310 Project Control

310.1 General

The Project Control sheet provides a summary of horizontal and vertical datum (i.e., reference points, benchmarks and control points). The datum shown on this sheet must provide clear and sufficient information to establish horizontal and vertical control during the construction of the project. The data shown can be extracted from the project network control survey and historical control data, or reflect assumed datum.

These sheets are to be placed in the component plans in accordance with ***FDM 302.6***.

See ***Exhibits 310-1*** through ***310-3*** for examples of a Project Control sheet.

310.2 Sheet Setup

Use the standard plan format sheet provided in the FDOT CADD Software to prepare the sheet. Use standard symbols contained in the ***FDOT CADD Manual***.

Provide a note on the Project Control sheet that identifies horizontal and vertical datum that the survey is based on.

310.3 Reference Points

Reference points are prominent, easily located points in the terrain used to define a location of another point that is located on the baseline of survey. The purpose of reference points is provide horizontal location to re-establish primary control points along the baseline of survey. Reference points should not be located on the baseline. Detailed descriptions of each reference point is illustrated with a sketch.

Place survey reference points on the Project Control sheet along the top of the sheet or where other space allows. Clearly indicate the baseline of survey and reference points, including all ties. Complete length of survey baseline between two consecutive reference points need not be shown. Clearly label each reference point, beginning at the first reference point within the limits of the project, and progressing in the direction of stationing. Reference points need not be drawn to any particular scale, but distances and angles shown must be proportionate.

310.4 Benchmarks

Benchmarks provide a known elevation that is used as the basis for measuring the elevation of other topographical points. When benchmarks are not used to provide horizontal control, they may be placed on the Project Control sheet along the bottom of the sheet or where other space allows. At a minimum, benchmarks are to include:

(1) Identifying name (e.g., BM No. 9)

(2) Description (e.g., nail in tree, concrete monument)

(3) Station and offset

(4) Elevation (in feet to two decimal places)

310.5 Control Points (Horizontal and Vertical Datum)

Control points provide information for the location and elevation of established monuments. Control points that provide vertical datum are also known as benchmarks.

Place the following information for the control points in a table titled Horizontal and Vertical Control:

(1) Point Name – Often identified on the stamped disk placed on the established monument.

(2) Northing and Easting – Show to three decimal places. If control point serves only as a Benchmark show Northing and Easting to the nearest foot, more or less.

(3) Scale Factor – Show to nine decimal places.

(4) Latitude and Longitude – Show seconds to five decimal places. If control point serves only as a Benchmark show Latitude and Longitude to the nearest second.

(5) Baseline Station and Offset – Show to two decimal places.

(6) Elevation – if control point only serves as horizontal control show elevation as “N/A”.

(7) Description – indicate the size, type, if the monument is “found” or “set” and include the monument ID number.

When this table is the sole means to convey horizontal and vertical datum, include a project sketch on the Project Control sheet that provides a visual reference for the location of the control points. The sketch does not need to be any particular scale but must provide clarity and legibility. Include the following information on the sketch:

(1) Show the baseline of survey with stationing.

(2) Flag and label beginning and ending stations for project.

(3) Show bearings for all tangent sections, in the direction of stationing.

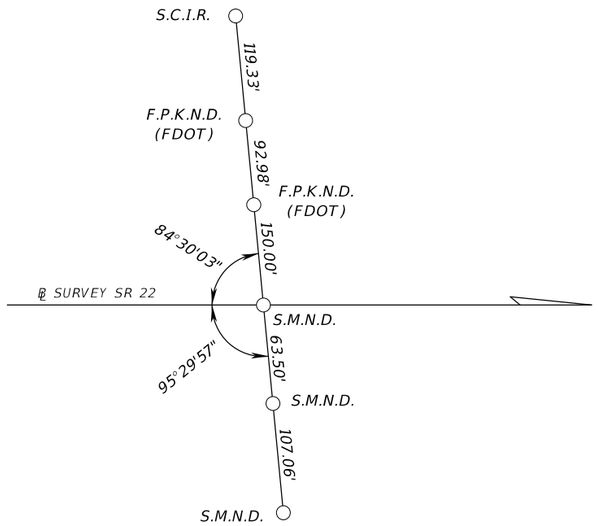
(4) Label PC and PT points and show horizontal curve data.

(5) Indicate graphically the location of intersecting roadways and railroads.

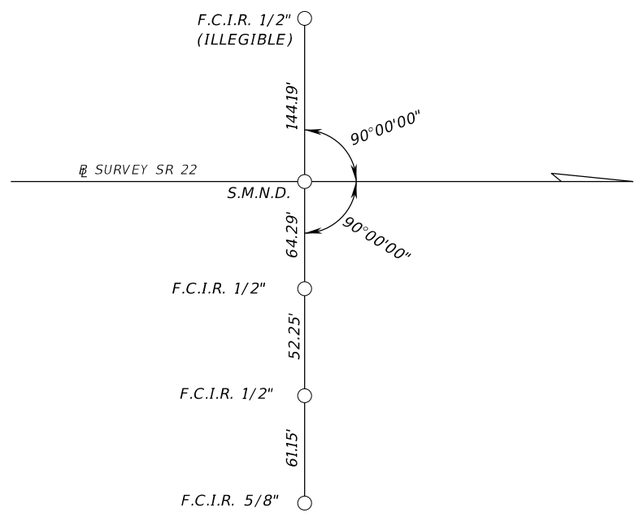
(6) Indicate Township, Range and Sections that the survey traverses. Show the location where section lines cross the baseline of survey.

(7) Place a north arrow and scale in a conspicuous location, typically in the upper right portion of the sheet.

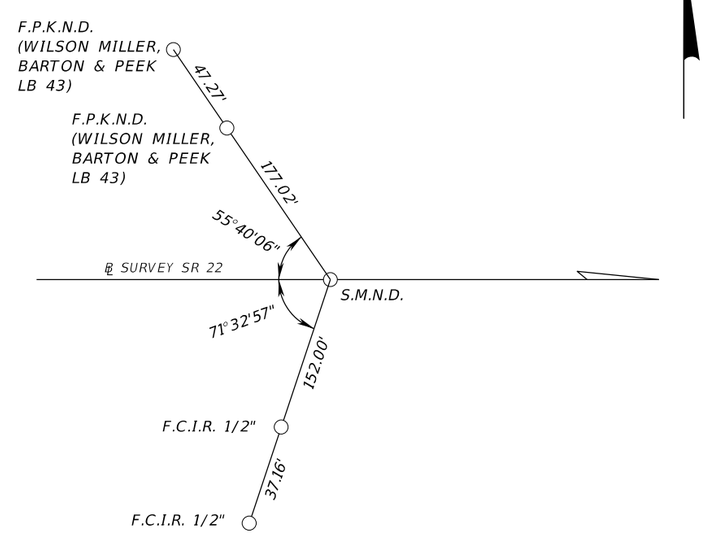
℄ REFERENCE POINTS
(NOT TO SCALE)



POT 2953+00.00



POT 2960+00.00



POT 2963+07.24

BENCHMARKS

BM 2953
SET 4" X 4" CONC. MON.
W/ STD. FDOT BRASS DISK
STAMPED "BM 2953"
STA. 2953+50.8, 64.9' RT
EL. = 99.09'

BM 2963
SET 4" X 4" CONC. MON.
W/ STD. FDOT BRASS DISK
STAMPED "BM 2963"
STA. 2963+17.9, 82.5' RT
EL. = 105.22'

BM 3
FOUND 4" X 4" CONC. MON.
W/ STD. FDOT BRASS DISK
STAMPED "BM 3"
STA. 2973+01.2, 59.2' RT
EL. = 99.58'

LEGEND

F.C.I.R.	= FOUND CAPPED IRON ROD (FDOT)
FDOT	= FLORIDA DEPARTMENT OF TRANSPORTATION
F.P.K.N.D.	= FOUND PARKER-KALON NAIL & DISK
LB	= LAND SURVEYING BUSINESS REGISTRATION NUMBER
S.C.I.R.	= SET CAPPED IRON ROD 5/8" (FDOT)
S.M.N.D.	= SET MAG NAIL AND DISK (FDOT)
S.M.N.D. T.P.-R.P.	= SET MAG NAIL AND DISK (FDOT)
TRAV.	= TRAVERSE

PROJECT CONTROL NOTES

1. PROJECT IS BASED ON THE FLORIDA STATE PLANE COORDINATE SYSTEM, NORTH ZONE, OF THE NORTH AMERICAN DATUM OF 1983, 2011 ADJUSTMENT (NAD 83/2011).

2. ELEVATIONS ARE BASED ON NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88)

Exhibit 310-1
Date: 1/1/17

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

LUKE S. WALKER, P.E. NO.: 99991
ROADWAY ENGINEERS, INC.
123 MAIN STREET
TALLAHASSEE, FL 32301
CERTIFICATE OF AUTHORIZATION: 12345

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 22	BAY	123456-1-52-01

PROJECT CONTROL

SHEET NO. 11

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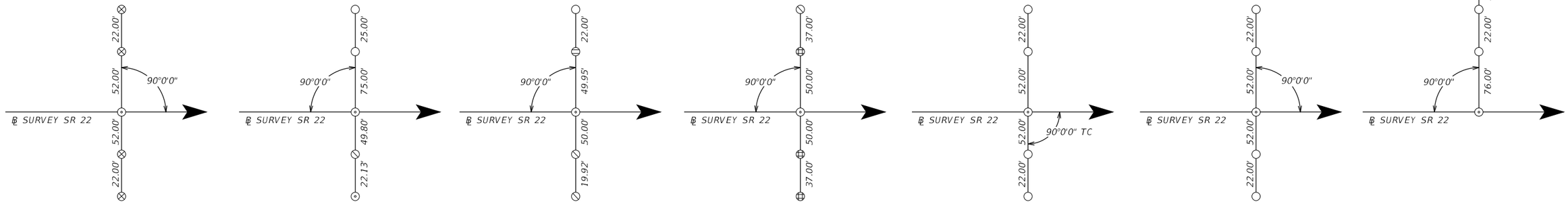
℄ REFERENCE POINTS

(NOT TO SCALE)



BEGIN SURVEY
STA. 8+00.00

STA. 9+00.00

STA. 25+00.00

PC STA. 45+45.51

STA. 63+00.00

PT. STA. 81+53.78

END SURVEY
STA. 84+99.67

LEGEND

- ○ = SET 5/8" IRC STAMPED F.D.O.T. REF.
- ⊙ = SET NAIL W/ DISC STAMPED F.D.O.T. CONTROL
- ⊗ = SET X CUT IN CONCRETE NO ID
- ⊘ = FOUND 100D NAIL NO ID
- ⊖ = FOUND 1/2" IRON ROD NO ID
- ⊕ = FOUND 5/8" IRON ROD NO ID

℄ STATION	(Y) NORTHING	(X) EASTING	SCALE FACTOR
08+00.00	731006.941	1104363.972	1.00002712
09+00.00	730958.261	1104451.323	1.00002771
25+00.00	730179.373	1105848.941	1.00002829
45+45.51	729183.610	1107635.714	1.00002892
63+00.00	728109.980	1109014.692	1.00002967
81+53.78	726580.821	1110048.276	1.00003004
84+99.67	726266.795	1110193.287	1.00003049

ANNA KING
LICENSE
No 99993
STATE OF
FLORIDA
Professional Surveyor

THIS DOCUMENT HAS BEEN DIGITALLY SIGNED AND SEALED BY:

ANNA KING
Date: 2015.10.14 17:53:01 - 04'10'

PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED. THE SIGNATURE MUST BE VERIFIED ON THE ELECTRONIC DOCUMENTS.

MAPS R US, INC.
678 COMPASS ROAD
MIAMI, FL 33179
LICENSED BUSINESS NO.: 99699
ANNA KING, P.S.M. NO. 99993

PROJECT CONTROL NOTES

1. PROJECT IS BASED ON THE FLORIDA STATE PLANE COORDINATE SYSTEM NAD 1983 / 2011 HORIZONTAL DATUM.
2. ELEVATIONS ARE BASED ON NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88)

HORIZONTAL AND VERTICAL CONTROL

CONTROL POINT	℄ SURVEY STATION	OFFSET	(Z) ELEVATION	DESCRIPTION	(Y) NORTHING	(X) EASTING	LATITUDE	LONGITUDE	SCALE FACTOR
C-02	08+22.65	44.80' LT.	3.05'	FOUND FDOT BRASS DISK IN CONCRETE STAMPED "842 86 11 C02"	731019.964	1104363.964	26°07'18.96289"	80°09'56.29283"	1.00002712
B-01	14+66.25	33.25' LT.	7.23'	SET FDOT BRASS DISK IN CONCRETE STAMPED "842 86 14 B01"	730958.234	1104451.326	26°07'18.90268"	80°09'45.88657"	1.00002967
C-03	25+73.33	36.96' RT.	4.18'	FOUND FDOT BRASS DISK IN CONCRETE STAMPED "842 86 11 C03"	730456.349	1105848.917	26°07'18.38998"	80°09'35.78475"	1.00003088
B-02	31+18.07	25.60' RT.	4.05'	SET FDOT BRASS DISK IN CONCRETE STAMPED "842 86 14 B02"	730229.364	1108642.646	26°07'18.79454"	80°09'24.88094"	1.00003148
C-04	46+75.51	83.53' LT.	4.12'	FOUND FDOT BRASS DISK IN CONCRETE STAMPED "842 86 11 C04"	729283.642	1109014.635	26°07'20.21998"	80°09'11.99337"	1.00003203
B-03	55+98.14	22.04' LT.	4.84'	SET FDOT BRASS DISK IN CONCRETE STAMPED "842 86 14 B03"	729002.211	1109544.542	26°07'19.77658"	80°08'41.06068"	1.00003253
C-05	63+00.00	40.41' RT.	4.23'	FOUND FDOT BRASS DISK IN CONCRETE STAMPED "842 86 11 C05"	728109.925	1110193.265	26°07'19.35577"	80°08'31.67213"	1.00003301

Exhibit 310-2
Date: 1/1/17

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

MAPS R US, INC.
678 COMPASS ROAD
MIAMI, FL 33179
LICENSED BUSINESS NO.: 99699
ANNA KING, P.S.M. NO. 99993

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 22	BAY	123456-1-52-01

PROJECT CONTROL

SHEET NO.
CTL-1

9/19/2017 2:36:48 PM

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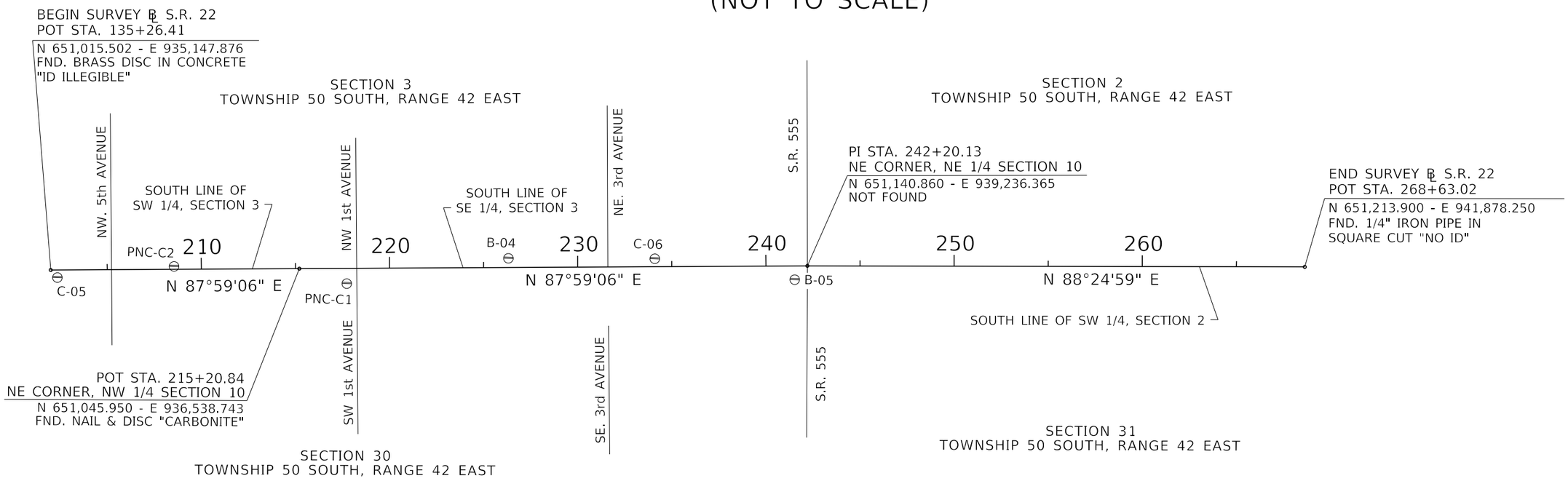
PROJECT CONTROL POINTS
℄ SURVEY S.R. 22
(NOT TO SCALE)



HORIZONTAL AND VERTICAL CONTROL

CONTROL POINTS	(Y) NORTHING	(X) EASTING	SCALE FACTOR	LATITUDE	LONGITUDE	℄ SURVEY STATION	OFFSET	(Z) ELEVATION	DESCRIPTION
C-05	650,960.352	935,255.028	1.00003049	26°07'19.35577"	80°08'57.93221"	202+34.91	40.41' RT.	4.23'	FOUND FDOT BRASS DISK IN CONCRETE STAMPED "842 86 11 C05"
PNC-C2	651,038.058	935,872.919	1.00003088	26°07'20.08530"	80°08'51.14792"	208+55.15	15.52' LT.	5.17'	FOUND FDOT ALUMINUM DISK IN CONCRETE STAMPED "842-86-13 C2"
PNC-C1	650,973.805	936,792.811	1.00003148	26°07'19.38918"	80°08'41.06068"	217+72.21	81.03' RT.	3.42'	FOUND FDOT ALUMINUM DISK IN CONCRETE STAMPED "842-86-13 C1"
B-04	651,133.755	937,647.541	1.00003203	26°07'20.91756"	80°08'31.67213"	226+32.04	48.76' LT.	2.62'	SET FDOT BRASS DISK IN CONCRETE STAMPED "842 86 14 B04"
C-06	651,154.526	938,424.971	1.00003253	26°07'21.07243"	80°08'23.14164"	234+09.72	42.19' LT.	2.72'	SET FDOT ALUMINUM DISK IN CONCRETE STAMPED "842 86 14 C06"
B-05	651,065.674	939,171.400	1.00003301	26°07'20.14353"	80°08'14.95924"	241+52.56	72.86' RT.	3.76'	SET FDOT BRASS DISK IN CONCRETE STAMPED "842 86 14 B05"

LEGEND

℄	:	BASELINE
E	:	EAST
FND	:	FOUND
LT.	:	LEFT
OFF.	:	OFFSET
N	:	NORTH
PI	:	POINT OF INTERSECTION
POT	:	POINT ON TANGENT
RT.	:	RIGHT
S.R.	:	STATE ROAD
STA.	:	STATION
⊖	:	CONTROL POINT

PROJECT CONTROL NOTES:

1. BEARINGS AND COORDINATES ARE RELATIVE TO THE STATE PLANE COORDINATES, FLORIDA NORTH ZONE, NORTH AMERICAN DATUM (NAD) OF 1983 (ADJUSTMENT OF 1990)

   -A BEARING OF N 89°59'57" E HAS BEEN ESTABLISHED BETWEEN MONUMENTS HBLC-2 STAMPED "842 86 11 C02" & B-01 STAMPED "B01"

2. VERTICAL DATUM : NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88)

3. PROJECT UNITS : US FEET

4. FIELD BOOK REFERENCES : MGV 851 SERIES.

5. ELECTRONIC DATABASE : CAICE: "428724.ZIP"

ANNA KING
LICENSE
No 99993
STATE OF
FLORIDA
Professional Surveyor

THIS DOCUMENT HAS BEEN DIGITALLY SIGNED AND SEALED BY:

ANNA KING
Date: 2015.10.14
17:42:01 - 04'10'

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MAPS R US, INC.
678 COMPASS ROAD
MIAMI, FL 33179
LICENSED BUSINESS NO.: 9999
ANNA KING, P.S.M. NO. 99993

Exhibit 310-3
Date: 1/1/17

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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

MAPS R US, INC.
678 COMPASS ROAD
MIAMI, FL 33179
LICENSED BUSINESS NO.: 99699
ANNA KING, P.S.M. NO. 99993

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 22	BAY	123456-1-52-01

PROJECT CONTROL

SHEET NO.
CTL-1

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