

Oversight / NHS	
FHWA FULL OVERSIGHT?	<input checked="" type="checkbox"/> NO <input type="checkbox"/> YES
NATIONAL HIGHWAY SYSTEM?	<input checked="" type="checkbox"/> NO <input type="checkbox"/> YES

DEPARTMENT OF TRANSPORTATION
STATE OF COLORADO

HIGHWAY CONSTRUCTION BID PLANS OF PROPOSED *As Constructed*
FEDERAL PROJECT NO. BR 0063-013

STATE HIGHWAY NO. 006

LOGAN COUNTY

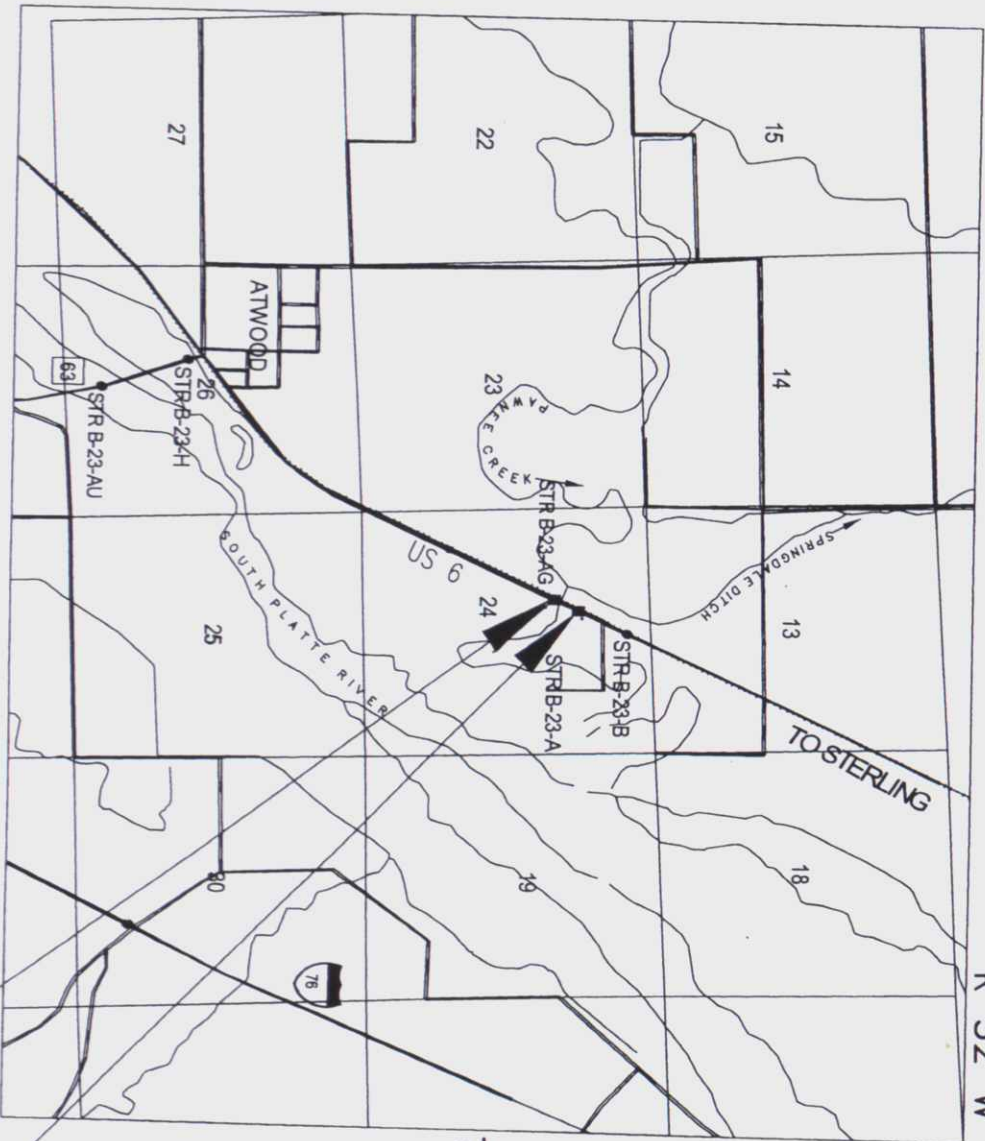
TABULATION OF LENGTH & DESIGN DATA

STATION	FEET	
	ROADWAY U.S. 6	MAJOR STRUCTURE
1200 FT APPROACH TO PROJECT		
STA. 114+80 = M.P. 399.468	495.0	
BEGIN PROJECT BR 0063-013		
STA. 119+78 BEGIN STRUCTURE		217
NO. B-23-AV		
STA. 121+95 END STRUCTURE		
NO. B-23-AV		
STA. 126+80 = M.P. 399.696	489.0	
END PROJECT BR 0063-013		
1200 FT APPROACH TO PROJECT		
TOTAL	984.0	217.0
SUMMARY OF PROJECT LENGTH	FEET	MILES
ROADWAY (NET LENGTH)	984.0	0.186
MAJOR STRUCTURE	217.0	0.041
PROJECT GROSS LENGTH	1200.0	0.227
DESIGN DATA	SH 6	
MAXIMUM RADIUS OF CURVE	NA	
MAXIMUM GRADE	1.00%	
MINIMUM S.S.D. HORIZONTAL	>730	
MINIMUM S.S.D. VERTICAL	>800	
MAXIMUM DESIGN SPEED	70 MPH	
2024 DESIGN TRAFFIC	DHV = 391	
DHV TRUCKS %	ADT = 3564	
9%		
*CLEAR ZONE DISTANCE (TANGENT)	32 FEET	
* FOR INFORMATION ONLY		

CONSTRUCTION PROJECT CODE NO. 11723

R 53 W

R 52 W



SHEET NO.

INDEX OF SHEETS

1	TITLE SHEET
2	STANDARD PLANS LIST
3	TYPICAL SECTIONS
4	GENERAL NOTES
5-8	SUMMARY OF APPROXIMATE QUANTITIES
9	TABULATION OF GUARDRAIL, FENCING, DELINEATORS, AND SUMMARY OF EARTHWORK QUANTITIES
10	TABULATION OF SURFACING QUANTITIES
11	SURVEY TABULATION SHEET
12	DRIVEWAY STA. 115+50
13	PLAN AND PROFILE SHEET
14-17	DETOUR ALIGNMENT
18-51	BRIDGE PLANS
52	STORMWATER CONTROL PLAN
53-55	TRAFFIC CONTROL PLANS
56-64	ROW PLANS
65-66	STRUCTURE GROSS SECTIONS
67-73	ROADWAY GROSS SECTIONS

NEW AND REVISED STANDARDS

M-607-1	WIRE FENCES AND GATES	JANUARY 16, 2004
M-609-1	CURB, GUTTERS, AND SIDEWALKS	OCTOBER 29, 2003
M-606-14	PRECAST TYPE 7 CONCRETE BARRIER	JULY 20, 2002
S-630-1	TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	SEPTEMBER 3, 2003

STA 126+80
END PROJECT
BR 0063-013

STA 114+80
BEGIN PROJECT
BR 0063-013

Contract Information	
Contractor: Duckels Construction, Inc.	
Resident Engineer: Brett Locke	
Project Engineer: Larry O'Toole	
PROJECT STARTED: 9/01/04	ACCEPTED: 9/01/05
Comments:	

Colorado Department of Transportation

Computer File Information

Creation Date: 04/08/02	Initials: LRO
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Drawing File Name: TITLESHEET.dwg	
Acad Ver: 2000	Scale: 1"= 50 FT. Units: ENG.

Sheet Revisions

As Constructed	Revised	Void
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<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Title Sheet

Designer: L. O'TOOLE	Structure: B-24-AW
Detailer: L. O'TOOLE	Numbers:
Sheet Subset:	Subset Sheets:

Project No./Code

BR 0063-013

11723

Sheet Number 1 of 73



120 N. RIVERVIEW ROAD
Sterling, Colorado 80751
Phone: 970-522-0481 FAX: 970-521-9729
Region Number or Branch Initials

TYPICAL SECTION NOTES

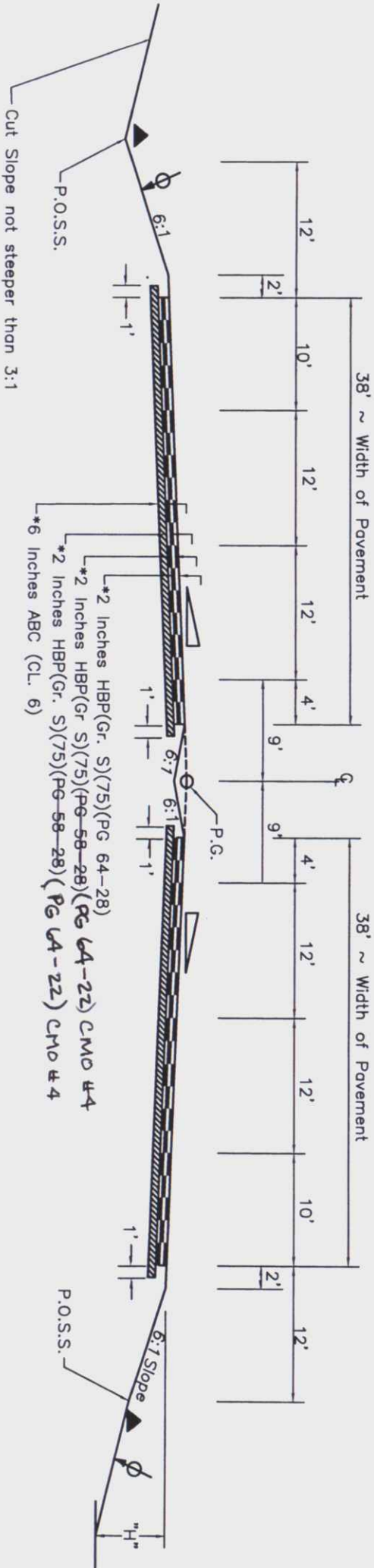
- Soil preperation (special) and seeding (native) will be required on all disturbed areas
- Break points in slopes and in bottoms of ditches shall be rounded during construction for a pleasing appearance
- 2% roadway slope.
- Vertical alignment control points.

PAVEMENT DESIGN PARAMETERS

Stabilization Data	Mainline
Design life (years)	20
Reliability (%)	80
Overall Standard Deviation	0.44
Roadbed Soil Resilient Modulus	9,497 psi
Initial Serviceability	4.5
Terminal Serviceability	2.5
18K ESALS (20 Year)	1,060,000
Structural Number	2.90

SLOPE SELECTION

Height of Cut or Fill	Sideslope
Less than 16 ft	1:4
Over 16 ft	1:3
In special cases, slope may be steepened	



STA. 114+80 to 126+80

* ~ Approximate Thickness
P.G. ~ Profile Grade
P.O.S.S. ~ Point of Slope Selection

Colorado Department of Transportation

120 N. Riverview Road
Sterling, Colorado 80751
Phone: (970) 522-0481
Fax: (970) 521- 9729

Computer File Information

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Acad Ver. 2004	Scale: NA Units: ENGLISH

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Revised: 9/01/05
Void:

Typical Sections Sheet

Designer: L. O'TOOLE	Structure Numbers
Detaller: L. O'TOOLE	
Sheet Subset: XXXXXXXX	Subset Sheets:

Project No./Code

BR 0063-13
11723
Sheet Number 3

GENERAL NOTES

ANY LAYER OF BITUMINOUS PAVEMENT THAT IS TO HAVE A SUCCEEDING LAYER PLACED THEREON SHALL BE COMPLETED FULL WIDTH BEFORE THE SUCCEEDING LAYER IS PLACED. FOR PRELIMINARY PLAN QUANTITIES OF BITUMINOUS MATERIALS, THE FOLLOWING RATES OF APPLICATION WERE USED:

DILUTED EMULSIFIED ASPHALT (SLOW-SETTING) 0.10 GAL PER SQ. YD. (DILUTED)

HOT BITUMINOUS PAVEMENT 110 LBS. PER SQ. YD. PER INCH OF THICKNESS

AGGREGATE BASE COURSE (CI. 6) 133 LBS PER CU. FT.

DILUTED EMULSIFIED ASPHALT FOR TACK COAT SHALL CONSIST OF 1 PART EMULSIFIED ASPHALT AND 1 PART WATER. RATES OF APPLICATION SHALL BE AS DETERMINED BY THE ENGINEER AT THE TIME OF APPLICATION.

TACK WILL BE INCLUDED IN THE COST OF HOT BITUMINOUS PAVEMENT.

TACK COAT IS REQUIRED PRIOR TO THE PLACEMENT OF SUBSEQUENT LIFTS OF HBP.

BEFORE PLACEMENT OF THE TACK COAT, THE CONTRACTOR SHALL CLEAN THE ROADWAY AS DIRECTED BY THE ENGINEER. CLEANING SHALL NOT BE PAID FOR SEPERATELY BUT SHALL BE INCIDENTAL TO THE HBP.

EXISTING ASPHALT PAVEMENT SHALL BE REMOVED IN THOSE AREAS DESIGNATED IN THE PLANS OR DESIGNATED BY THE ENGINEER. EXISTING PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE SAWCUT TO A NEAT VERTICAL LINE WITH A CONCRETE PAVEMENT SAW OR OTHER METHOD AS APPROVED BY THE ENGINEER. REMOVED PAVEMENT SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF OFF-SITE. ANY AND ALL WORK ASSOCIATED WITH ASPHALT AND CONCRETE SAWING, PULVERIZING AND/OR DISPOSAL SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCIDENTAL TO THE WORK. WHERE EXISTING BITUMINOUS PAVEMENT IS SAWCUT TO ABUT NEW BITUMINOUS PAVEMENT, THE SAWCUT VERTICAL EDGE SHALL BE PAINTED WITH EMULSIFIED ASPHALT (SLOW-SETTING). THE RATE OF APPLICATION SHALL BE DETERMINED BY THE ENGINEER AT THE TIME OF APPLICATION.

A SKI TYPE DEVICE AT LEAST 30 FEET IN LENGTH SHALL BE PROVIDED WITH EACH BITUMINOUS PAYER AND USED ON EACH LIFT OF BITUMINOUS PAVEMENT

TYPE OF COMPACTION FOR THIS PROJECT WILL BE AASHTO T 180.

DEPTH OF MOISTURE-DENSITY CONTROL FOR THIS PROJECT SHALL BE AS FOLLOWS:

FULL DEPTH OF ALL EMBANKMENTS.
BASES OF CUTS AND FILLS 6 INCHES.

EXCAVATION REQUIRED FOR COMPACTION OF BASES OF CUTS AND FILLS WILL BE CONSIDERED AS SUBSIDIARY TO THAT OPERATION AND WILL NOT BE PAID FOR SEPARATELY.

CLEARING AND GRUBBING SHALL INCLUDE REMOVAL OF ALL TREES, LOGS, LIMBS, STUMPS, BRUSH, AND TRASH AND ETC. TO AN OFFSITE LOCATION.

IT IS ESTIMATED THAT 8⁹ HOURS OF DOZING (LANDSCAPING) WITH A DOZER IN THE 100 TO 150 HORSEPOWER RANGE ~~WILL BE~~ REQUIRED FOR WETLAND GRADING

STA. ~~113+50~~ 113+98 REQUIRED 1 MAILBOX RESET

~~STA. 120+56 REQUIRES A 48" X 195' DETOUR PIPE. THE PIPE WILL BE PLACED TO REDUCE SEDIMENTATION OF WETLANDS DOWNSTREAM OF THE PROJECT DURING CONSTRUCTION~~ CHANNEL LINING WAS

UTILITY NOTES

THE FOLLOWING IS A LIST OF UTILITIES AND CONTACTS WITHIN THIS PROJECT:

XCEL ENERGY Don Seichert (970) 521-1844 Sterling, CO
(Gas & Elec.)
Qwest Comm. Dan Sinele (970) 350-2948 Greeley, CO
Telephone
Highline Electric Trent Loulensock (970) 854-2236 Holyoke, CO
(Electric)
MCI Dan Weibers (303) 214-7154 Aurora, CO
(Fiber Optic)
ATAI Rob Beck (970)520-2898 Sterling, CO
(Fiber Optic)
Sprinkle Ditch Hank Schaefer (970)522-2898 Sterling, CO
(Irrigation)
Union Pacific RR Sue Grobler (303)964-4099 Denver, CO

Computer File Information			Sheet Revisions			Colorado Department of Transportation			As Constructed		GENERAL NOTES			Project No./Code	
Creation Date: 02/02/02			Initials: LRO			<div><div></div><div>DOT</div><div>Department of Transportation</div></div>			No Revisions: mm/dd/yy		Designer: LRO			BR 0063-013	
Last Modification Date: 05/14/04			Initials: LRO			120 N. Riverview Rd. Sterling, CO 80751			Revised: 9/10/05		Detailer: LRO			11723	
Full Path: 11723pownee/11723/PLANS/			<div><div></div><div></div><div></div></div>			Phone: (970) 522-0481			Fax: (970) 521- 9728		Roadway			Subset Sheets: R4 of 36	
Drawing File Name: GENERAL NOTES.DWG			<div><div></div><div></div><div></div></div>			LBL			Void: mm/dd/yy		Sheet Subset: Roadway			Sheet Number 4	
Acad Ver. 2004			Scale: 1:1			Units: ENGLISH									

INDEX	CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	ROADWAY		B-23-AW STRUCTURE										PROJECT TOTALS					
				PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.								
	201-00000	Clearing and Grubbing	L S	1	1															1	1
	202-00090	Removal of Delineator	EACH	16	16															16	16
	202-00240	Removal of Asphalt Mat (Planing)	SY	8,907	8,926															8,907	8,926
	202-00250	Removal of Pavement Marking	SF	4,000	6,902															4,000	6,902
	202-00400	Removal of Bridge	EACH									2	2							2	2
	202-04001	Plug Culvert	EACH	1	1															1	1
	203-00060	Embankment Material (Complete In Place)	CY	6,333	6,333															6,333	6,333
	203-01100	Proof Rolling	HOUR	10	3.5															10	3.5
	203-01555	Dozing (Landscaping)	HOUR	8	9															8	9
	206-00000	Structure Excavation	CY	12	12							1,180	1,180							1,192	1,192
	206-00060 STRUCTURE BACKFILL (SPECIMEN FLOW FILL) 41		EX									700	700	CMD # 3						700	700
	206-00100	Structure Backfill (Class 1)												CMD # 3							
	206-00200	Structure Backfill (Class 2)	CY									400	400							400	400
	206-00360	Mechanical Reinforcement of Soil	EX									700		CMD # 3						700	
	206-01781	Shoring (Area 1)	L S									1	1							1	1
	208-00020	Silt Fence	LF	300	293															300	293
	208-00045	Concrete Washout Structure	EACH	1	2															1	2
	208-00200	Erosion Control Supervisor	L S	1	1															1	1
	210-00011	Reset Mailbox Structure (Type 1)	EACH	1	1															1	1
	210-00810	Reset Ground Sign	EACH	5	3															5	3
	210-01130	Reset Guardrail Type 3	LF	175	350															175	350
	210-01200	Reset End Anchorage	EACH	2	4															2	4
	212-00006	Seeding (Native)	ACRE	2.5	2.44															2.5	2.44

Computer File Information

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AutoCAD by Autodesk

Sheet Revisions

Colorado Department of Transportation

DOT

Room

4201 E. Arkansas Ave.

Denver, CO 80222

Phone:

Fax:

Region 4 Design

As Constructed

No Revisions:

Revised: 9/01/05

Void:

SUMMARY OF APPROXIMATE QUANTITIES

Designer:

Detailer:

Sheet Subset:

Structure Numbers

Subset Sheets:

Project No./Code

BR 0063-013

11723

Sheet Number: 5

INDEX	CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	ROADWAY								B-23-AW STRUCTURE								PROJECT TOTALS	
				PLAN	AS CONST.							PLAN	AS CONST.							PLAN	AS CONST.
	BOOK	PAGE	SHEET																		
				212-00047	Soil Preparation (Special)	ACRE	2.5	2.44												2.5	2.44
				213-00003	Mulching (Weed Free)	ACRE	2.5	2.44												2.5	2.44
				213-00061	Mulch Tackifier	LB	500	475												500	475
				304-06007	Aggregate Base Course (Class 6)	CY	2,858	1,577												2,858	1,577
				403-33724	Hot Bituminous Pavement (Grading S) (75) (Pe 58-28)	TON	1,856	CMO #4												1,856	—
				403-33744	HSP (Grading S) (75) (Pe 64-22)	TON	1,856	CMO #4												1,856	1,873.02
				403-33751	Hot Bituminous Pavement (Grading S) (75) (Pg 64-28)	TON	968	1033.4												1,355	1,425.35
				502-00400	End Plate	EACH						72	72							72	72
				502-08375	Steel Pipe Piling (12-3/4 X 0.375 Inch)	LF						4,555	5,082.1							4,555	5,082.1
				506-00209	Riprap (9 Inch)	CY	8	16												8	16
				513-00600	Bridge Drain	EACH						4	4							4	4
				515-00120	Waterproofing (Membrane)	SY						2,342	2,328							2,342	2,328
				601-03040	Concrete Class D (Bridge)	CY						1,069	1,069							1,069	1,069
				602-00000	Reinforcing Steel	LB						46,660	46,660							46,660	46,660
				602-00020	Reinforcing Steel (Epoxy Coated)	LB						140,830	140,830							140,830	140,830
				603-30015	15 Inch Steel End Section	EACH	4	4												4	4
				606-00301	Guardrail Type 3 (6-3 Post Spacing)	LF	350	350												350	350
				606-01370	Transition Type 3G	EACH	2	2												2	2
				606-02003	End Anchorage (Nonflared)	EACH	2	2												2	2
				606-11030	Bridge Rail Type 10M	LF						500	500							500	500
				607-00003	End Post	EACH	1	DELETED FORM 105 8/10/05												1	—
				607-00010	Corner and Line Brace Post	EACH	1	DELETED FORM 105 8/10/05												1	—

Computer File Information				Sheet Revisions				Colorado Department of Transportation				As Constructed		SUMMARY OF APPROXIMATE QUANTITIES				Project No./Code	
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Last Modification Date: 14-May-2004		Initials: LRO		<input type="checkbox"/>		<input type="checkbox"/>		Region 4 Design		Phone: [Blank]		Revised: 9/6/105		DETAILER: [Blank]		11723			
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