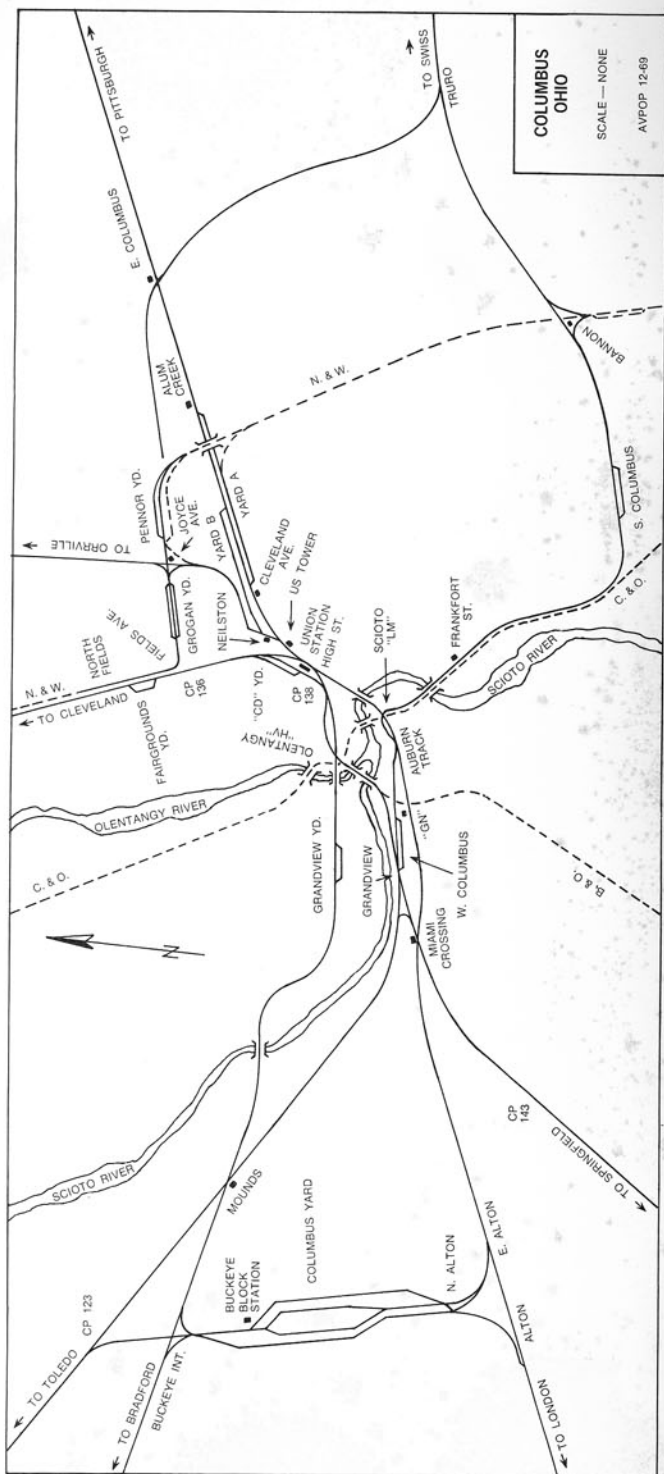


PENN CENTRAL

OPERATING PRACTICES

BUCKEYE YARD

COLUMBUS, OHIO



PENN CENTRAL TRANSPORTATION COMPANY

COLUMBUS YARD *

The Columbus Freight Classification Yard incorporates the most modern features in yard design, supporting facilities and cybernetic control systems. The yard is made up of a receiving yard, classification yard, departure yard and a local yard. Auxiliary facilities are provided for caboose servicing, car repair, car cleaning and diesel servicing and repair. The yard appurtenances include a process control computer, remote controlled switches and power operated retarders. The computer is programmed to receive electrical signals from 57 strategic points within the yard, evaluate the data and send command signals to the control equipment. Car performance measurements are made with such modern field devices as load cells, wheel sensors, radar speed scanners, loop presence detectors and photo-electric cells.

This computer controlled yard will expedite switching and also provide operating personnel with statistical information and data for improved car handling, train dispatching, locomotive and car repairs and over-all general operation of the terminal.

This pamphlet contains a brief description of the design and operation of Columbus Yard and a schematic map of the facility.

* General Order No. 403; Effective 12:01 A.M.,
Wednesday, April 1, 1970: Columbus New
Yard Named "BUCKEYE YARD":

RECEIVING YARD

The receiving yard, illustrated on the sketch on page 19, consists of seven tracks located adjacent to and west of the classification yard. Table I shows the car capacity of each track. Normal track centers are 15 foot with 20 foot spacing on alternate tracks to provide roadways for service motor vehicles.

A running track is located on the west side of this yard.

TABLE I — RECEIVING YARD TRACK CAR CAPACITY

Track Number	Car Capacity
0	Future
1	Future
2	Roadway
3	Running Track
4	170
5	Roadway
6	176
7	176
8	Roadway
9	105
	102
	Roadway
	98
	98

The receiving yard track switches are manually operated except at the base of the hump and at the north end of tracks 3, 4, 5 and 6 lead. Electric switches located at the north end of the receiving yard are operated automatically by the computer or from a button located on the switchstand. Power switches at the base of the hump are operated from the hump conductor's console or from a button located on the switchstand.

Each switch is also equipped with white, yellow and red lights.

White	—	Switch aligned for lead
Yellow	—	Switch aligned for diverging route
Red	—	Stop

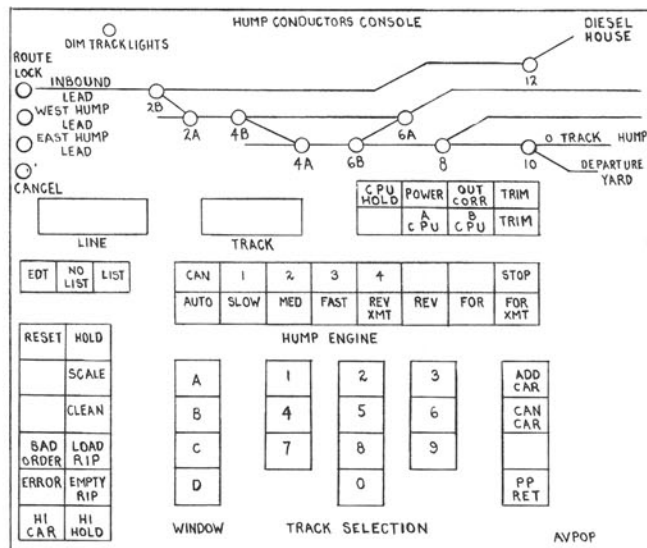
Flashing white or yellow lights identify an aligned and locked route through a series of power switches.

HUMP

The hump, located east of the receiving yard, is 23 feet above the classification yard. The two leads extending south of the hump are called the East Hump lead and West Hump lead. These leads have capacity for humping 190 and 110 cars respectively.

Controls for the hump operation, including hump engine signal controls and automatic routing, are operated from the hump conductor's console. The hump locomotive cab signals are operated manually from the hump conductor's console or automatically from the computer. Signals transmitted via radio to the hump locomotive indicate desired speed, forward, reverse, or stop.

The north gradient of the hump is sufficient to provide the rolling energy to drop cars into the classification yard. The exit velocity of each car, or cut from the retarders is determined by use of a mathematical formula for equating car rolling re-



sistance measurement, distance to travel before coupling, track and curve resistance, car weight, wind velocity, etc.

The moving cars are controlled by a retarder system consisting of a master retarder and four group retarders, to assure a four mile per hour coupling speed. The car speeds through the retarder are monitored by radar scanners located ahead of the retarder sections in the center of the track. This information is entered into the computer and the computer automatically computes the retarder pressure required and activates the controls, thus controlling the speed of the car.

Operation of all switches at the hump end of the classification yard is controlled by the computer through an automatic route selection control program. Wheel sensors are used to track each car through the assigned route into a selected track. Electronic loops (presence detectors) built within each switch, identify the magnetic field of a car and prevent the switch from being operated.

A pin-pull retarder (PPR), located immediately north of the hump crest, is operated with a push button on the conductor's console.

High load detectors (photo-electric cells) are located at four elevations above the rail ahead of the master retarder. The height of the car or carload measured by the photo cells is correlated with the pre-assigned height of the classification. The computer will determine if a car will clear the route restrictions of the assigned classification.

The retarder control tower is located on the east side of the classification yard adjacent to the group retarders. Equipment is provided for manual control of retarders and switches when operations require countermanding the automatic controls of the computer. The retarder console display shows switch list line number and track number for each car or cut entering the master retarder. Upon request for each classification track, a visual display shows track capacity, cars in track and distance to coupling. Other control features include equipment failure and mis-route alarms and track clearance lights.

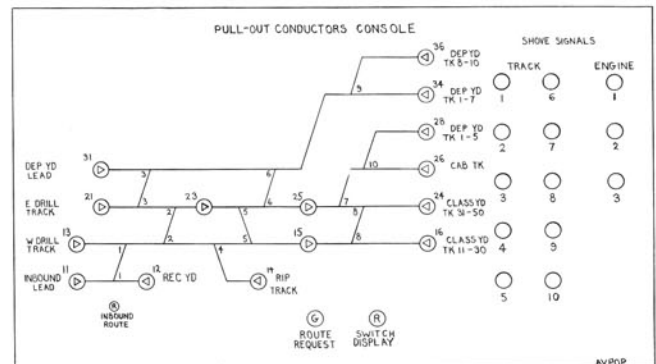
CLASSIFICATION YARD

The classification yard consists of 40 tracks. The tracks are divided into four groups of 10 tracks each. The car capacity of the tracks ranges from 42 to 61 cars each, with a total capacity of 2,060 cars. Table II shows the classification track car capacity and initial assignment. These tracks are on 14 foot centers. The body of the yard is on a very slight descending grade of .08% which is a non-accelerating grade. Inert retarders located at the north end of all classification tracks are designed to stop the movement of free rolling cars at the end of the classification track.

The pull out (north) end has two stub-end "drill tracks" connected into the two classification yard ladders. These drill tracks are connected through a series of cross-overs to the departure yard leads. The cross-overs between the pull-out leads and the departure yard are powered by electric switch machines controlled from the pull-out conductor's tower. The pull-out conductor's panel contains push-button switch controls, switch position and route lights and departure track shove signal lights. Track circuits prevent the power switches from being operated when a specific route is occupied. When necessary, switches may be controlled from the push buttons on each switchstand.

TABLE II - CLASSIFICATION TRACK
CAR CAPACITY AND ASSIGNMENT

<u>TRACK</u>	<u>CAPACITY</u>	<u>CLASS</u>
1-10	Future tracks	
11	42	Rip
12	42	Fairgrounds
13	44	Transit Warehouse
14	44	Frontier
15	46	Collinwood
16	46	Selkirk
17	48	Richmond
18	48	Logansport
19	50	L & N Hoppers
20	50	C & O
21	52	Moraine
22	52	L & N Misc.
23	54	Southern
24	54	Elkhart
25	57	N & W
26	59	Scottslawn
27	59	Enola
28	61	Sharon
29	61	Local
30	61	Grogan
31	61	Avon
32	61	Conway
33	61	Hoppers
34	59	Thurston (THU-1)
35	59	Weirton
36	57	Mingo
37	54	Marysville
38	54	PLE
39	52	Nitro
40	52	S. Columbus
41	50	Stanley
42	50	Dickinson
43	48	Galion
44	48	Grandview
45	46	Cleanouts
46	46	Yard "A"
47	44	Rockport
48	44	Zanesville
49	42	Westinghouse
50	42	Hold
51-60	Future tracks	



DEPARTURE YARD

The departure yard is located east of and parallel to the classification yard. The track capacities range from 145 to 169 cars with a total capacity of 1,234 cars. Table III shows the car capacity for each track. A running track is located on the east side of the yard. Alternate tracks are placed on wide track centers (twenty foot) to permit operating motor vehicles between tracks for car inspection and repair purposes. All other departure yard tracks are on fifteen foot centers.

A yard air system provides outlets every 50 car lengths throughout the yard.

Track circuits, 300 feet from the clearance point of each departure yard track, are connected with shove signal lights on the pull-out conductor's panel. This system is related to the pull-out engine assignment through the control panel. Three high signal lights (one for each pull-out engine) are located adjacent to the departure yard.

TABLE III
DEPARTURE YARD TRACK CAR CAPACITY

<u>DEPARTURE TRACK NUMBERS</u>	<u>CAR CAPACITY</u>
1	169
	Roadway
2	166
3	166
	Roadway
4	147
5	147
	Roadway
6	149
7	145
	Roadway
8	145
	Running Track
	Roadway
9	Future
10	Future

LOCAL YARD

The local yard, located east of the north end of the departure yard, consists of 4 tracks with a total capacity of 168 cars. The north end of the local yard is connected with the classification yard pull-out tracks and the south end is connected with east runner. Future expansion provides for construction of six tracks on the east side of the yard.

CABIN SERVICING TRACKS

A cabin servicing facility is located at the north end of the departure yard between the departure and classification yards. This facility includes two stub-end tracks adjacent to a paved roadway, a supply building, a fuel storage tank, water hydrants and battery charging equipment.

CAR REPAIR FACILITY

The car repair facility is of the progressive or spot repair type and is located immediately west of the classification yard.

There are three tracks in this facility: two light repair tracks with hydraulic jacks and jib cranes and one medium repair track inside the building.

An area on the east side of the shop building is planned for the future construction of an additional track.

Shop tracks are equipped with electrically operated derails and power operated locks. Spring derails are located at the south end of the shed to prevent cars from rolling back into the "spot" area. Controls for the derails and car movers are on a panel located in the car repair building.

CAR CLEANING FACILITIES

The cleaning facility consists of two 34-car tracks located west of the car repair facility. A paved roadway between the two cleaning tracks, overhead street lights and water hydrants at 100-foot stations are provided for this operation. These tracks and the car repair facility tracks are accessible from the drill tracks at the north end and the hump leads at the south end.

DIESEL LOCOMOTIVE SERVICING AND REPAIR FACILITIES

The diesel service and repair shop located west and south of the receiving yard consists of two service tracks, five sand and fuel spots and inspection pits. The nine "ready" tracks adjacent to the servicing facility hold 53 units.

A loop track for turning units is located south of the service tracks and repair shop.

The locomotive repair shop located west of the service facility has two through tracks of capacity for housing four units. Equipment includes an overhead crane and a single wheel drop pit serving both through tracks.

ROADWAYS

Roadways provide access to all sectors of the facility. Entrances are located on Trabue Road at the south end and Roberts Road on the north end. Parking lots are located at (1) north end, (2) hump yard office, (3) car repair facility and (4) diesel facility.

COMMUNICATIONS

RADIO SYSTEMS

The Road Radio provides radio communication between all road trains, the diesel service tower, crew caller and yardmasters.

The Maintenance-of-Equipment Radio is provided for the car inspection repair personnel. It consists of portable and mobile radio units.

The Hump Engine Radio channels are for communication between the hump conductor, crew and hump engines.

The Pull-out Engine Radio channels provide communication between the pull-out locomotive engineers and the conductors and crews assigned to the train make-up operation.

The Maintenance-of-Way Radio is basically for maintenance-of-way forces. The yardmasters and trainmasters have access to this channel for such use as might be required.

The Yard and Industry Engine Radio channel is assigned to serve the yard, other than the hump and pull-out and industrial crews. Yardmasters and train dispatchers have access to this channel.

The Hump Cab Signal System is used for transmitting signals to the hump engine. The conductor, pin-puller, car inspector and car retarder operator have access to an over-ride button to place engine cab signals in "stop" position.

TELEVISION SCANNING SYSTEM

A closed circuit television system is provided for viewing trains entering the receiving yard. This system consists of three cameras located on leads to the receiving yard and monitors located in the hump yard office. Track circuits located in advance of the cameras will cause approaching trains to activate a bell in the yard office and alert the classification clerk of the train arrival.

TALK-BACK SPEAKER SYSTEM

There are five separate talk-back systems in the yard. Each system is connected to a separate control point and is identified by color code on the speakers.

A speaker station in the field can be activated by momentarily pushing the push button on the speaker. This will cause a chime to sound and a lamp signal to light on the control console over the key associated with that speaker.

The five talk-back systems are:

HUMP YARDMASTER SYSTEM – 5 Speakers (Orange)

Speakers are located at the south end of the receiving yard.

HUMP CONDUCTOR SYSTEM – 3 Speakers (Green)

Speakers are located near the pin-puller and car inspection pits.

DIESEL FOREMAN SYSTEM – 9 Speakers (Black)

Speakers are located in the diesel fueling and "ready track" area.

RETARDER OPERATOR SYSTEM – 4 Speakers (Yellow)

Speakers are in the retarder area.

NORTH YARDMASTER SYSTEM – 27 Speakers (Silver)

Speakers controlled by the north end yardmaster are located at the north end of the receiving yard, on each end of the departure and local yards, along the ladders at the north end of the classification yard and adjacent to the drill tracks.

DIAL TELEPHONES – PBX

Dial telephones are located throughout the yard. The phones are in weather-proof gray boxes marked "telephone". Yellow striped boxes are for communication with the block operator at Buckeye. Green striped boxes are for communication with the north end yardmaster. Phones identified by yellow and green stripes can be used for either purpose. Instructions for operating these phones together with frequently used numbers are located inside the box.

FACSIMILE SYSTEM

Facsimile transmit and receive units are located in (1) the hump building, (2) north end locker building and (3) car repair facility. This equipment is used to transmit switch lists between the hump yard office and the north end yard office, and car release lists from the car repair office to the hump office.

PNEUMATIC TUBE SYSTEM

A pneumatic tube extends from the hump yard office to the retarder tower and is used for the handling of switch lists between these locations.

YARD LEADS AND RUNNING TRACKS

The inbound and outbound leads connecting the receiving yard and departure yard with the Chicago, Cincinnati and Toledo mains and the receiving and departure running tracks are under the jurisdiction of the north end yardmaster.

YARD OPERATION

TRAINS ENROUTE

The yard operation is designed to combine traffic of common destinations into designated classifications and trains. The procedure begins with the advance consists of trains enroute received on teletype printers located in the hump yard office. These reports are converted into punched cards for machine processing information used to program the yard operation. The train header and car movement cards of the advanced consist are combined with pre-punched program control and classification cards and entered into the computer. The computer is programmed to compile the classification summary reports and the Group Tally Report from this input and, upon demand, will display the information on the yardmaster's Cathode Ray Tube (CRT). The following sequence of steps is required to activate the Group Tally Report:

CRT

1. Press REC/LOC
2. Press CLR (function key at top of keyboard)
3. Type GT (plus group name)
4. Press LR
5. Press ETX
6. Press PRT/TX



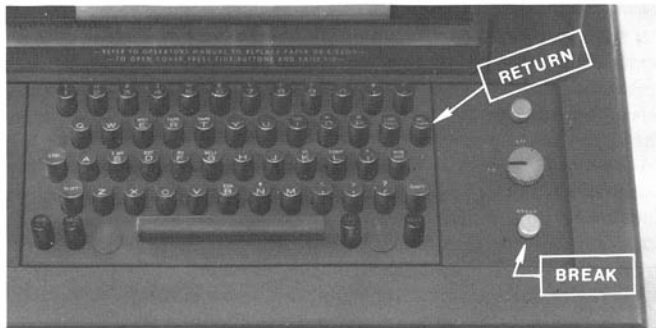
TRAIN ARRIVAL

The operator at Buckeye tower controls movement of trains into and out of Columbus Yard. When trains approach Columbus Yard, the operator will obtain permission to direct the trains into the yard from the north end yardmaster. The north end yardmaster will request a receiving track assignment from the hump yardmaster and will operate the yard track indicator located adjacent to the appropriate inbound lead. Three yard track indicators identified as N, S and NE govern the entrances to the yard.

The yard track indicator is operated from the teletype as follows:

TELETYPE

1. Press BREAK
2. Type YTI
3. Press RETURN
4. Type (N, S or NE for the indicator to be used and the track number (0 through 9)
5. Press RETURN



Trains from the north enter receiving yard tracks 3, 4, 5 and 6 lead through power switches and tracks 6, 7, 8 and 9 via manually operated switches. These power switches are operated automatically when the arriving train occupies the yard track indicator circuit.

Power switches located at the south end of the receiving yard or between the hump leads and the receiving yard are operated from the hump conductor's console. These switches may be operated manually by push button on the switch when route has not been assigned or the track circuit occupied. (An assigned route is identified by flashing lights on switch stand.)

HUMP LIST PREPARATION

The classification clerk will record the car initial and number of the inbound train consist as the train passes the TV camera. The verified consist is correlated with the waybills and a switch list prepared. The switch list is made from car movement cards and pre-punched classification and track cards sorted in arrival sequence. Header cards are added to the switch list cards and entered into the computer through a card reader.

The computer will check each car of the consist with each entry in the reconsignment, diversion and advance billing table.

(Note: The reconsignment, diversion and advance billing table contains new shipping instructions for up dating car movement records. These instructions are entered into the computer whenever received in the yard office.) If a car in the consist matches an entry in the table, an up-dated card will be produced for the train consist. At the completion of this check, the computer will print the verified switch list on the high speed printer. Cars matched in the reconsignment-diversion table will show the re-assigned classification track on the switch list. This stored consist is ready for switching and/or the following reports:

- | | |
|--------------------------|-----------------|
| 1. Group Tally | CRT or Teletype |
| 2. Receiving Yard Status | CRT or Teletype |
| 3. Verified Switch List | Printer |
| 4. Crest Status | CRT |

Request for verified switch list is made with the teletype as follows:

TELETYPE

1. Press BREAK
2. Type HUMP
3. Press RETURN
4. Type track number
5. Press RETURN

INSPECTION AND BLEEDING

After the train has entered the receiving yard, the car inspection forces will operate a signal button from the receiving yard control board to indicate the inspection and bleeding have started. Upon completion of bleeding and inspection, signal buttons will be operated to indicate inspection complete and train bled. Control boards for these computer inputs are located at each end of the receiving yard.

HUMP OPERATION

By means of the CRT, the yardmaster can determine the status of all tracks in the receiving yard. This display shows:

Track
Train
Direction
Arrival Time
Cars
Inspection Start Time
Inspection Complete Time
Bleed Time
List Verified
Hump Request

The following sequence of steps is required to activate the receiving yard status report:

CRT

1. Press REC/LOC
2. Press FF
3. Press CLR (function key)
4. Press A (function key)
5. Press ETX
6. Press PRT/TX

The hump yardmaster selects the tracks to hump and issues instructions to the hump conductor.

When a cut is ready to hump, the yardmaster will enter into the computer the track numbers in sequence of doubling and the hump lead to be used. (Example: To hump the repaired cars from the car repair shop track #1, the cleanout cars from track W-2 and the cars on receiving track #4, utilizing hump lead P01, the yard master will enter S1</W2</04).

The following sequence of steps is required to activate the CRT Hump List report:

CRT

1. Press REC/LOC
2. Press CLR
3. Type "HUMP" (plus track number and pull back track number Example: S1<W2</04 @P01
4. Press LR
5. Press ETX
6. Press PRT/TX

NOTE: 1. < sign will reverse consist for humping.
 2. P00 - Inbound Lead
 P01 - West Hump
 P02 - East Hump

The hump conductor instructs his engine crew which track to hump and lead to use (east or west) and operates the power switches to align the route between the receiving yard and hump lead.

The hump conductor will follow these procedures in proper sequence:

1. Align route to hump.
2. Activate the engine select button 1, 2, 3, 4 (humper 1, 2, 3 or 4) for his assigned engine.
(Completion of Steps 1 and 2 will light (FOR/XMT).
3. Push /FOR/ button. (Engine forward).
4. Push /LIST/ (hump list) button. If list is not available, push /NO LIST/ button.
5. Activate hump speed control button selecting the desired switching speed. /AUTO/ (automatic or computer controlled), slow /SLOW/ 1.50 mph, /MED/ 2.25 mph or /FAST/ 3.00 mph.

NOTE: a. The hump conductor communicates with the hump engine by radio and cab signal.
 b. The hump conductor console is equipped with STOP, REVERSE, FORWARD and three manually set hump speed signal control buttons.
 c. Engine hump signal controls are interlocked with hump route and will not indicate a signal until the proper route has been established.

Upon completion of above steps, the cab signal in the hump engine will indicate "PROCEED". When the first car arrives at the base of the hump, the digital speed indicator on the locomotive will display the requested speed in the cab of the locomotive.

The CRT Crest Status shows the next four cars of the hump switch list to be classified, indicating to the hump conductor, the line number, car initial and number and classification track.

The Crest Status Report is activated by:

CRT

1. Press REC/LOC
2. Press FF
3. Press CLR (function key)
4. Press C (function key)
5. Press ETX
6. Press PRT/TX

Speed	Window	Line	Owner & Car No.	Track
CPU 02.25	A	003	NYC 40635	20
	B	004	PC 272010	25
	C	005	PC 275000	27
	D	006	PRR 675310	14

These four windows are indicated as A, B, C, D on the CRT as shown above. When making a change of track assignment, the conductor pushes the new track number and the letter associated with the CRT window. The new track number appears on the CRT.

When the conductor adds a car to the switch list, he presses /ADD CAR/ button, the classification track number and the appropriate window indication on the CRT (A, B, C or D), and makes notation on the printed switch list of car initial and number and computer assigned line number. The car number and initial is entered into the computer through CRT keyboard upon completion of humping prior to pushing EOT button. If a car shown on the hump list is not in the cut when being humped or classified, the conductor pushes the /CAN CAR/ (cancel car) button and the appropriate window indication on the CRT. Cars may be routed to the Hold, Clean or Scale track with the use of buttons marked HOLD, CLEAN or SCALE and associated window.

A car whose listing on the switch list contains an error is indicated by pushing /ERROR/ button and associated window. Correct information is entered into the computer through the CRT keyboard upon completion of humping, prior to pushing EOT button.

HUMP INSPECTION

Inspection pits are provided on the hump approach for car inspection. Automatic equipment provided to check flanges and dragging equipment will activate an alarm in the conductor's office and inspector's pit when defects are detected. A car inspector will note any defective condition of car, determine if repair can be made in the departure yard or if car must be shopped and advise the hump conductor the car initial and number of the defective car. Cars to be repaired in the departure yard will continue to assigned class track. The conductor presses the /BAD ORDER/ button and the window button associated with the car. Cars requiring move to the shop are classified to designated shop tracks by pushing the (LOAD RIP or EMPTY RIP)button and correct window button.

The car inspector also notifies the assistant car foreman (yard) of car initial, number, defect and disposition of cars found defective on hump inspection. The car repair foreman will be notified of defective cars advanced to the departure yard by the north end yardmaster from the class inventory summary report, (to be described later).

HIGH CAR INSPECTION

Car height is measured after car passes the crest of the hump. If a car exceeds the height for the assigned classification, an alarm sounds. The conductor presses the /HI HOLD/ button routing the car to the hold track or permits the car to continue to its assigned class track, in which case, he presses the /HI CAR/ (high car) button. This "flags" the car as a high load in future print-outs and shuts off the alarm.

PIN-PULLER RETARDER

A pin-puller retarder located near the crest of the hump is activated by use of "PP" button on the conductor's console. This retarder is used to assist in uncoupling cars when slack is required.

RETARDER CONTROL

Separate controls for each section of the master and group retarders provide for automatic or heavy, light or open manual settings. Extra heavy application is obtained manually by pushing EXTRA HEAVY button with control lever in heavy setting. Signal alarms provided on the retarder console denote:

1. Mis-route (must acknowledge)
2. Presence detector failure (must acknowledge)
3. Track clearance alarm (must acknowledge)
4. Power failure
5. Retarder failure
6. Test section failure
7. Radar failure
8. Long cut detection
9. Switch failure

When trimming a track or when a cut is pulled from the classification yard via the hump end, the retarder operator manually controls the switches. The retarder operator can prevent a switch from being activated by operating a manual switch lever on the retarder control console.

TRIMMING

Work required in the body of the classification yard is generally handled by the north end crews. However, when trimming or pulling back tracks for humping, switches are aligned by the car retarder operator. The trim signal located on the hump facing the classification yard governs movements between the class yard and the hump. A hump bypass track controlled from the retarder tower provides for returning to the receiving yard.

END OF TRAIN

After the final car of a cut has been humped and list changes entered into the computer, the conductor will push the EOT button. Operation of the end of train button will automatically print a corrected switch list on the yard office printer and will update the classification track inventory.

TRAIN MAKE UP

The north end yardmaster is responsible for the make up of all trains. Prior to pulling each track in the classification yard, the car inventory of the track is requested. The class track inventory summary* is requested by the use of the teletype:

(To Pull) Teletype

1. Press BREAK
2. Type P (plus track number)
3. Press RETURN

(For Information Only) Teletype

1. Press BREAK
2. Type I (plus track number)
3. Press RETURN

*For complete list of the track, use L instead of I in step 2.

When the track inventory is received, the yardmaster instructs the conductor to pull the cars from the track.

The conductor is furnished the first and last car number on each track to be pulled, including the initial, number, location and disposition of mis-routed cars. When a track has been pulled, the yardmaster is notified of first and last car number and disposition of mis-routes. If the first and/or last car number does not agree with class tally, a check for the error is made. If required, the yardmaster will correct the computer list.

The yardmaster, with use of the teletype, will report cars removed from the classification tracks. When the tracks are reported "pulled" to the computer, a complete list of the cars pulled from the tracks will be printed in the yard office.

The following steps are required to (1) add car, (2) remove car and (3) report clear.

1. ADD CAR-TELETYPE

1. Press BREAK
2. Type A (plus car initial and number, N or S (north or south end of class track), C (plus track number))
3. Press RETURN

2. REMOVE CAR-TELETYPE

1. Press BREAK
2. Type E (plus car initial and number or numbers), N or S (north or south end of class track), C (plus track number)
3. Press RETURN

3. REPORT CLEAR - TELETYPE

1. Press BREAK
2. Type C (plus track number)
3. Press RETURN

In making up a train, the conductor uses the push-button Route Selection System on the pull-out conductor's console to align routes between the classification and the departure yard.

The departure tracks are equipped with shove signals. These signals are repeated on the pull-out conductor's console. Track circuits are designed to detect occupancy within 300 feet of the clearance point at the south end of the departure yard. The wayside signal and the light on the conductor's console will go out when the circuit is occupied.

TRAIN DEPARTURE

Upon completion of make up of the train, the yardmaster notifies the assistant car foreman (yard) to inspect the train and

the cars previously reported as being defective by the hump inspector. (The defects reported by the hump inspector are identified on the pull-out summary report). The time the inspection ends is entered into the computer by the car inspector from control panels located at each end of the departure yard. Buttons are provided on these panels to indicate engine on and air on for each departure yard track.

The departure yard display is a status report available to the yardmaster through the CRT.

The following procedure is required to activate the departure yard status report:

A. Request departure yard status:

CRT

1. Press REC/LOC
2. Press FF
3. Press CLR (function key)
4. Press B (function key)
5. Press ETX
6. Press PRT/TX

B. To up date, add or delete or modify information on the status report:

1. Press REC/LOC
2. Position entry marker
3. Type in data
4. Press ETX
5. Return entry marker to first position of data entry
6. Press PRT/TX

When the assigned groups have been assembled in the departure yard, crews and locomotives ordered, waybills and running reports completed and the car inspection finished, the train is ready to depart. The conductor assigned to the outbound train will obtain permission for the train to enter main tracks from the operator at Buckeye.

The following departure yard record maintained in the computer file will be printed automatically when the train leaves the yard:

1. Departure yard track
2. Train symbol
3. Direction
4. Estimated departure time
5. Inspection start time
6. Inspection complete time
7. Crew ordered time
8. Crew arrival time
9. Locomotive call time
10. Locomotive on train time
11. Air inspection complete time
12. Train departure time

STATISTICS – COLUMBUS ELECTRONIC
CLASSIFICATION YARD







COLUMBUS, OHIO

<u>TRACKAGE</u>	<u>No. of Tracks</u>	<u>CAR CAPACITY</u>
1. Classification Yard	40	2,060
2. Receiving Yard	7	925
3. Departure Yard	8	1,234
4. Car Repair	3	65
5. Car Cleaning	2	68
6. Local Yard	4	168
7. Diesel Facility	16	--
8. Caboose	2	30

Total Car Capacity	4,510
Total Acreage	453
Total Track Mileage	88

Length of Yard	4.5 Miles
Width of Yard	2,200 feet
Height of Hump	22.5 feet

LEGEND

- () BRACKETED FIGURES INDICATE TRACK CAPACITY
-  HAND OPERATED ELECTRICALLY LOCKED SWITCHES
-  POWER OPERATED SWITCHES
-  INTERLOCKED SWITCHES
-  YARD TRACK INDICATOR
-  TELEPHONE
-  TALK-BACK SPEAKERS ~
- O – ORANGE 5 HUMP YARDMASTER
- G – GREEN 3 HUMP CONDUCTOR
- B – BLACK 9 DIESEL FACILITIES
- Y – YELLOW 4 CAR RETARDER OPERATOR
- S – SILVER 27 NORTH END YARDMASTER

**PENN CENTRAL
TRANSPORTATION CO.**

COLUMBUS YARD

COLUMBUS, OHIO

OFFICE of CHIEF ENGINEER ~ PHILADELPHIA, PENNSYLVANIA
NO SCALE

DECEMBER 8, 1969

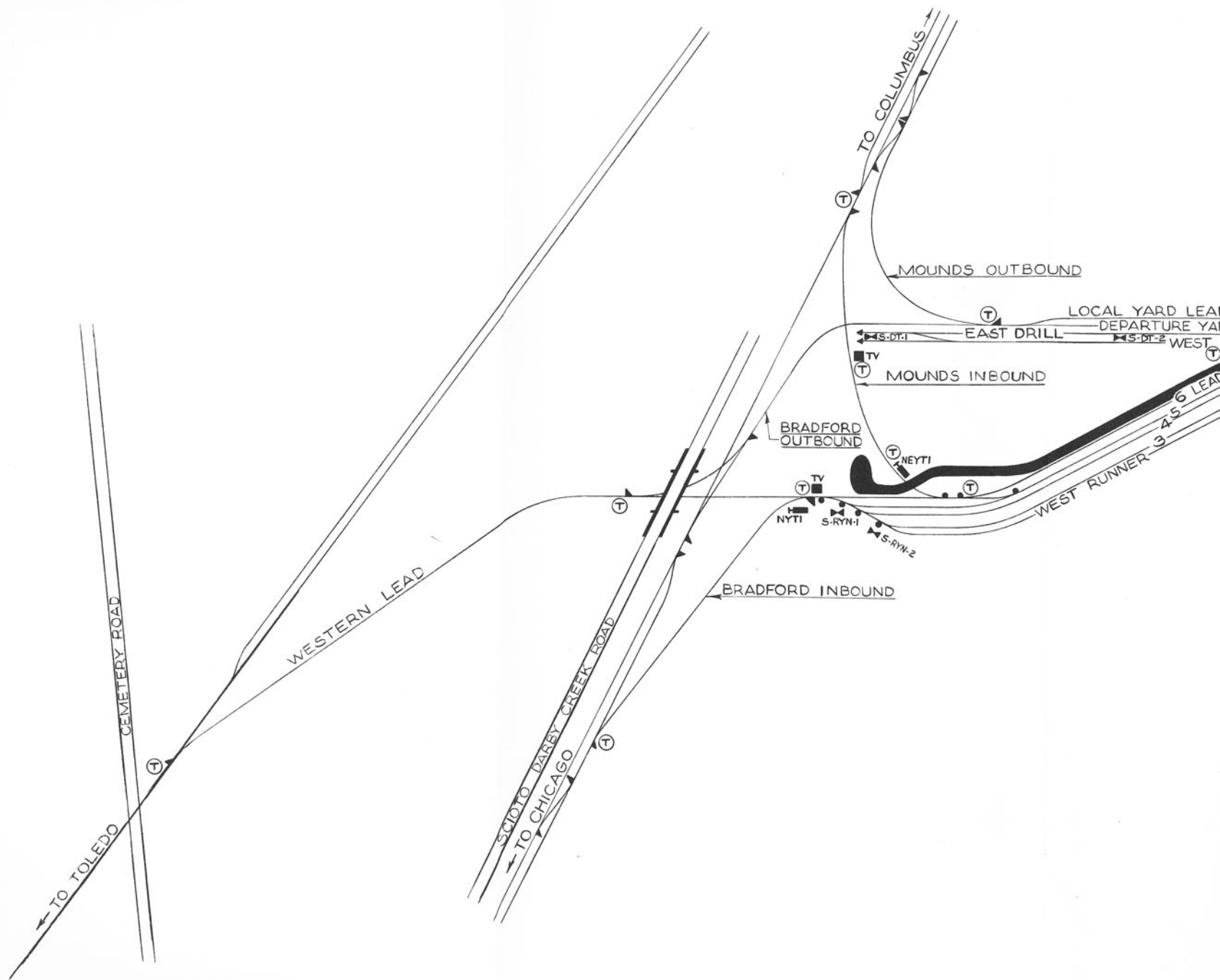
STATISTICS - COLUMBUS ELECTRONIC
CLASSIFICATION YARD

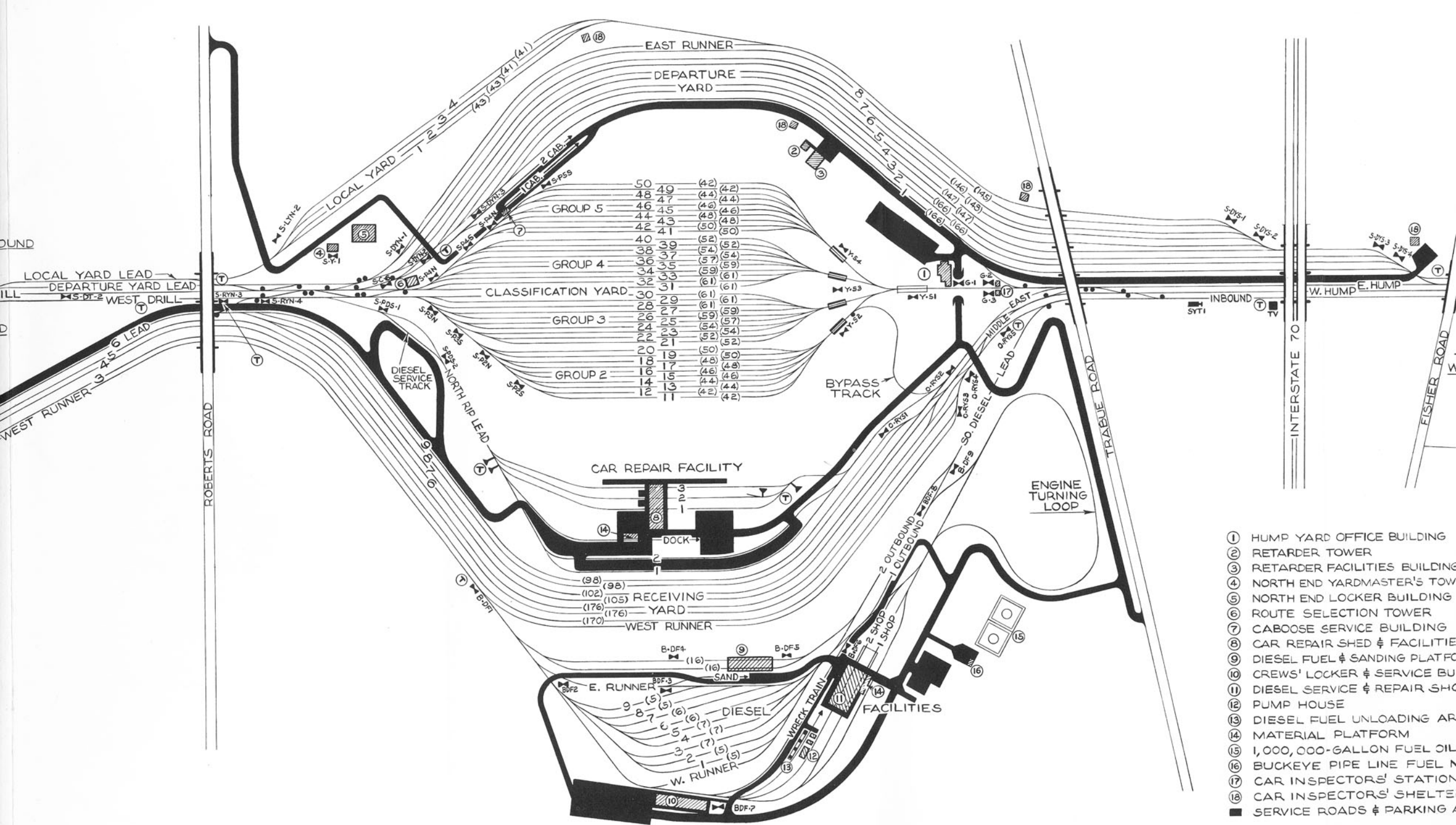
COLUMBUS, OHIO

<u>TRACKAGE</u>	<u>No. of Tracks</u>	<u>CAR CAPACITY</u>
1. Classification Yard.	40.	2,060
2. Receiving Yard	7.	925
3. Departure Yard.	8.	1,234
4. Car Repair	3.	65
5. Car Cleaning.	2.	68
6. Local Yard	4.	168
7. Diesel Facility.	16.	—
8. Caboose.	2.	30

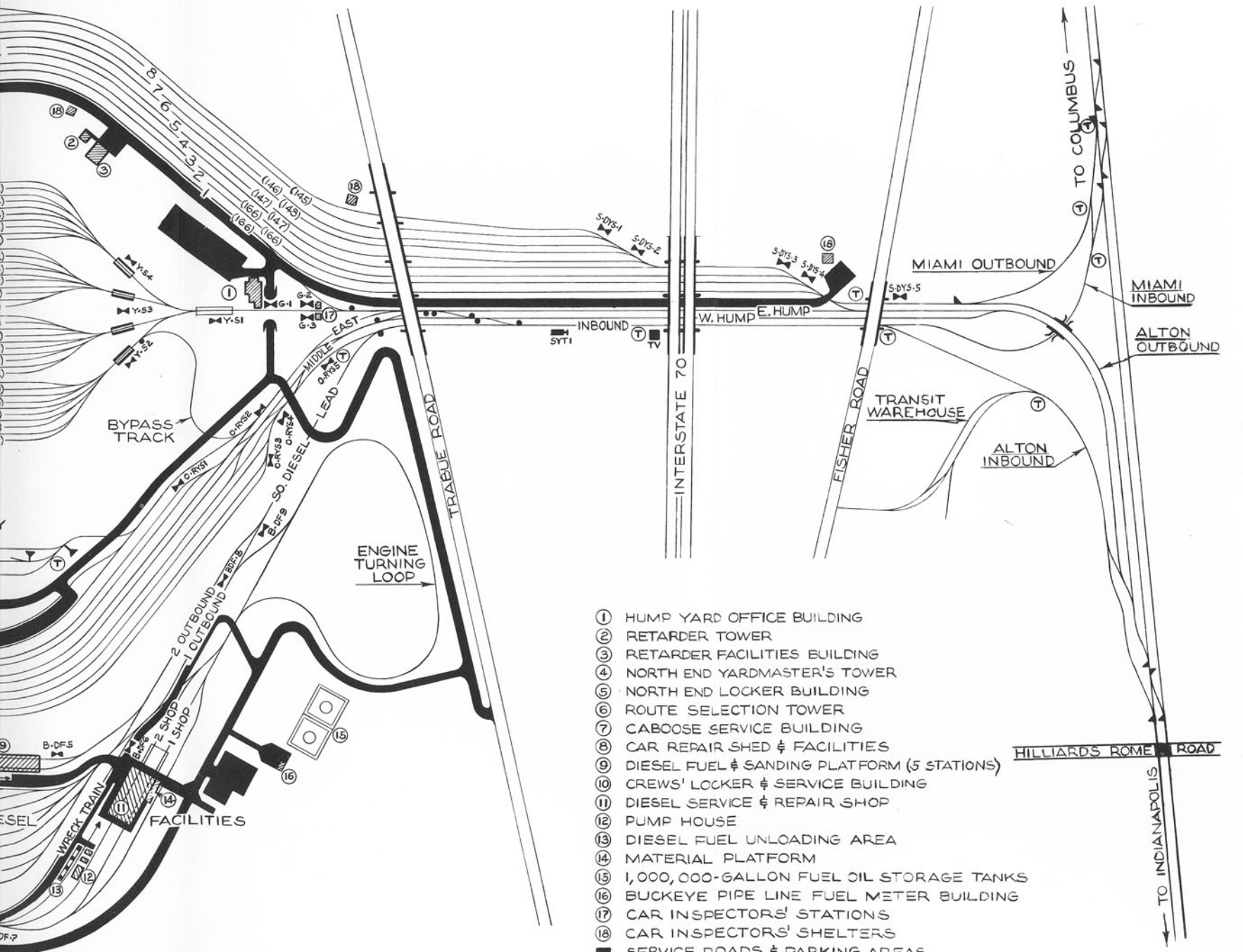
Total Car Capacity	4,510
Total Acreage	453
Total Track Mileage	88

Length of Yard 4.5 Miles
Width of Yard 2,200 feet
Height of Hump 22.5 feet





- ① HUMPH YARD OFFICE BUILDING
- ② RETARDER TOWER
- ③ RETARDER FACILITIES BUILDING
- ④ NORTH END YARDMASTER'S TOWER
- ⑤ NORTH END LOCKER BUILDING
- ⑥ ROUTE SELECTION TOWER
- ⑦ CABOOSE SERVICE BUILDING
- ⑧ CAR REPAIR SHED & FACILITIES
- ⑨ DIESEL FUEL & SANDING PLATFORM
- ⑩ CREWS' LOCKER & SERVICE BUILDING
- ⑪ DIESEL SERVICE & REPAIR SHOP
- ⑫ PUMP HOUSE
- ⑬ DIESEL FUEL UNLOADING AREA
- ⑭ MATERIAL PLATFORM
- ⑮ 1,000,000-GALLON FUEL OIL TANK
- ⑯ BUCKEYE PIPE LINE FUEL TANK
- ⑰ CAR INSPECTORS' STATION
- ⑱ CAR INSPECTORS' SHELTER
- SERVICE ROADS & PARKING AREAS



LEGEND

- () BRACKETED FIGURES INDICATE TRACK CAPACITY
- ⚡ HAND OPERATED ELECTRICALLY LOCKED SWITCHES
- ⚡ POWER OPERATED SWITCHES
- ⚡ INTERLOCKED SWITCHES
- Ⓜ YARD TRACK INDICATOR
- Ⓜ TELEPHONE
- Ⓜ TALK-BACK SPEAKERS ~
- O - ORANGE 5 HUMP YARDMASTER
- G - GREEN 3 HUMP CONDUCTOR
- B - BLACK 9 DIESEL FACILITIES
- Y - YELLOW 4 CAR RETARDER OPERATOR
- S - SILVER 27 NORTH END YARDMASTER

- ① HUMP YARD OFFICE BUILDING
- ② RETARDER TOWER
- ③ RETARDER FACILITIES BUILDING
- ④ NORTH END YARDMASTER'S TOWER
- ⑤ NORTH END LOCKER BUILDING
- ⑥ ROUTE SELECTION TOWER
- ⑦ CABOOSE SERVICE BUILDING
- ⑧ CAR REPAIR SHED & FACILITIES
- ⑨ DIESEL FUEL & SANDING PLATFORM (5 STATIONS)
- ⑩ CREWS' LOCKER & SERVICE BUILDING
- ⑪ DIESEL SERVICE & REPAIR SHOP
- ⑫ PUMP HOUSE
- ⑬ DIESEL FUEL UNLOADING AREA
- ⑭ MATERIAL PLATFORM
- ⑮ 1,000,000-GALLON FUEL OIL STORAGE TANKS
- ⑯ BUCKEYE PIPE LINE FUEL METER BUILDING
- ⑰ CAR INSPECTORS' STATIONS
- ⑱ CAR INSPECTORS' SHELTERS
- SERVICE ROADS & PARKING AREAS

**PENN CENTRAL
TRANSPORTATION CO.**

**COLUMBUS YARD
COLUMBUS, OHIO**

OFFICE of CHIEF ENGINEER ~ PHILADELPHIA, PENNSYLVANIA
NO SCALE DECEMBER 8, 1969