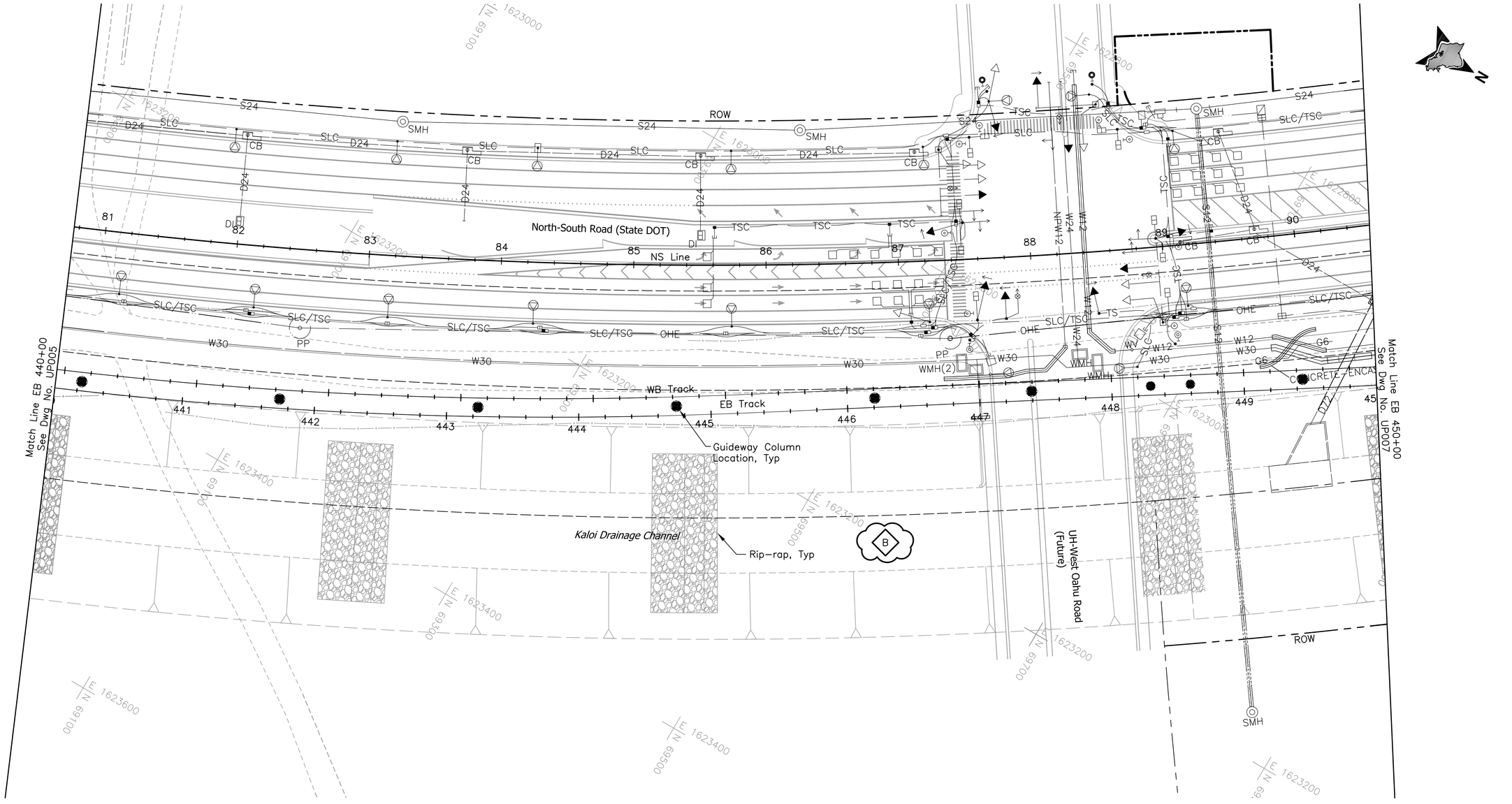
WEST O'AHU/FARRINGTON DESIGN-BUILD

GUIDEWAY DRAINAGE LAYOUT PLAN

EB 440+00 TO EB 450+00

Contract No.: DB–1200
CADD File: WF–B16–GD006
Drawing No.: GD006 Rev.: B
Scale: 1"=40' H, 1"=10' V



NOTE:

HDOT North–South Road Phase 1B, East Kapolei Offsite Trunk Sewer, and East Kapolei Water Transmission Main Project are under construction by others and shown for informational purposes only (estimated completion to be January 2010). Any field modifications are not reflected on these drawings. The utility symbols used for this HDOT project have not been modified to match standard HHCTP symbols.

Rev	By	Date	Description
B	JY	05–22–09	Misc. Revisions
A	JY	04–03–09	Issued For Bid

BID DOCUMENT
NOT FOR CONSTRUCTION

Designed: N/A
Drawn: D Toba
Checked: H Andrews
Approved: J Yamamoto
Date: 04–03–09

HONOLULU HIGH-CAPACITY TRANSIT CORRIDOR PROJECT

CITY & COUNTY OF HONOLULU - DEPARTMENT OF TRANSPORTATION SERVICES - RAPID TRANSIT DIVISION

Prime Consultant: PB PARSONS BRINCKERHOFF
1003 Bishop Street, Suite 2250 – Honolulu, HI 96813

Subconsultant: R. M. TOWILL CORPORATION
Planning – Engineering – Environmental Services – Photogrammetry – Surveying – Construction Management
808 842 1133 2024 North King Street Suite 200 Honolulu Hawaii 96819–3470

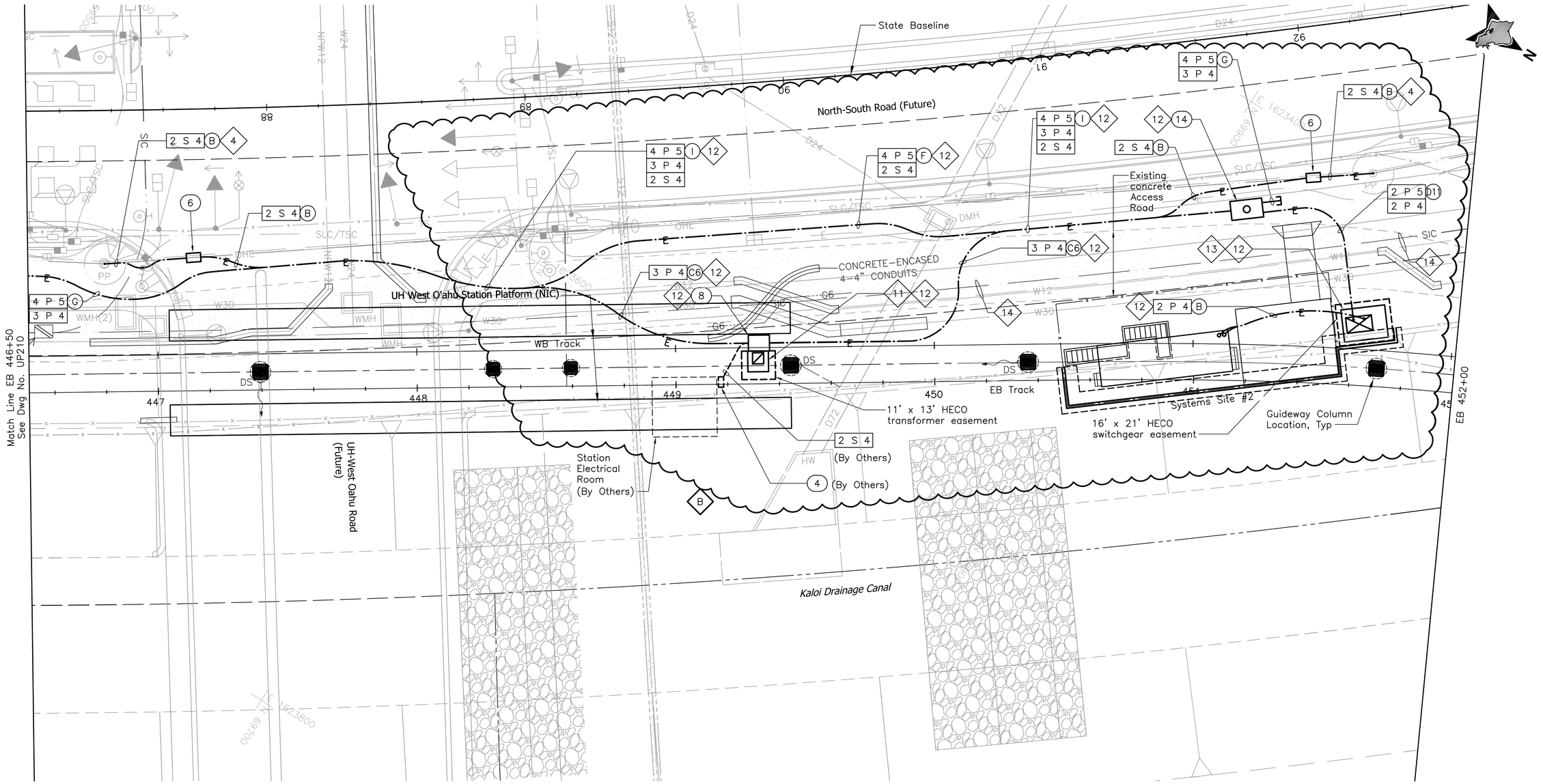
For reduced prints, original page size in inches: 0 1 2 3 4

WEST O'AHU/FARRINGTON DESIGN-BUILD

COMPOSITE PLAN EXISTING UTILITIES

EB 440+00 TO EB 450+00

Contract No.: DB–1200
CADD File: WF–D02–UP006
Drawing No: UP006 Rev. B
Scale: 1"=40'
Page No. 36 of 314



NOTE:

Sandwich Isles Communications (SIC) line is a proposed future communication utility project by others and shown for informational purposes only. The symbols for SIC line are carried from the project design and have not been modified to match standard HHCTCP symbols.

NOTES:

4 Provide pole riser conduits in complement indicated up to applicable location on pole.

11 Provide transformer concrete pad (transformer by HECO). See detail 1/UP306.

12 Preliminary new HECO service design only; to be finalized by Design Build Contractor.

13 Provide switchgear concrete pad (switchgear by HECO). See detail 1/UP305.

14 Sandwich Isles Communications (SIC) line is a proposed communication utility project by others and shown for informational purposes only. The Design Build Contractor shall coordinate the location of the future line with SIC to avoid potential conflicts. The Design Build Contractor shall inform the City of all coordination efforts.

20' 0 20'

Rev	By	Date	Description
B	FKH	05-22-09	Relocated HECO transformer, switchgear, and ductline.
A	FKH	04-03-09	Issued For Bid

BID DOCUMENT
NOT FOR CONSTRUCTION

Designed: F Hirakami
Drawn: D Saito
Checked: P Uyeda
Approved: P Uyeda
Date: 04-03-09

HONOLULU HIGH-CAPACITY TRANSIT CORRIDOR PROJECT
CITY & COUNTY OF HONOLULU - DEPARTMENT OF TRANSPORTATION SERVICES - RAPID TRANSIT DIVISION

Prime Consultant: PB PARSONS BRINCKERHOFF
1003 Bishop Street, Suite 2250 – Honolulu, HI 96813

Subconsultant: MKengineers
286 Kalihi Street
Honolulu, Hawaii 96819
Phone: (808) 848-8622
Fax: (808) 848-5574
E-Mail: info@mkhawaii.com

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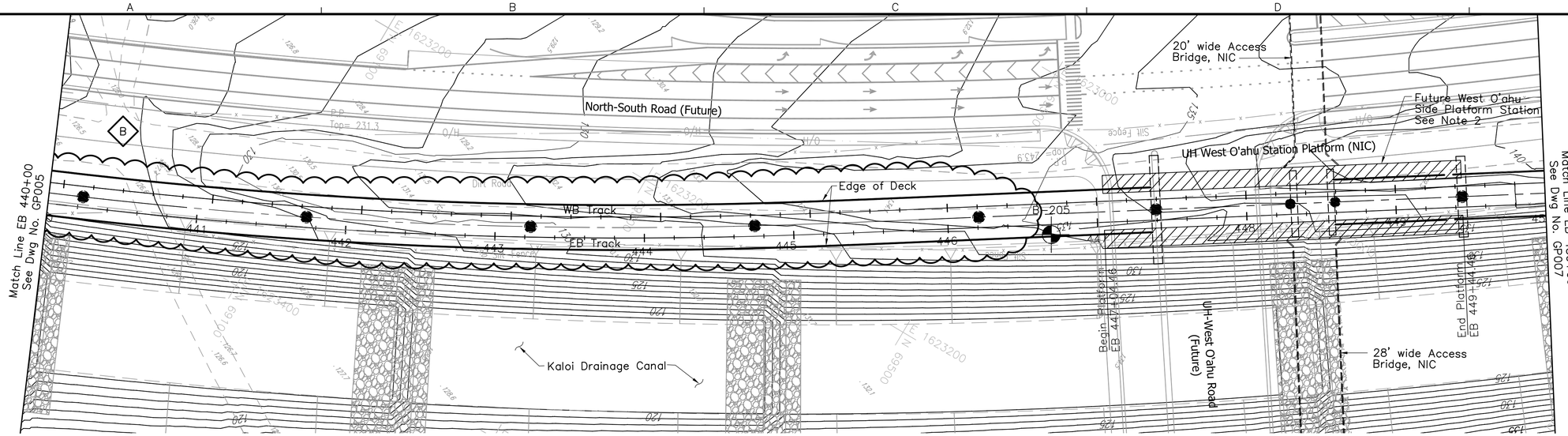
WEST O`AHU/FARRINGTON DESIGN-BUILD

UTILITY RELOCATION PLAN
ELECTRICAL & COMMUNICATIONS

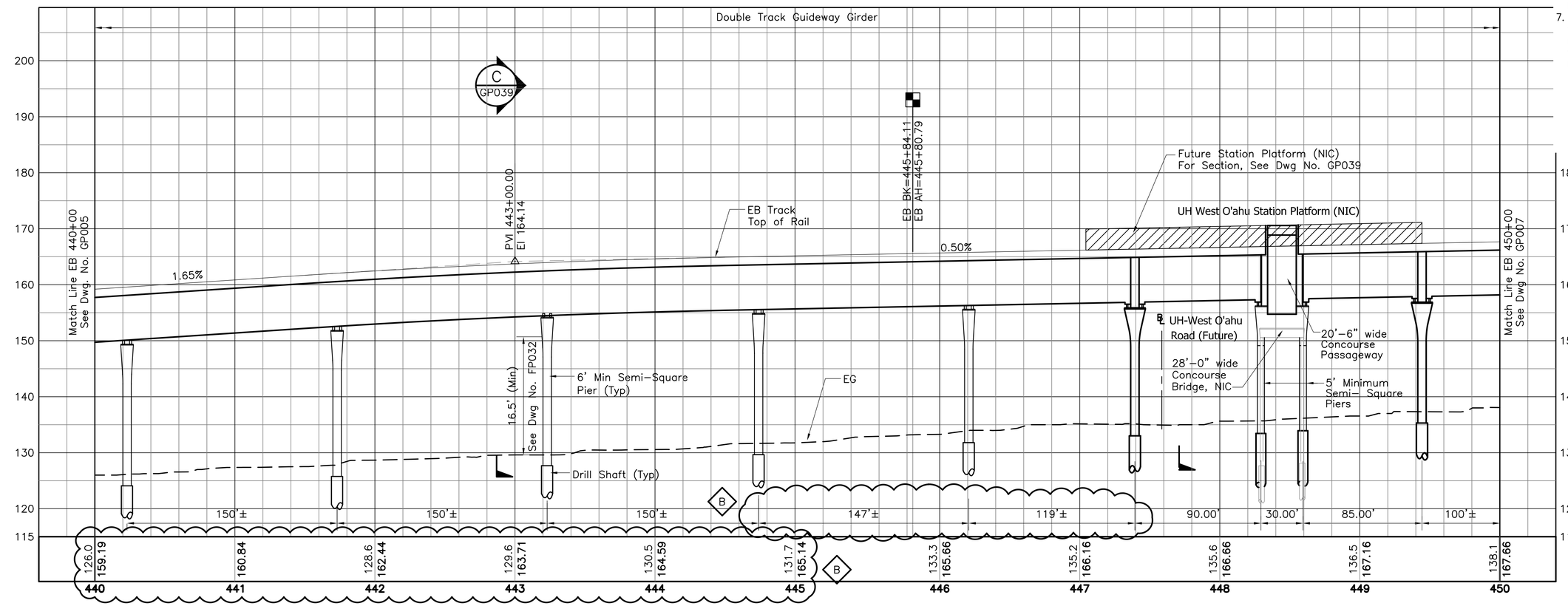
EB 446+50 TO EB 452+00

Contract No.: DB-1200
CADD File: WF-D03-UP211
Drawing No: UP211 Rev. B
Scale: 1"=20'
Page No. 157 of 314



NOTE:

1. See Dwg Nos. SG001 and SG002 for Structural General Notes, Symbols and Abbreviations.
2. For Station Details, See Dwg Nos. FP005 through FP008.
3. The configuration shown relative to NIC work and site condition is under development and subject to change.
4. The depiction of retaining walls is for approximate location only. The type of wall and its foundation required to protect structural facilities against ground movement and settlement is to be determined by the Design–Builder. The Design–Builder shall also provide retaining walls that may not be shown, but are dependant on his approved grading plans.
5. Complete Structural and Geotechnical calculations and drawings must be provided for all newly constructed structures and for all facilities within the zone of construction influence.
6. Drilled shaft foundations are shown for reference only. The actual type and size of the pier foundations shall be determined by the Design–Builder.
7. Unless shown otherwise on the drawings, the semi–square columns, if used, shall not be less than 6–foot by 6–foot, and the associated drilled shafts shall not be less than 8–foot in diameter.



Rev	By	Date	Description
B	AB	05–22–09	Guideway Piers Relocated; Revised Notes
A	AB	04–03–09	Issued For Bid

BID DOCUMENT
NOT FOR CONSTRUCTION

Designed: D Yavorsky
Drawn: T Cochran
Checked: T Kimura
Approved: A Borst
Date: 04–03–09

HONOLULU HIGH-CAPACITY TRANSIT CORRIDOR PROJECT

CITY & COUNTY OF HONOLULU - DEPARTMENT OF TRANSPORTATION SERVICES - RAPID TRANSIT DIVISION

Prime Consultant: PB PARSONS BRINCKERHOFF
1003 Bishop Street, Suite 2250 – Honolulu, HI 96813

Subconsultant:

For reduced prints, original page size in inches: 0 1 2 3 4

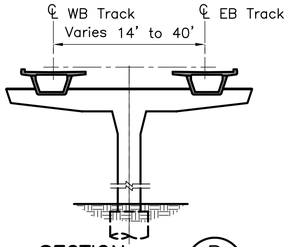
WEST O'AHU/FARRINGTON DESIGN-BUILD

STRUCTURAL PLAN & PROFILE

EB 440+00 TO EB 450+00

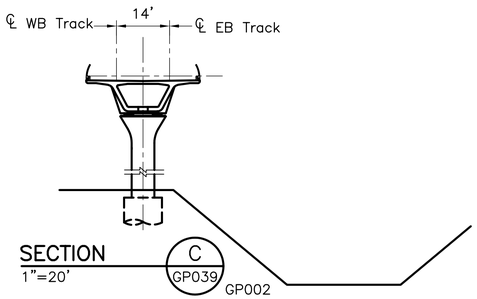
Contract No.: DB–1200
CADD File: WF–G04–GP006
Drawing No: GP006 Rev. B
Scale: 1"=40' H, 1"=10' V
Page No. 27 of 209

2009–05–19 8:41 AM \\hon–t1\transit\CADD\08 Structural\W Oahu_Farrington DB\WF–G04–GP001.dwg



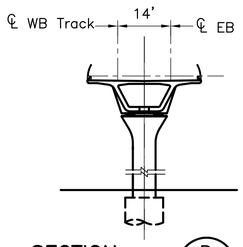
SECTION B
1"=20'
GP039

GP001
GP002



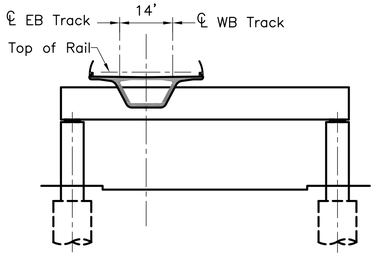
SECTION C
1"=20'
GP039

GP002
GP003
GP004
GP005
GP006



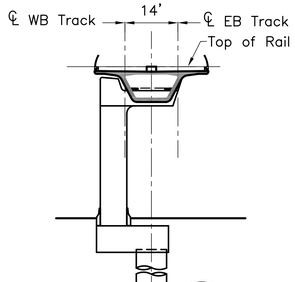
SECTION D
1"=20'
GP039

GP007 GP016 GP025
GP008 GP017 GP026
GP009 GP018 GP027
GP010 GP019 GP028
GP011 GP020 GP029
GP012 GP021 GP030
GP013 GP022 GP031
GP014 GP023 GP032
GP015 GP024 GP037
GP038



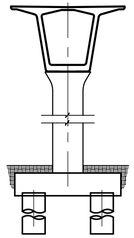
SECTION E
1"=20'
GP039

GP014
GP031



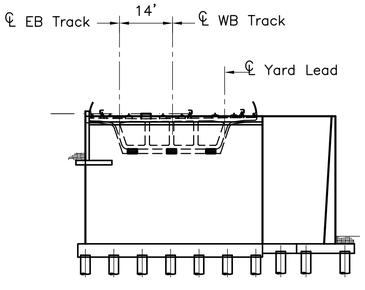
SECTION F
1"=20'
GP039

GP016
GP017
GP031
GP032



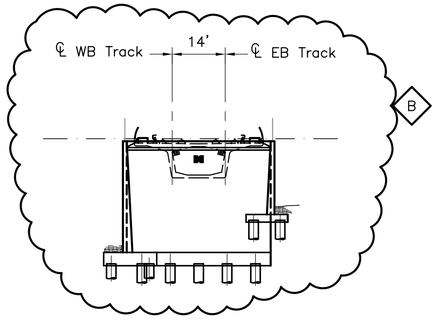
SECTION G
1"=20'
GP039

GP036
GP037



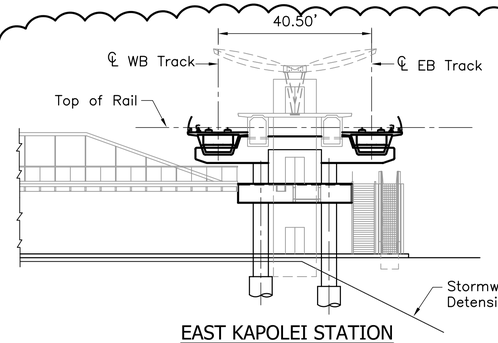
SECTION H
1"=20'
GP039

GP032

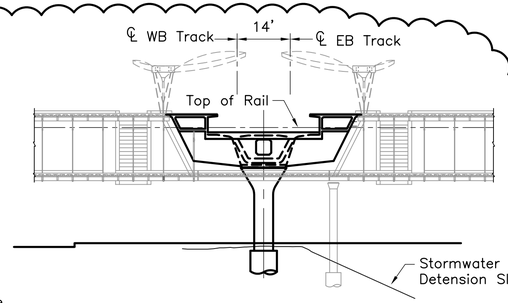


SECTION J
1"=20'
GP039

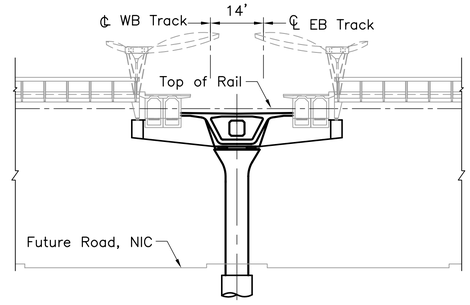
GP036



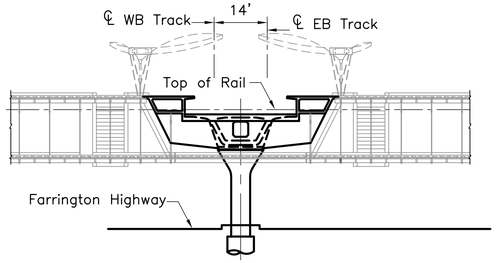
EAST KAPOLEI STATION
SECTION STA 397+00
1"=20'



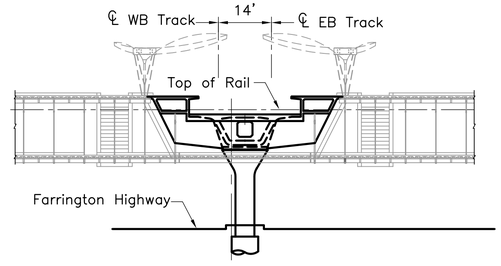
UH WEST O'AHU STATION
SECTION STA 448+40
1"=20'



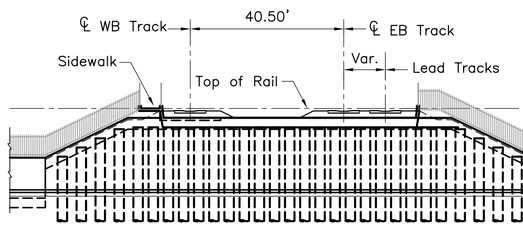
HO'OPILI STATION
SECTION STA 500+80
1"=20'



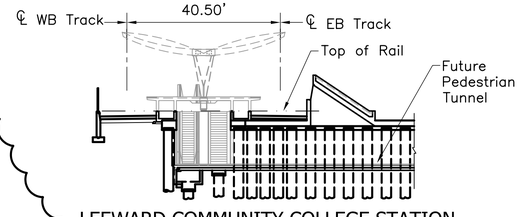
WEST LOCH STATION
SECTION STA 583+60
1"=20'



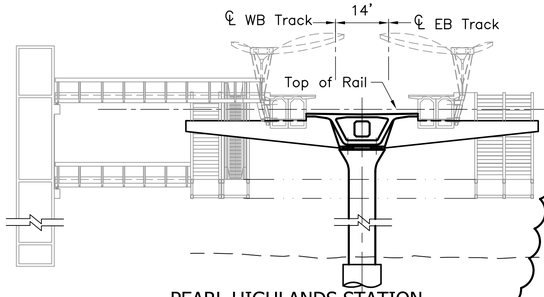
WAIPAHU TRANSIT CENTER STATION
SECTION STA 651+80
1"=20'



ALA IKE STREET TUNNEL
SECTION STA 722+40
1"=20'



LEEWARD COMMUNITY COLLEGE STATION
SECTION STA 725+60
1"=20'



PEARL HIGHLANDS STATION
SECTION STA 748+50
1"=20'

20' 0' 20'

Rev	By	Date	Description
B	AB	05–22–09	Revised Sections
A	AB	04–03–09	Issued For Bid

BID DOCUMENT
NOT FOR CONSTRUCTION

Designed: D Yavorsky
Drawn: T Cochran
Checked: T Kimura
Approved: A Borst
Date: 04–03–09

HONOLULU HIGH-CAPACITY TRANSIT CORRIDOR PROJECT
CITY & COUNTY OF HONOLULU - DEPARTMENT OF TRANSPORTATION SERVICES - RAPID TRANSIT DIVISION

Prime Consultant: PB PARSONS BRINCKERHOFF
1003 Bishop Street, Suite 2250 – Honolulu, HI 96813

Subconsultant:

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WEST O'AHU/FARRINGTON DESIGN-BUILD

STRUCTURAL
PLAN & PROFILE SECTIONS

Contract No.: DB–1200
CADD File: WF–G04–GP039
Drawing No: GP039 Rev. B
Scale: 1"=20'
Page No. 60 of 209

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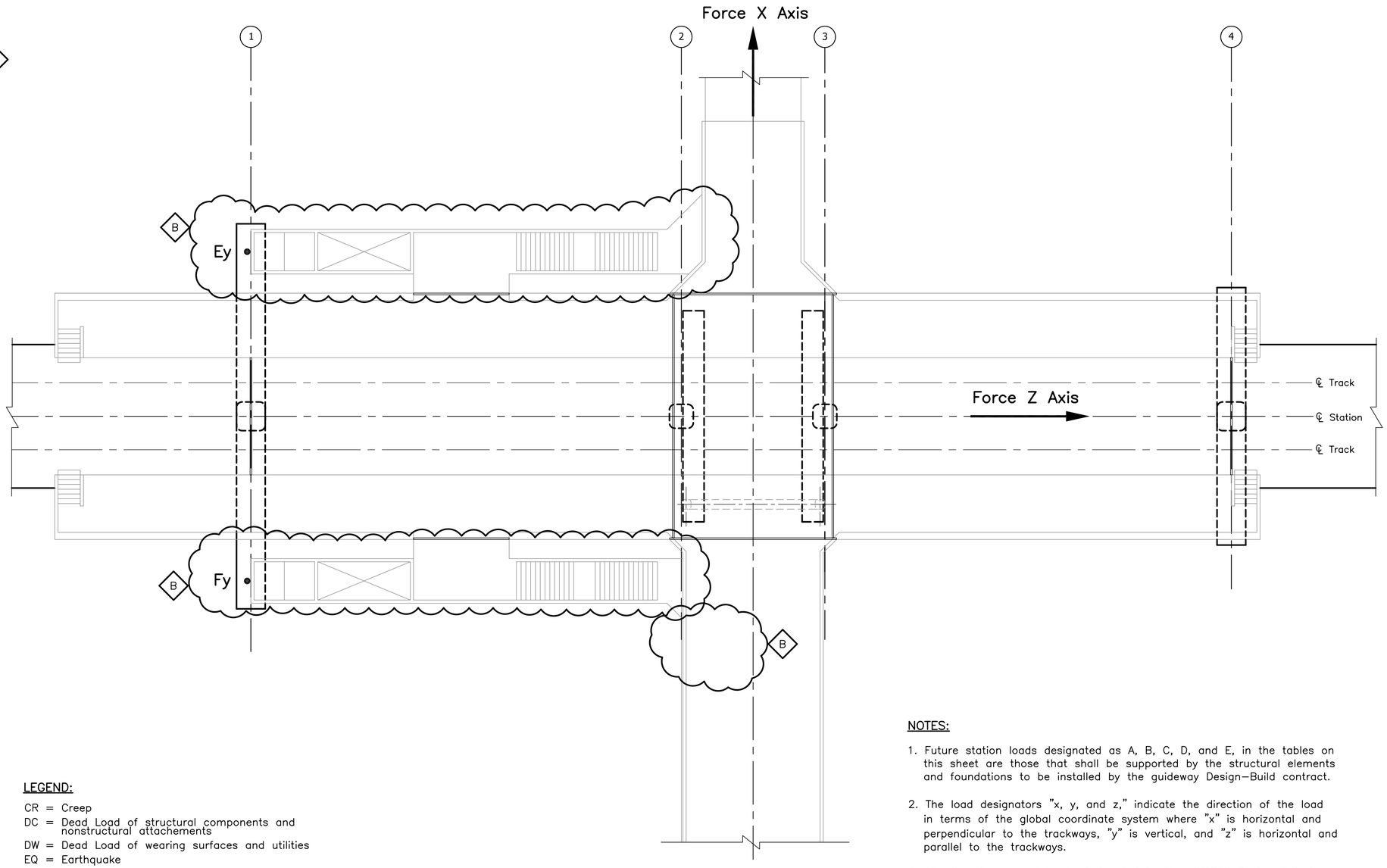
FUTURE STATION LOADS ON GUIDEWAY COLUMN 1 LOADS IN KIPS=1000 POUNDS ON GUIDEWAY PIERS AND PIER BEAMS										
	DC DW	LL PL	IM	EQ	WS	TG	TU	SH CR	SE	XX
Ay	888	167	0	41	0	0	0	0	–	–
Ax	–	–	–	208	45	0	0	0	–	–
Az	–	–	–	208	14	0	*	*	–	–
By	888	167	0	41	0	0	0	0	–	–
Bx	–	–	–	208	45	0	0	0	–	–
Bz	–	–	–	208	14	0	*	*	–	–
Ey	117	41	0	5	0	0	0	0	–	–
Ex	–	–	–	28	5	0	0	0	–	–
Ez	–	–	–	28	14	0	*	*	–	–
Fy	117	41	0	5	0	0	0	0	–	–
Fx	–	–	–	28	5	0	0	0	–	–
Fz	–	–	–	28	14	0	*	*	–	–

FUTURE STATION LOADS ON GUIDEWAY COLUMNS 2 AND 3 LOADS IN KIPS=1000 POUNDS ON GUIDEWAY PIERS AND PIER BEAMS										
	DC DW	LL PL	IM	EQ	WS	TG	TU	SH CR	SE	XX
Ay	496	144	0	40	0	0	0	0	–	–
Ax	–	–	–	117	24	0	0	0	–	–
Az	–	–	–	117	8	0	*	*	–	–
By	496	144	0	0	0	0	0	0	–	–
Bx	–	–	–	117	24	0	0	0	–	–
Bz	–	–	–	117	8	0	*	*	–	–
Cy	–	–	0	–	0	0	0	0	–	–
Cx	–	–	–	–	–	0	0	0	–	–
Cz	–	–	–	–	–	0	*	*	–	–
Dy	450	360	0	0	0	0	0	0	–	–
Dx	–	–	–	106	13	0	0	0	–	–
Dz	–	–	–	106	43	0	*	*	–	–

FUTURE STATION LOADS ON GUIDEWAY COLUMN 4 LOADS IN KIPS=1000 POUNDS ON GUIDEWAY PIERS AND PIER BEAMS										
	DC DW	LL PL	IM	EQ	WS	TG	TU	SH CR	SE	XX
Ay	529	94	0	15	0	0	0	0	–	–
Ax	–	–	–	124	26	0	0	0	–	–
Az	–	–	–	124	8	0	*	*	–	–
By	529	94	0	15	0	0	0	0	–	–
Bx	–	–	–	124	26	0	0	0	–	–
Bz	–	–	–	124	8	0	*	*	–	–
Cy	–	–	–	–	–	–	–	–	–	–
Cx	–	–	–	–	–	–	–	–	–	–
Cz	–	–	–	–	–	–	–	–	–	–
Dy	–	–	–	–	–	–	–	–	–	–
Dx	–	–	–	–	–	–	–	–	–	–
Dz	–	–	–	–	–	–	–	–	–	–

LEGEND:

CR = Creep
DC = Dead Load of structural components and nonstructural attachements
DW = Dead Load of wearing surfaces and utilities
EQ = Earthquake
IM = Vehicular dynamic load allowance
LL = Vehicular Live Load
PL = Pedestrian Live Load
SE = Settlement
SH = Shrinkage
TG = Temperature gradient
TU = Uniform Temperature
WS = Wind Load on structure
XX = Other Loads
* = Load dependent on bearing stiffness. Requires coordination with station designers.



PLATFORM PLAN
NTS

NOTES:

1. Future station loads designated as A, B, C, D, and E, in the tables on this sheet are those that shall be supported by the structural elements and foundations to be installed by the guideway Design–Build contract.
2. The load designators "x, y, and z," indicate the direction of the load in terms of the global coordinate system where "x" is horizontal and perpendicular to the trackways, "y" is vertical, and "z" is horizontal and parallel to the trackways.
3. All other forces and loads designated by the HHCTCP Design Criteria, Section 9, Structural, shall also be applied in conjunction with those in 1 above.
4. All forces shall be applied in accordance with the above HHCTCP Design Criteria.
5. B All forces in the structural elements and foundations being installed by the guideway Design–Build contract shall be applied in a manner that produces the maximum design stresses for the service limit state design and the most unfavorable force load combinations for strength limit state design.

Rev	By	Date	Description
B	AB	05–22–09	Rev Stair Loc; Rem Elev; Rev Loads; Rev Note
A	AB	04–03–09	Issued For Bid

BID DOCUMENT
NOT FOR CONSTRUCTION

Designed: D Yavorsky
Drawn: T Cochran
Checked: T Kimura
Approved: A Borst
Date: 04–03–09

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CITY & COUNTY OF HONOLULU - DEPARTMENT OF TRANSPORTATION SERVICES - RAPID TRANSIT DIVISION

Prime Consultant: PB PARSONS BRINCKERHOFF
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Subconsultant:

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WEST O'AHU/FARRINGTON DESIGN-BUILD

UH WEST O'AHU STATION
SHEET 1 OF 7

GUIDEWAY FORCES

Contract No.: DB–1200
CADD File: WF–G05–FP005
Drawing No: FP005 Rev. B
Scale: NTS
Page No. 67 of 209

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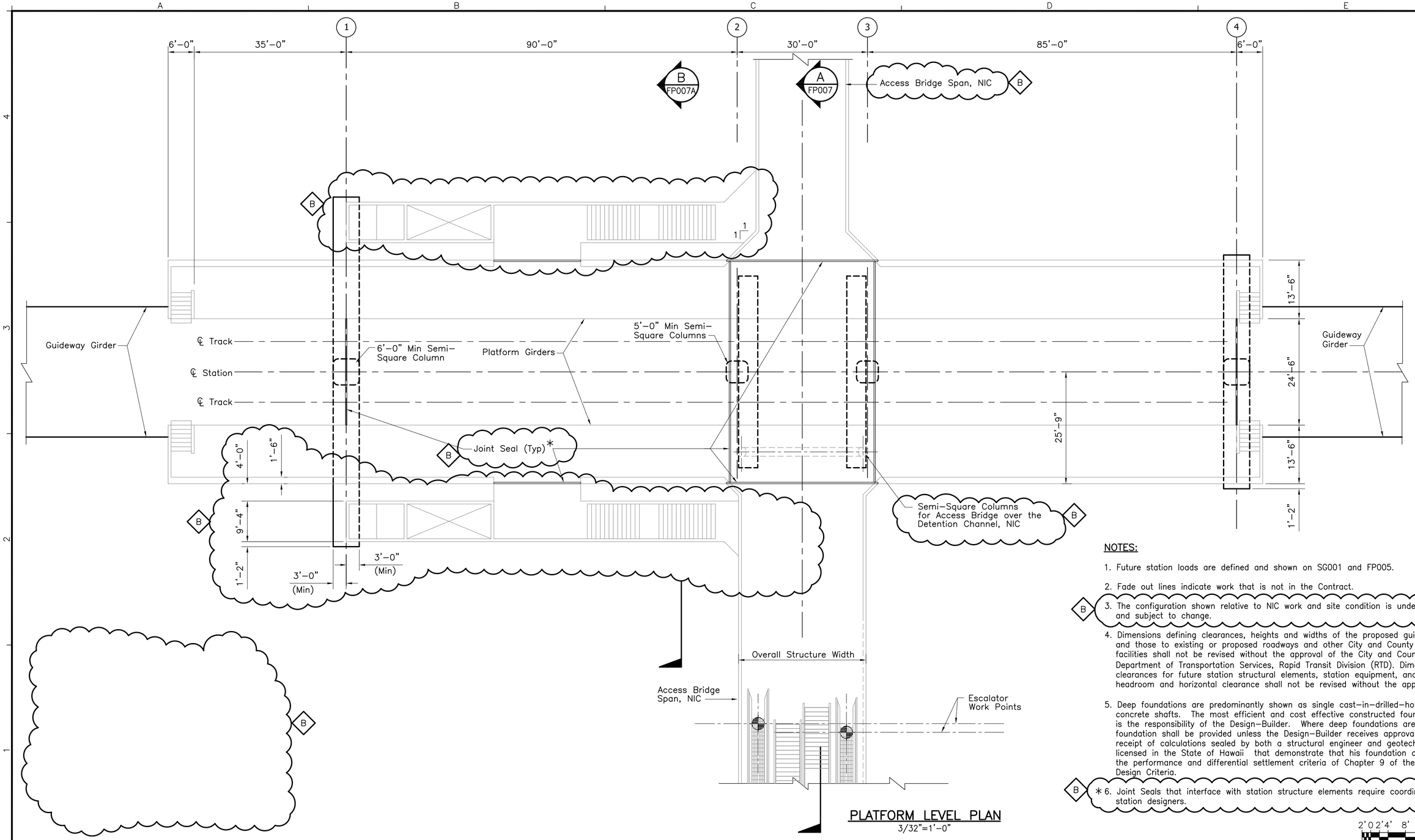

PLATFORM LEVEL PLAN
3/32"=1'–0"

NOTES:

1. Future station loads are defined and shown on SG001 and FP005.
2. Fade out lines indicate work that is not in the Contract.
3. The configuration shown relative to NIC work and site condition is under development and subject to change.
4. Dimensions defining clearances, heights and widths of the proposed guideway trackways, and those to existing or proposed roadways and other City and County of Honolulu facilities shall not be revised without the approval of the City and County of Honolulu, Department of Transportation Services, Rapid Transit Division (RTD). Dimensions and clearances for future station structural elements, station equipment, and passenger headroom and horizontal clearance shall not be revised without the approval of RTD.
5. Deep foundations are predominantly shown as single cast–in–drilled–hole (CIDH) concrete shafts. The most efficient and cost effective constructed foundation solution is the responsibility of the Design–Builder. Where deep foundations are shown, a deep foundation shall be provided unless the Design–Builder receives approval from RTD upon receipt of calculations sealed by both a structural engineer and geotechnical engineer licensed in the State of Hawaii that demonstrate that his foundation design can meet the performance and differential settlement criteria of Chapter 9 of the HHCTC Design Criteria.
6. * Joint Seals that interface with station structure elements require coordination with the station designers.

2' 0 2'4' 8' 12' 20'

Rev	By	Date	Description
B	AB	05–22–09	Rev Stair Loc.; Rem Elevator; Rev Dims/Notes
A	AB	04–03–09	Issued For Bid

BID DOCUMENT
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Approved: A Borst
Date: 04–03–09

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WEST O'AHU/FARRINGTON DESIGN-BUILD

UH WEST O'AHU STATION
SHEET 2 OF 7

PLATFORM LEVEL PLAN

Contract No.: DB–1200
CADD File: WF–G05–FP006
Drawing No.: FP006 Rev. B
Scale: 3/32"=1'–0"
Page No. 68 of 209

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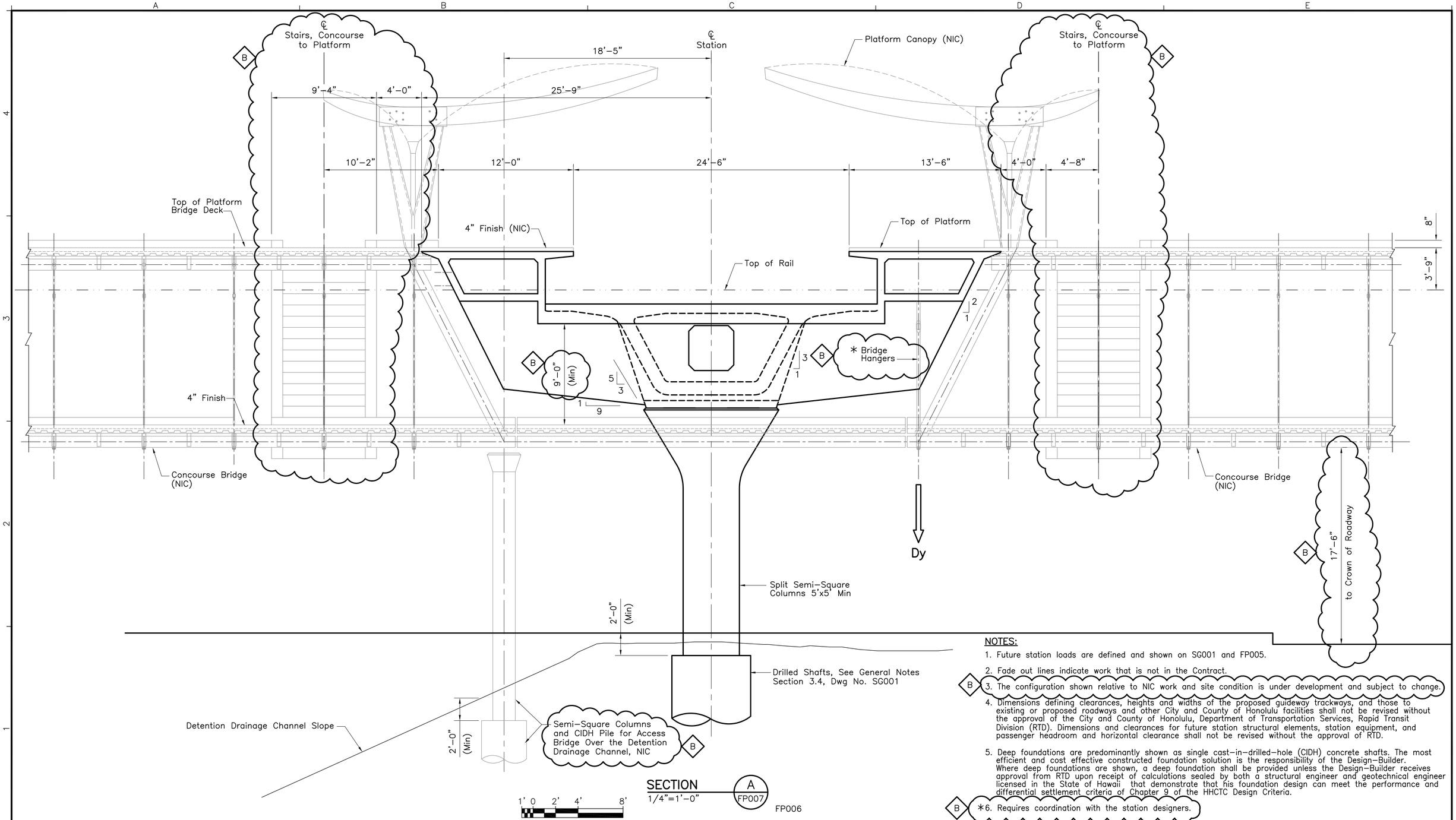

SECTION A
1/4"=1'–0"
FP007

FP006

NOTES:

1. Future station loads are defined and shown on SG001 and FP005.
2. Fade out lines indicate work that is not in the Contract.
3. The configuration shown relative to NIC work and site condition is under development and subject to change.
4. Dimensions defining clearances, heights and widths of the proposed guideway trackways, and those to existing or proposed roadways and other City and County of Honolulu facilities shall not be revised without the approval of the City and County of Honolulu, Department of Transportation Services, Rapid Transit Division (RTD). Dimensions and clearances for future station structural elements, station equipment, and passenger headroom and horizontal clearance shall not be revised without the approval of RTD.
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6. *Requires coordination with the station designers.

Rev	By	Date	Description
B	AB	05–22–09	Rev Stair Loc.; Removed Elev; Rev Dims/Notes
A	AB	04–03–09	Issued For Bid

BID DOCUMENT
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Approved: A Borst
Date: 04–03–09

HONOLULU HIGH-CAPACITY TRANSIT CORRIDOR PROJECT

CITY & COUNTY OF HONOLULU - DEPARTMENT OF TRANSPORTATION SERVICES - RAPID TRANSIT DIVISION

Prime Consultant: PB PARSONS BRINCKERHOFF
1003 Bishop Street, Suite 2250 – Honolulu, HI 96813

Subconsultant:

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WEST O'AHU/FARRINGTON DESIGN-BUILD

UH WEST O'AHU STATION
SHEET 3 OF 7

SECTION A

Contract No.: DB–1200
CADD File: WF–G05–FP007
Drawing No.: FP007 Rev. B
Scale: 1/4"=1'–0"
Page No. 69 of 209

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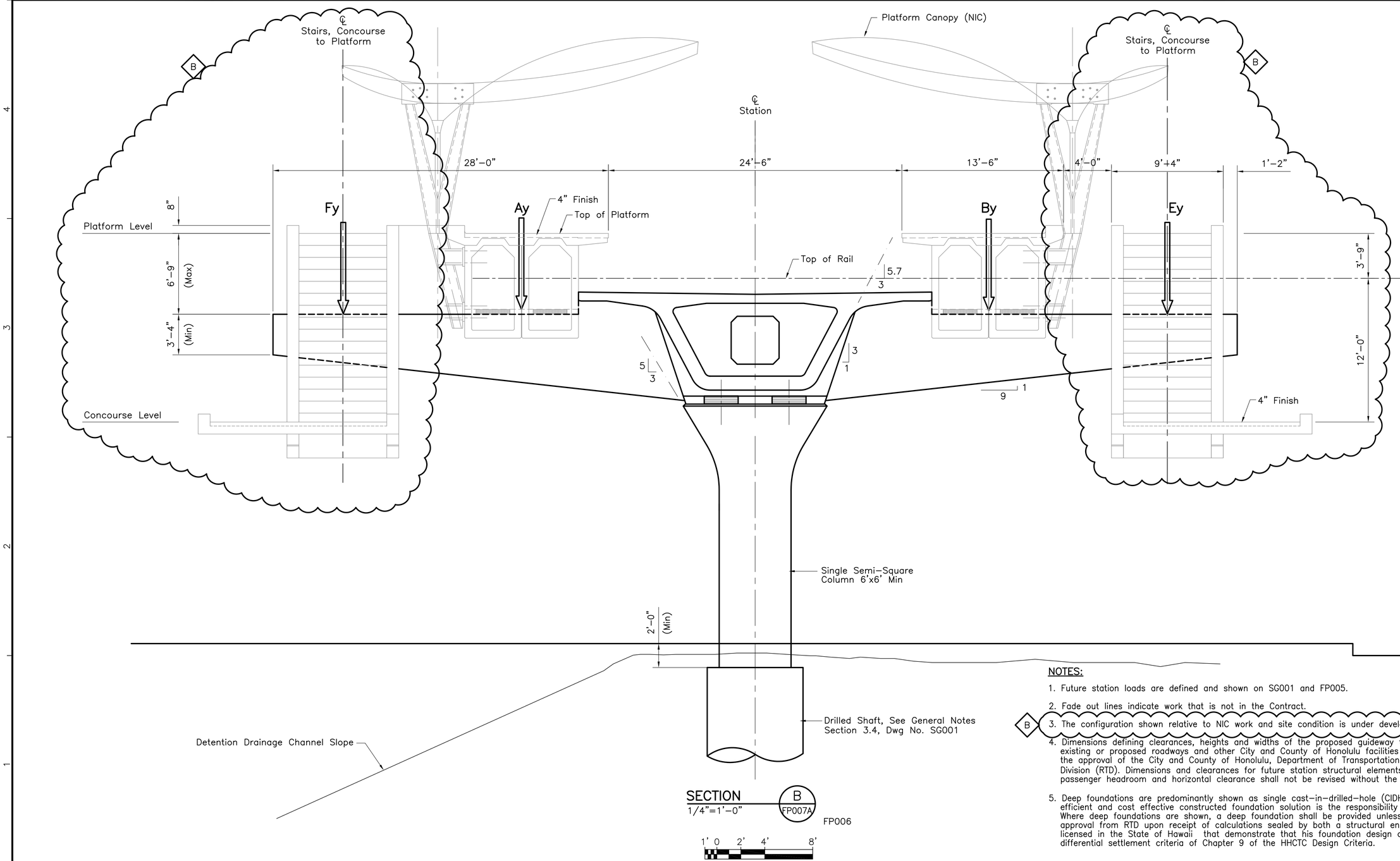

NOTES:

1. Future station loads are defined and shown on SG001 and FP005.
2. Fade out lines indicate work that is not in the Contract.
3. (B) The configuration shown relative to NIC work and site condition is under development and subject to change.
4. Dimensions defining clearances, heights and widths of the proposed guideway trackways, and those to existing or proposed roadways and other City and County of Honolulu facilities shall not be revised without the approval of the City and County of Honolulu, Department of Transportation Services, Rapid Transit Division (RTD). Dimensions and clearances for future station structural elements, station equipment, and passenger headroom and horizontal clearance shall not be revised without the approval of RTD.
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Rev	By	Date	Description
B	AB	05–22–09	Rev Stair Loc.; Rem/Rev Dims; Rev Notes
A	AB	04–03–09	Issued For Bid

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WEST O'AHU/FARRINGTON DESIGN-BUILD

UH WEST O'AHU STATION
SHEET 4 OF 7

SECTION B

Contract No.: DB–1200
CADD File: WF–G05–FP007A
Drawing No.: FP007A Rev.: B
Scale: 1/4"=1'–0"
Page No.: 70 of 209

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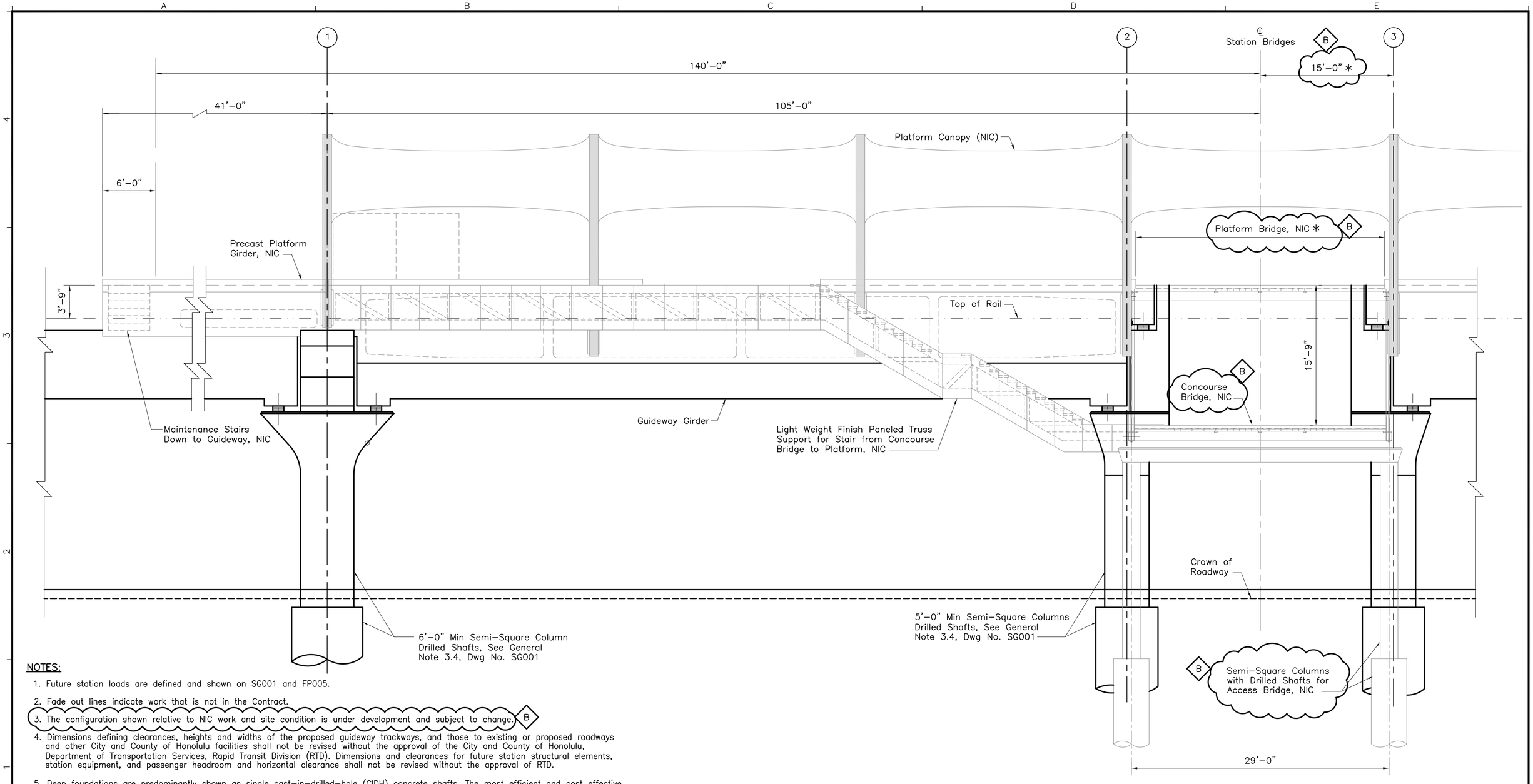

NOTES:

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*6. Canopy column location and bridge connection details require coordination with the station designers. B

PARTIAL ELEVATION

3/16"=1'–0"

1'0 2' 4' 6' 10'

Rev	By	Date	Description
B	AB	05–22–09	Removed/Revised Dimensions and Notes
A	AB	04–03–09	Issued For Bid

BID DOCUMENT
NOT FOR CONSTRUCTION

Designed: D Yavorsky
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Approved: A Borst
Date: 04–03–09

HONOLULU HIGH-CAPACITY TRANSIT CORRIDOR PROJECT
CITY & COUNTY OF HONOLULU - DEPARTMENT OF TRANSPORTATION SERVICES - RAPID TRANSIT DIVISION

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WEST O'AHU/FARRINGTON DESIGN-BUILD

UH WEST O'AHU STATION
SHEET 5 OF 7

PARTIAL ELEVATION

Contract No.: DB–1200
CADD File: WF–G05–FP007B
Drawing No: FP007B Rev. B
Scale: 3/16"=1'–0"
Page No. 71 of 209

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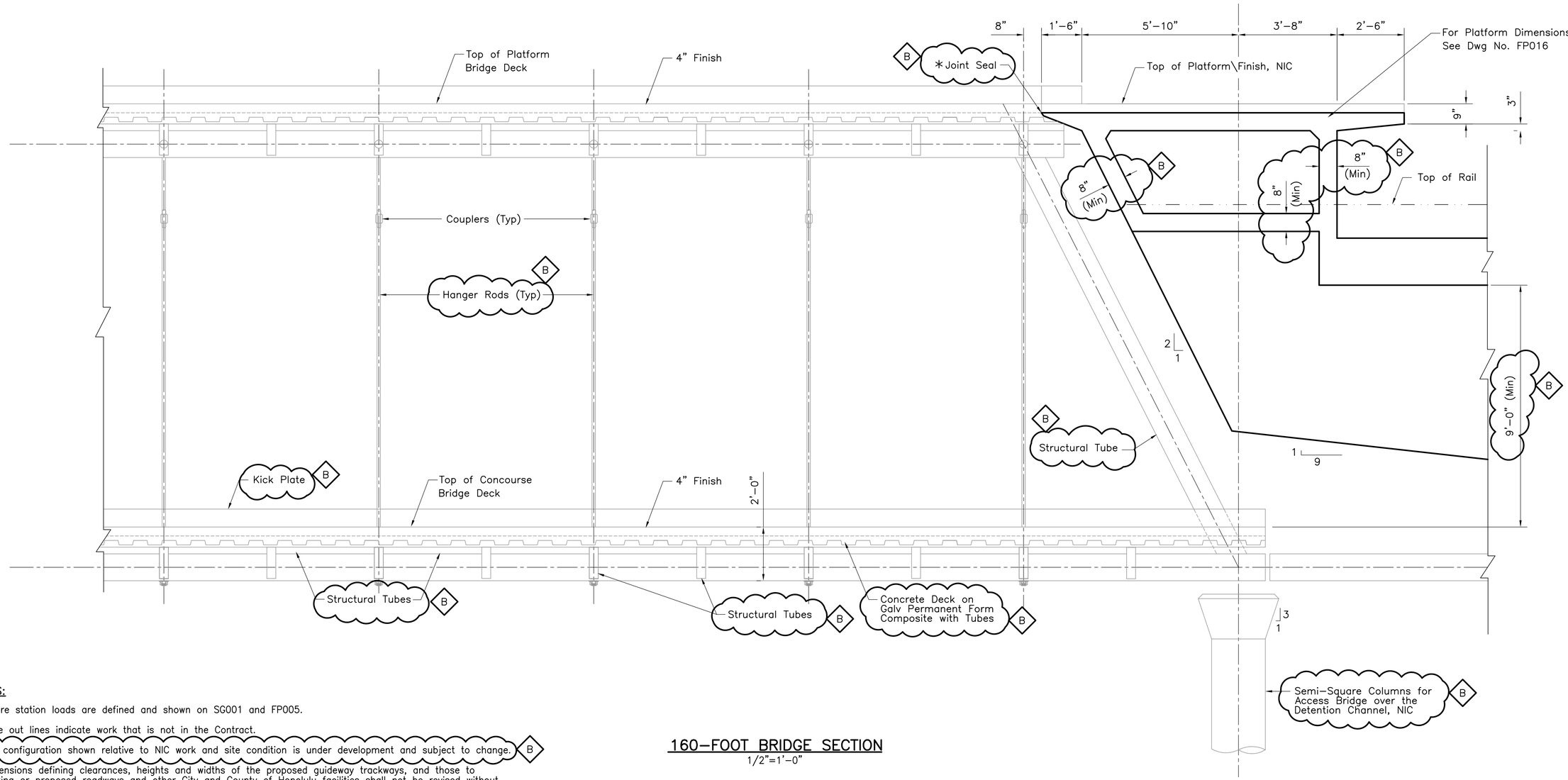

NOTES:

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6. * Joint seals require coordination with the station designers. B

160–FOOT BRIDGE SECTION

1/2"=1'–0"

1' 0 2' 4'

Rev	By	Date	Description
B	AB	05–22–09	Removed/Revised Dimensions and Notes
A	AB	04–03–09	Issued For Bid

BID DOCUMENT
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HONOLULU HIGH-CAPACITY TRANSIT CORRIDOR PROJECT
CITY & COUNTY OF HONOLULU - DEPARTMENT OF TRANSPORTATION SERVICES - RAPID TRANSIT DIVISION

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WEST O'AHU/FARRINGTON DESIGN-BUILD

UH WEST O'AHU STATION
SHEET 6 OF 7

160-FOOT BRIDGE SECTION

Contract No.: DB–1200
CADD File: WF–G05–FP007C
Drawing No.: FP007C Rev. B
Scale: 1/2"=1'–0"
Page No. 72 of 209

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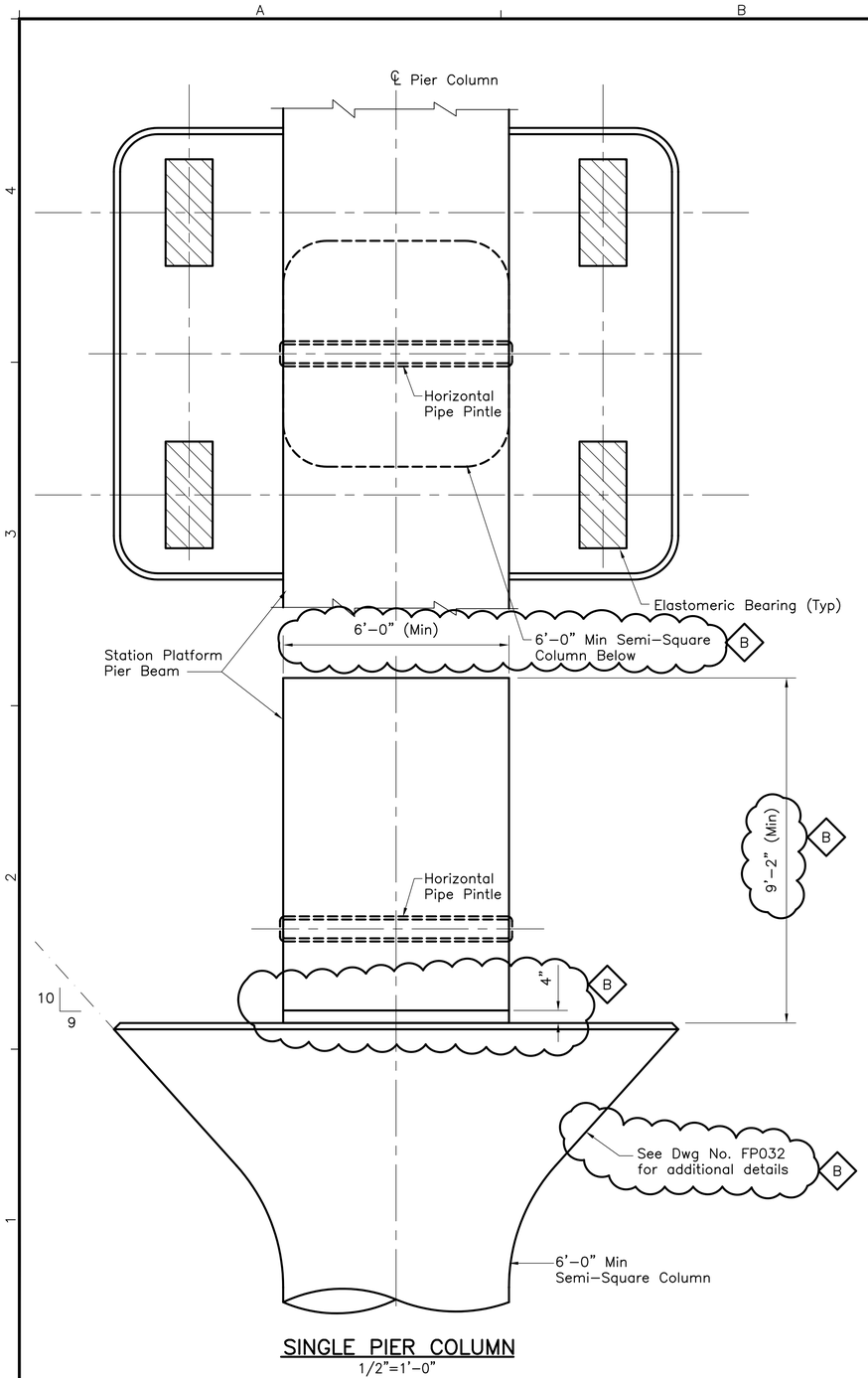
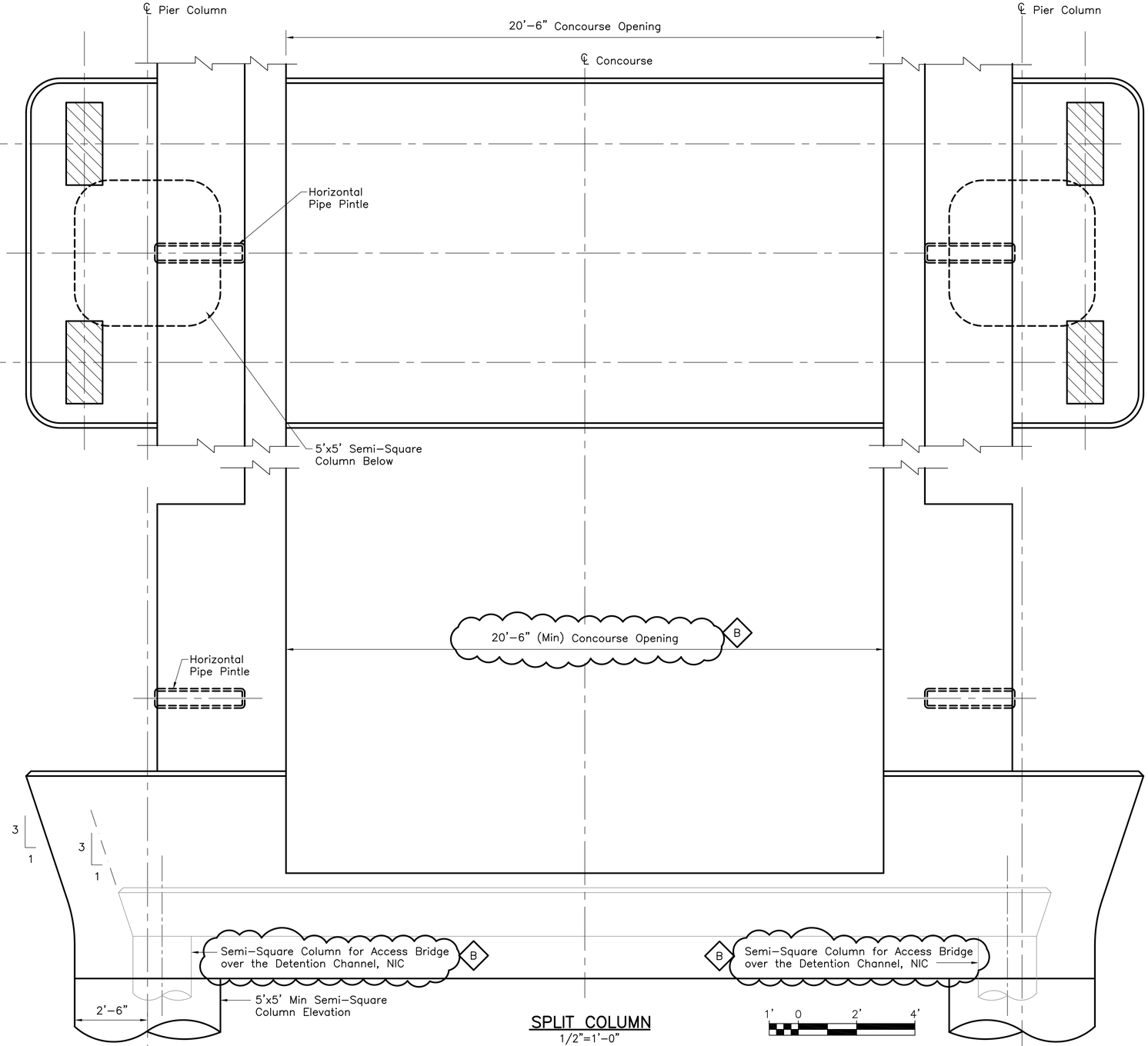


SINGLE PIER COLUMN
1/2"=1'–0"



SPLIT COLUMN
1/2"=1'–0"

Rev	By	Date	Description
B	AB	05–22–09	Removed/Revised Dimensions
A	AB	04–03–09	Issued For Bid

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Drawn: T Cochran
Checked: T Kimura
Approved: A Borst
Date: 04–03–09

HONOLULU HIGH-CAPACITY TRANSIT CORRIDOR PROJECT
CITY & COUNTY OF HONOLULU - DEPARTMENT OF TRANSPORTATION SERVICES - RAPID TRANSIT DIVISION

Prime Consultant: PB PARSONS BRINCKERHOFF
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Subconsultant:

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WEST O'AHU/FARRINGTON DESIGN-BUILD

UH WEST O'AHU STATION
SHEET 7 OF 7

BEARING TABLES PLAN AND SECTION

Contract No.: DB–1200
CADD File: WF–G05–FP008
Drawing No.: FP008 Rev. B
Scale: 1/2"=1'–0"
Page No. 73 of 209

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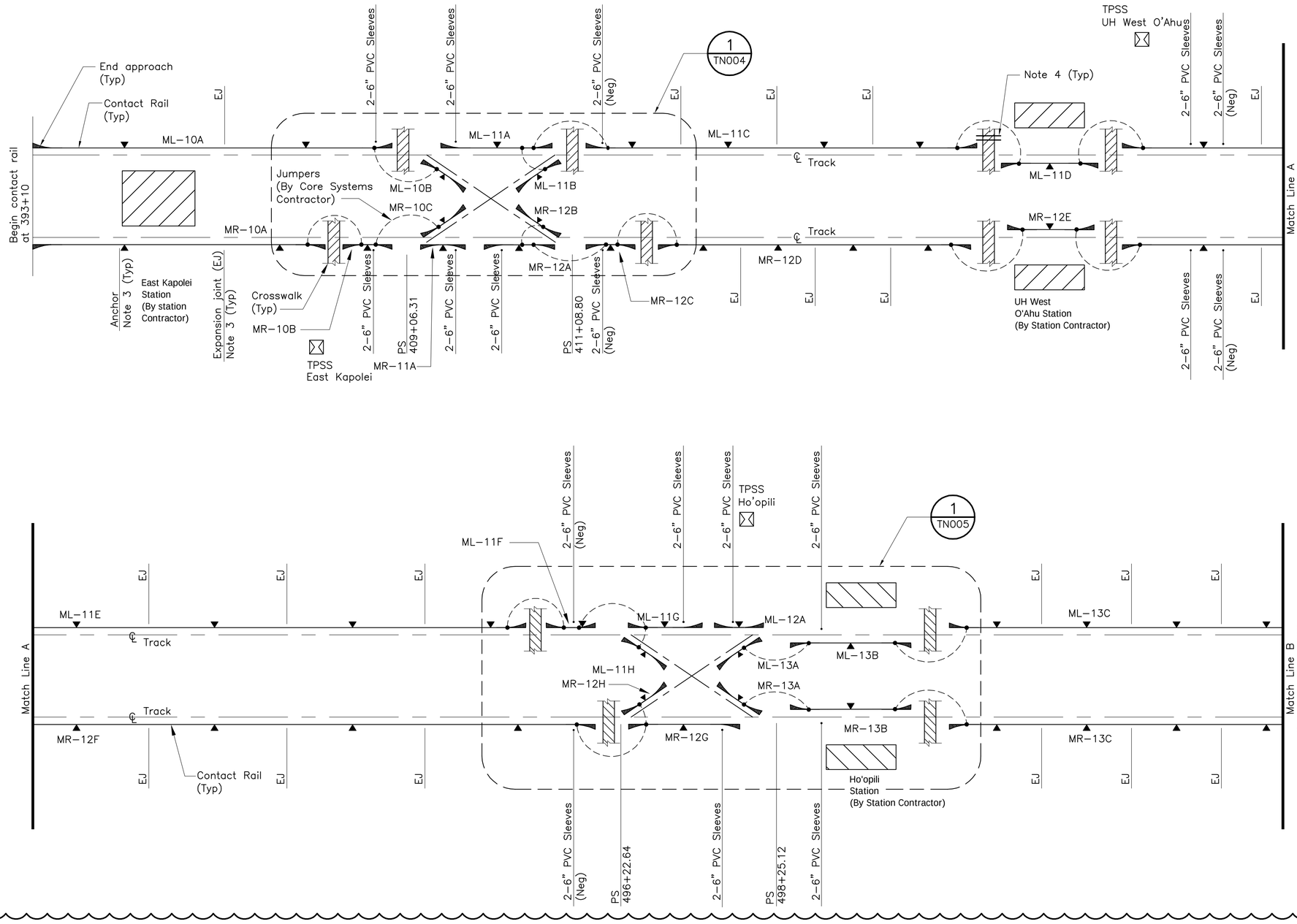

NOTES

1. Contractor shall develop and submit final design of the contact rail layout, including conduit sleeves locations, and breaks in the rail plinths for continuity jumpers and negative return cable connections.
2. Refer to drawings TN009 and TN010 for raceway installation details.
3. Contractor shall determine the precise location of contact rail anchors and expansion joints (EJ).
4. Install 2–5" ø PVC sleeves for cables under crosswalks, where cables need to pass through.

LEGEND:

MR–10A, ML–10A

M – Mainline contact rail section

R or L – Right or Left (facing direction of increasing stationing)

10 – Electrical section number

A – Physical contact rail segment

Rev	By	Date	Description
B	SDS	08–05–09	Updated PS, EJ's & anchors
A	SDS	04–03–09	Issued For Bid

BID DOCUMENT
NOT FOR CONSTRUCTION

Designed: L Mayola
Drawn: O Kurnovskaya
Checked: A Patel
Approved: S Stoilov
Date: 04–03–09

HONOLULU HIGH-CAPACITY TRANSIT CORRIDOR PROJECT
CITY & COUNTY OF HONOLULU - DEPARTMENT OF TRANSPORTATION SERVICES - RAPID TRANSIT DIVISION

Prime Consultant: PB PARSONS BRINCKERHOFF
1003 Bishop Street, Suite 2250 – Honolulu, HI 96813

Subconsultant:

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WEST O'AHU/FARRINGTON DESIGN-BUILD

CONTACT RAIL INSTALLATION
CONTACT RAIL SCHEMATIC LAYOUT

SHEET 1 OF 3

Contract No.: DB–1200
CADD File: WF–N06–TN001
Drawing No.: TN001 Rev. B
Scale: As Noted
Page No.: 184 of 209

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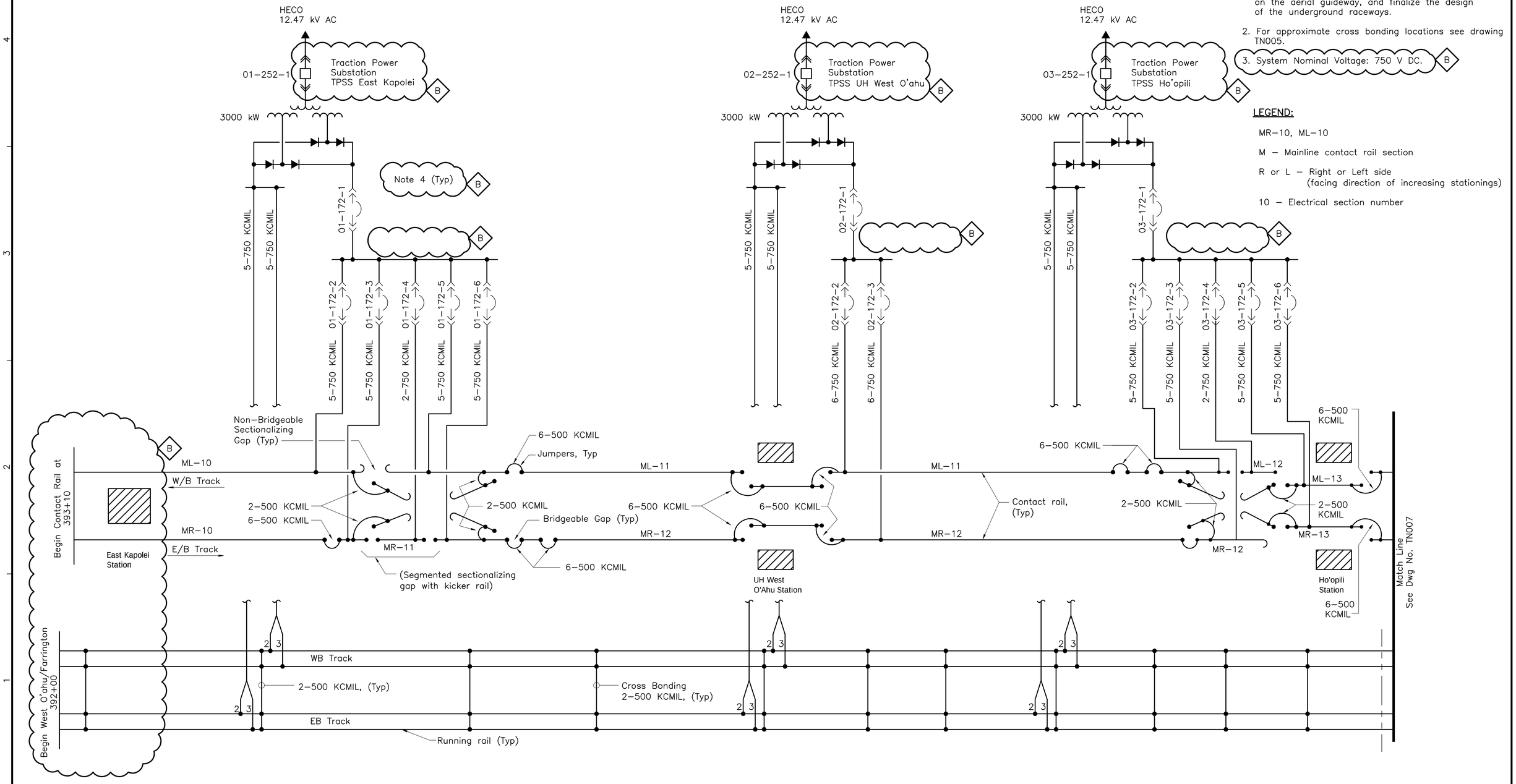

NOTES

1. Substation equipment and cables will be provided by Core System Contractor. Contractor shall use the DC feeder sizes and routing data shown on this drawing to design the raceway support provisions on the aerial guideway, and finalize the design of the underground raceways.
2. For approximate cross bonding locations see drawing TN005.
3. System Nominal Voltage: 750 V DC. B

LEGEND:

MR-10, ML-10

M – Mainline contact rail section

R or L – Right or Left side (facing direction of increasing stationings)

10 – Electrical section number

Rev	By	Date	Description
B	SDS	08-05-09	Updated Master Single Line Diagram
A	SDS	04-03-09	Issued For Bid

BID DOCUMENT
NOT FOR CONSTRUCTION

Designed: L Mayola
Drawn: O Kurnovskaya
Checked: A Patel
Approved: S Stoilov
Date: 04-03-09

HONOLULU HIGH-CAPACITY TRANSIT CORRIDOR PROJECT
CITY & COUNTY OF HONOLULU - DEPARTMENT OF TRANSPORTATION SERVICES - RAPID TRANSIT DIVISION

Prime Consultant: PARSONS BRINCKERHOFF
1003 Bishop Street, Suite 2250 – Honolulu, HI 96813

Subconsultant:

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WEST O'AHU/FARRINGTON DESIGN-BUILD

MASTER SINGLE LINE DIAGRAM

SHEET 1 OF 3

Contract No.: DB-1200
CADD File: WF-N06-TN006
Drawing No: TN006
Rev. B
Scale: As Noted
Page No. 189 of 209

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LEGEND

- BLS-ET — Blue Light Stations with Integral ETEL
- AT — Administrative Telephones
- ET — Emergency Telephones
- PT — Passenger Assistance Telephones
- Access Control Card Reader with Integral Camera
- PA Speakers
- CCTV Camera

Rev	By	Date	Description
A	HB	08–17–09	Issued For Proposal

RFP DRAWING
NOT FOR CONSTRUCTION

Designed: H Bowie
Drawn: C Jamison
Checked: B Russo
Approved: H Bowie
Date: 07–31–09

HONOLULU HIGH-CAPACITY TRANSIT CORRIDOR PROJECT

CITY & COUNTY OF HONOLULU - DEPARTMENT OF TRANSPORTATION SERVICES - RAPID TRANSIT DIVISION

Prime Consultant: PB PARSONS BRINCKERHOFF
1003 Bishop Street, Suite 2250 – Honolulu, HI 96813

Subconsultant:

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CORE SYSTEMS

UH WEST O'AHU STATION COMMUNICATIONS PLAN

GROUND LEVEL

Contract No.: MI–920
CADD File: CS–R06–CM104
Drawing No: CM104 Rev. A
Scale: 1" = 20'
Page No. 128 of 195

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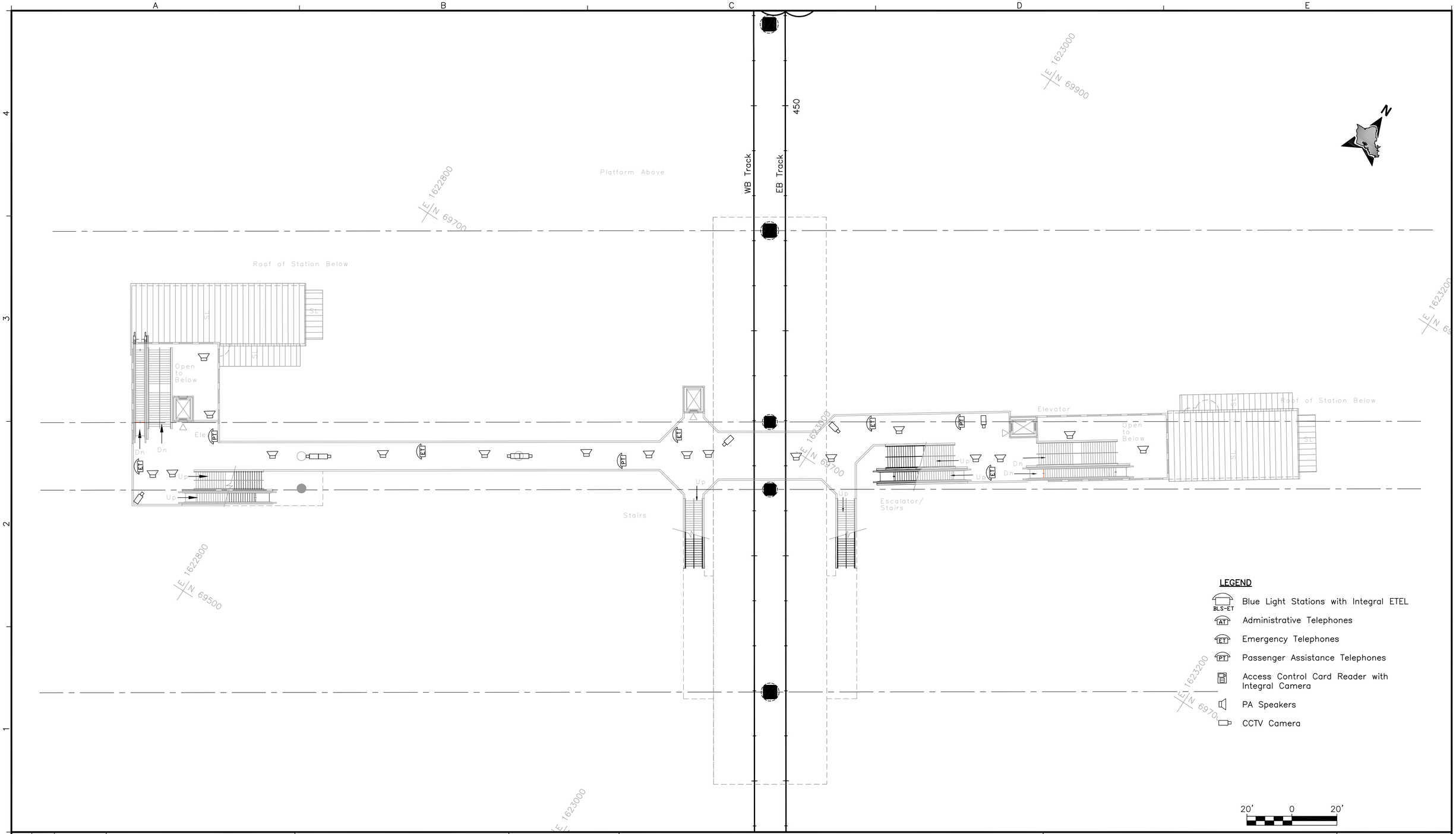

Rev	By	Date	Description
A	HB	08–17–09	Issued For Proposal

RFP DRAWING
NOT FOR CONSTRUCTION

Designed: H Bowie
Drawn: C Jamison
Checked: B Russo
Approved: H Bowie
Date: 07–31–09

HONOLULU HIGH-CAPACITY TRANSIT CORRIDOR PROJECT

CITY & COUNTY OF HONOLULU - DEPARTMENT OF TRANSPORTATION SERVICES - RAPID TRANSIT DIVISION

Prime Consultant: PB PARSONS BRINCKERHOFF
1003 Bishop Street, Suite 2250 – Honolulu, HI 96813

Subconsultant:

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CORE SYSTEMS

UH WEST O'AHU STATION COMMUNICATIONS PLAN

CONCOURSE LEVEL

Contract No.: MI–920
CADD File: CS–R06–CM105
Drawing No: CM105 Rev. A
Scale: 1" = 20'
Page No. 129 of 195

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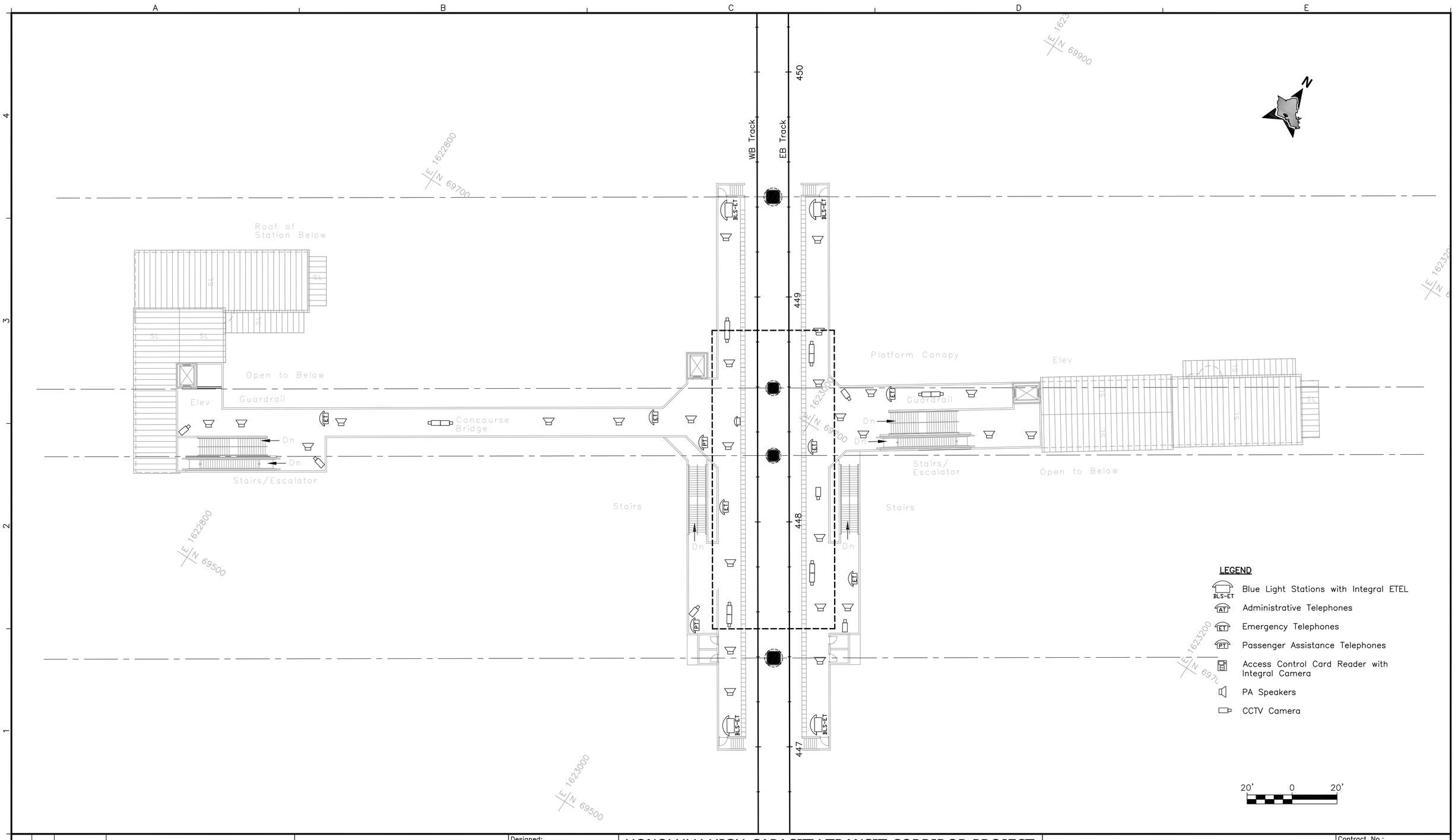

Rev	By	Date	Description
A	HB	08–17–09	Issued For Proposal

RFP DRAWING
NOT FOR CONSTRUCTION

Designed: H Bowie
Drawn: C Jamison
Checked: B Russo
Approved: H Bowie
Date: 07–31–09

HONOLULU HIGH-CAPACITY TRANSIT CORRIDOR PROJECT

CITY & COUNTY OF HONOLULU - DEPARTMENT OF TRANSPORTATION SERVICES - RAPID TRANSIT DIVISION

Prime Consultant: PB PARSONS BRINCKERHOFF
1003 Bishop Street, Suite 2250 – Honolulu, HI 96813

Subconsultant:

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CORE SYSTEMS

UH WEST O'AHU STATION COMMUNICATIONS PLAN

PLATFORM LEVEL

Contract No.: MI–920
CADD File: CS–R06–CM106
Drawing No.: CM106 Rev. A
Scale: 1" = 20'
Page No. 130 of 195

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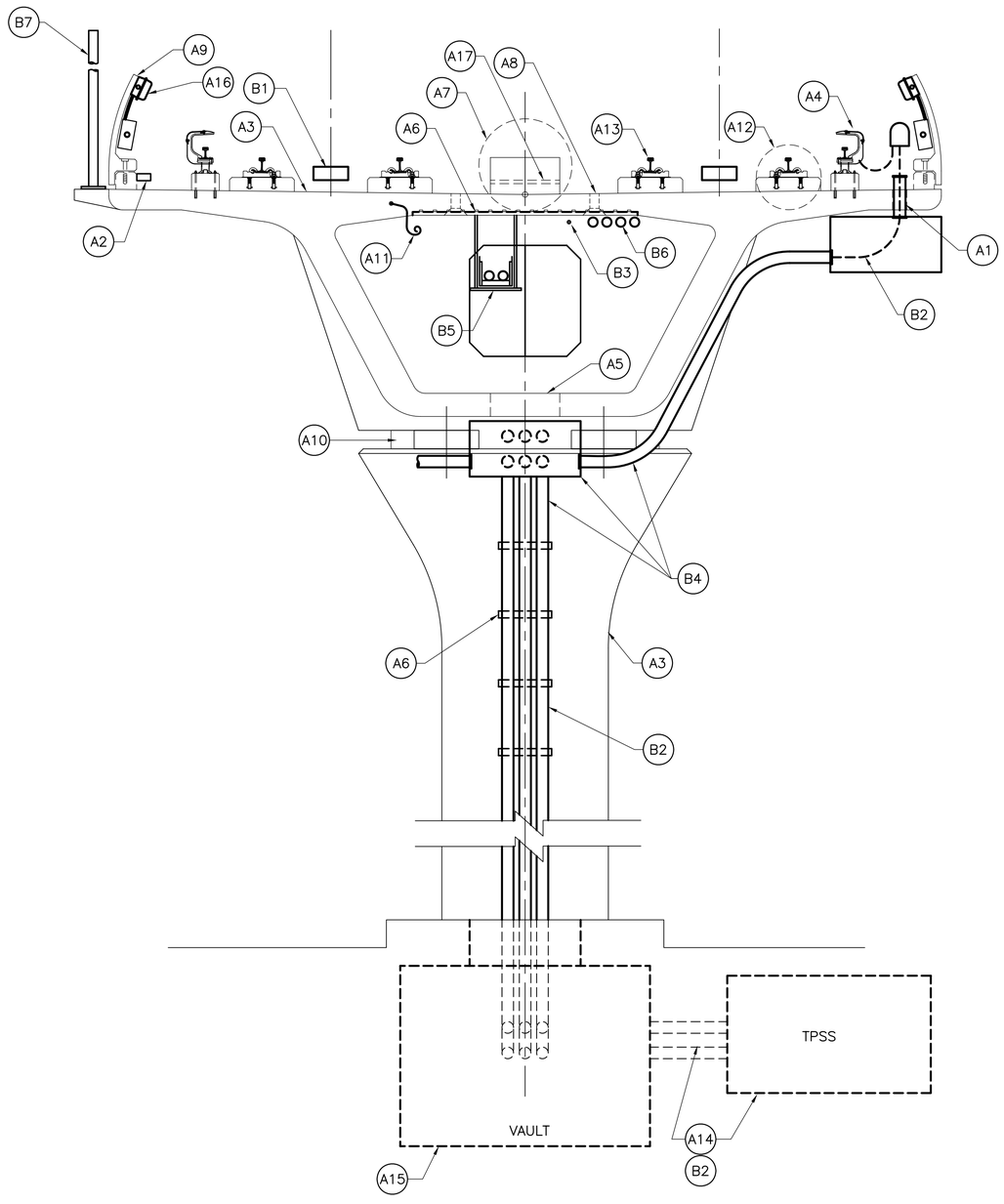
GUIDEWAY CONTRACTOR

- (A1) Sleeves in Box Girder for Traction Power Cabling
- (A2) Stray Current Test Station
- (A3) Precast Segmental Box Girder Guideway Foundations, Substructure, Columns, Bents, Superstructure and all Associated Permanent and Temporary Works
- (A4) Contact Rail Layout and Installation
- (A5) Access Hatch
- (A6) Unistrut for Support of Cable Trays and Conduits
- (A7) Emergency Walkway
- (A8) Knock Outs
- (A9) Acoustic Barrier
- (A10) Bearings, Tie–downs/Restrainers/Shock Transissions Units, Expansion Joints, and all other associated Guideway appurtenances.
- (A11) Stray Current and Grounding Cables
- (A12) Cast–in–Place Rail Plinths, DF Fasteners, Inserts and all related appurtenances.
- (A13) Continuously welded rail, and all related appurtenances.
- (A14) TPSS Foundation and Conduits to Guideway and to HECO Feeder
- (A15) Traction Electrification Vault
- (A16) Guideway Lighting (See Directive Drawings ES001, ES002 and ES003)
- (A17) Sleeves for Crossbonds

CORE SYSTEMS CONTRACTOR

- (B1) Impedance Bonds
- (B2) Feeder Cabling
- (B3) Longitudinal Grounding
- (B4) Conduits and Pull Box for Traction Power Feeders
- (B5) Cable Tray, Cable Tray Supports and Conduits
- (B6) Conduits
- (B7) 15' pole for Wireless Mesh Access Point



Rev	By	Date	Description
A	DG	05–22–09	Issued For Bid

BID DOCUMENT
NOT FOR CONSTRUCTION

Designed: D Gobelle
Drawn: C Jamison
Checked: M Becher
Approved: M Hall
Date: 05–22–09

HONOLULU HIGH-CAPACITY TRANSIT CORRIDOR PROJECT
CITY & COUNTY OF HONOLULU - DEPARTMENT OF TRANSPORTATION SERVICES - RAPID TRANSIT DIVISION

Prime Consultant: PB PARSONS BRINCKERHOFF
1003 Bishop Street, Suite 2250 – Honolulu, HI 96813

Subconsultant:

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WEST O'AHU/FARRINGTON DESIGN-BUILD

SYSTEM INTEGRATION
CONTRACT WORK DELINEATION

AERIAL GUIDEWAY

Contract No.: DB–1200
CADD File: WF–V11–SY001
Drawing No: SY001 Rev. A
Scale: NTS
Page No. 209A of 209

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